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Poster Abstracts

P1-1

Music Therapy as Part of Psychosocial Support for Cancer Patients

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BACKGROUND/PURPOSE: The purpose of this presentation is to show the music therapy programme at the Greater Poland Cancer Centre in Poznan and to present different music therapy interventions in psychosocial support of cancer patients. **METHODS:** The Greater Poland Cancer Centre is the only cancer centre in the region of Greater Poland that uses full combined cancer treatment: surgery, radiotherapy and chemotherapy. Music therapy as a part of the complementary medicine programme in supportive cancer care can accompany medical treatment. There are many benefits of music therapy for cancer patients—interactive music therapy techniques (instrumental improvisation and singing) as well as receptive music therapy techniques (recorded or live music listening and music and imaginary) can be used to improve mood, decreasing stress, pain and anxiety level and enhancing relaxation. The goals of the music therapy programme are determined based on the patient's needs as well as therapist observation. Music therapy programme is applied to meet patients' needs during diagnosis and treatment—various stages of illness—and is helpful to a wide variety of patients who suffer from a large range of neoplasms and is practised with individual patients as well as patient groups. **RESULTS:** Music therapy is mainly used to promote relaxation, reduce anxiety and level of stress, relieve discomfort, reduce patients' experience of pain and offset some of the treatment-related symptoms. Music therapy offers opportunities for self-expression and gives positive experiences. Music therapy in oncology uses music in preventive, curative and palliative cancer care and is very helpful to a wide variety of patients who suffer from a large range of neoplasms. While music therapy does not actually affect the disease itself, it greatly affects the mood of the patients and sometimes can make a difference in the way the patients deal with and feel about their disease. **CONCLUSIONS:** Experience of cancer can generate a number of physical, emotional, social and existential needs. Music can address many of those needs by offering a wide range of benefits. Music therapy can be used to benefit cancer patients in a complex way as music is the most fundamental and unique form of art that affects people

spiritually, emotionally, socially and physically. Music therapy is an effective form in supporting cancer patients during the treatment process. It may be also basic for planning effective programmes of rehabilitation to promote wellness, improve physical and emotional well-being, to improve a quality of life.

Research Implications: Music therapy programme is mainly used to reduce high levels of stress, relieve discomfort, reduce patients' experience of pain and anxiety, offset some of the treatment-related symptoms, cue positive visual imagery, lift a person's mood, lessen depression, help listeners focus on positive thoughts and feelings and give conditions for a deep relaxation response. The effectiveness of music therapy for oncology patients has been documented in numerous descriptive and experimental studies—there is a need to include research results into clinical practice.

Practice Implications: Many of the hospitalized patients in the Greater Cancer Centre benefit from music therapy. Most of the patients are experiencing a lengthy hospital stay. Music therapy appears to meet the needs of patients during various stages of the illness and is practised with individual patients as well as patient groups. Music therapy as a receptive and active intervention can be used to relieve a lot of stress and fear in a hospital stay and the unfamiliarity of the hospital environment. Experience of cancer can generate a number of physical, emotional, social and existential needs. Music can address many of those needs by offering a wide range of benefits. Music therapy should be introduced in other medical settings in Poland as a part of supportive programme for cancer patients.

Acknowledgement of Funding: None.

P1-2

New Approaching Techniques in Psycho-oncology: The Application of Oncological TAT (Oncological Thematic Apperception Technique)

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BACKGROUND/PURPOSE: Taking into account the multiplicity of clinical variables in the oncological patient, it is my purpose to demonstrate the importance of formalizing an approaching device in psycho-oncology through the first projective technique for oncological patients. Considering the notion of total pain, establishing the

relevance of including it in a speech, as far as pain is included in verbal interaction, something is modified as it gets meaning; thus, it is possible to treat the suffering and what endures pain. **METHODS:** We used a verbal analogue scale and oncological thematic apperception technique (TAT). Participants included 200 male and female patients between 20 and 75 years old. **RESULTS:** The results of the verbal analogue scale calculating the psycho-emotional state improve after the administration of the oncological TAT. **CONCLUSIONS:** The oncological TAT extends the clinical practice in psycho-oncology; it gives new tools of approach and enables an area of investigation.

Research Implications: The oncological TAT would be the first projective technique for oncological patients; it would expand the approaching tools and would open an area of investigation that may enable the creation of new approaching modalities in psycho-oncological devices.

Practice Implications: The oncological TAT lets us gather materials about the mental contents of the patient, promoting their elaboration, inside the approaching psycho-oncological process, with low cost and in a short period of time.

Acknowledgement of Funding: None.

P1-3

Dying for Change: An Examination of the Utilization of Hospice Care for Incarcerated Oncology Patients

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BACKGROUND/PURPOSE: The number of individuals living their natural lives within the US penal system has increased substantially over the last 20 years. Convicted offenders are receiving longer sentences due to increasingly severe sentencing restrictions and being sent to correctional facilities at older ages. This has created a unique problem within the prison system: how to deal with the issues that come with aging offenders, specifically healthcare issues. Various states have begun to examine different ways in which to deal with the natural disease states that accompany aging as well as the natural deaths of offenders. One such way has been to provide end-of-life programs or hospice and palliative care inside the prison facility. Deaths of offenders, particularly from cancer, have a significant impact on the unique culture within the prison system. The utilization and option for hospice or palliative care have created an opportunity to serve an often purposeful forgotten population who are potentially more susceptible to the mental and emotional destruction of cancer. **METHODS:** This study employed qualitative phenomenological measures to examine how of end-of-life programs

affected the inmate and administrative culture in the prison system. Additionally, it served to understand and document if such programs facilitate any type of behavioral change in aging offenders. The researcher explored hospice programs in relation to diseases states and comorbidities in three correctional facilities, examining documents and offenders and interviewing subject matter experts. **RESULTS:** The research showed that there was a significant psychosocial change in both inmate behavior and facility culture change when end-of-life programs were in place within incarceration facilities. Additionally, offenders were more amicable to see physicians regarding serious diseases such as cancer and COPD when end-of-life programs were in place. **CONCLUSIONS:** The utilization of end-of-life care has a significant behavioral and social affect even in unique situations such as incarceration facilities. This often misunderstood aging inmate population should still have the choice of dignity, grief, and psychological services. Finally, the research showed that no matter who you are, what you have done, or where you live, when individuals are faced with disease, basic human needs and desires are the same.

Research Implications: This research shows that when hospices and end-of-life care are introduced into situations where violent behaviors are normal, these behaviors often change not only with age but also when individuals have the knowledge they will not suffer alone if and when disease and death set in. There are research opportunities within the general mental health field, thanatology, gerontology, forensic psychology, and criminal justice.

Practice Implications: The addition of more aging programs and end-of-life programs and services within the US penal system not only creates a better facility culture but also has a significant impact on the cost of prison health care.

Acknowledgement of Funding: None.

P1-4

The Pattern of Emotional Concerns among Cancer Patients Receiving Radiotherapy Treatment in the University College Hospital, Ibadan

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BACKGROUND/PURPOSE: Emotional well-being is one of the key indicators of quality of life. The aim of the current study is to assess the pattern of cancer patients' emotional concern in the Department of Radiotherapy, University College Hospital, Ibadan. **METHODS:** A total of 197 female cancer patients with mixed disease types

who attended counseling sessions and were receiving radiotherapy treatment participated in this study. The six-item emotional well-being subscale of the Functional Assessment of Cancer Therapy-General (FACT-G) was used in assessing the pattern of emotional concerns. Data were analyzed on SPSS using frequency counts and simple percentages. **RESULTS:** Participants had an age range of 23–95 with a mean of 49.91 ± 13.48 . Also, 142 (72.1%) were married while 55 (27.9%) were currently unmarried; 54 (27.5%) were civil servants, 114 (58.0%) were self-employed, and 29 (14.7%) were unemployed; 24 (12.0%) had no formal education, 43 (21.8%) had primary school education, and 55 (28.2%) had secondary school education while 75 (38.0%) had tertiary education. By merging the percentage responses for quite a bit and very much on the emotional well-being subscale of the FACT-G, 103 (52.4%) of the patients felt sad, 106 (53.9%) felt satisfied with how they were coping with the illness, 169 (85.8%) were losing hope in the fight against the illness, 139 (71.0%) felt nervous, 154 (78.4%) were worried about dying, and 166 (84.2%) were worried that their condition will get worse. **CONCLUSIONS:** It is believed that cancer patients in the study locale will benefit from psychosocial interventions tailored to meet their emotional needs.

Research Implications: Researchers could further investigate the correlates of emotional well-being in cancer patients.

Practice Implications: The information provided in this study will enable clinicians to look out for the emotional issues bothering cancer patients so that such can be addressed early to free the patient from avoidable emotional distress with the possibility of improving treatment outcomes.

Acknowledgement of Funding: None.

P1-5

Identifying Gaps in Knowledge, Prevalence, and Care of Patients with Cancer in Tanzania

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BACKGROUND/PURPOSE: Cancer is a global problem accounting for 7.6 million deaths worldwide in 2008. This is a greater number than is caused by HIV/AIDS, TB, and malaria combined. By 2020, Sub-Saharan Africa countries will account for over a million new cancer cases a year, having fewer cancer care services. Most gaps in cancer care in developing countries are being increasingly recognized worldwide. In Tanzania, we are noticing a large gap in information on the knowledge, prevalence, and care of patients with cancer. **METHODS:** A systemic search and an extensive survey of the existing information about

cancer in Tanzania were done using various tools, including interviewing key persons and visiting facilities. By using a 0–17 scale structured questionnaire, 80 healthcare providers were interviewed in 44 healthcare facilities. Those healthcare providers who were found absent in their care facilities in the first visit were revisited again as non-respondents. **RESULTS:** Out of 80 healthcare providers in the district, 54 (67.5%) healthcare providers had a level of knowledge on cancer ranging from 1 to 13 on a score scale of 0–17 (mean score 4.63). All healthcare facilities 19 (43.2%) had mostly basic knowledge on cancer care; information from other areas is not available. There is also a lack of trained human resources to cater to these cancer patients. **CONCLUSIONS:** There is a need to draw attention to the policy makers on the need to identify and increase trained human resources and provide quality care to patients with cancer.

Research Implications: The finding of this study may have relevance for research of other staff trying to make decisions regarding care reform models. The finding may also help assess the effectiveness of the knowledge of healthcare providers on cancer. Although a country's research priorities vary depending on the specific needs of that country, there are some common priorities, such as health promotion, disease prevention, and targeting of psycho-oncology disease, in research on knowledge gap for health workers.

Practice Implications: When applying basic research to theoretical and practical implications, from this research are discussed motor performance and learning in healthcare providers; results are discussed in terms of being short-lasting and temporary; particular emphasis is placed on giving education regarding cancer care and other cancer diseases as well.

Acknowledgement of Funding: None.

P1-6

Assessing Self-efficacy for Coping with Cancer: Exploratory (EFA) and Confirmatory Factor Analyses (CFA) of Version 3 of the Cancer Behavior Inventory (CBI)

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BACKGROUND/PURPOSE: The Cancer Behavior Inventory (CBI; Merluzzi *et al.*, 1997; 2001) is a reliable, valid, and clinically useful self-efficacy measure for coping with cancer. The CBI has been used in many descriptive studies and randomized controlled trials and has been translated into a dozen languages. The newest version

(V3) included reworded items to reduce ambiguity and the addition of a spiritual coping efficacy scale. To test the structural integrity of V3, an EFA and two CFAs were computed on separate samples. **METHODS:** In sample 1, 560 cancer patients (M age=60.5; mixed diagnoses; 65% women) completed V3 of the CBI. An EFA was conducted with R using principal components extraction and targeted rotation. Targeted rotation used the prior stable factor structure from version 2 (V2). Samples 2 ($N=151$) and 3 ($N=287$) were similar to sample 1 with regard to demographic and medical information. Two CFAs were computed to confirm the EFA solution conducted on sample 1. **RESULTS:** The EFA and targeted rotation resulted in seven factors, which were similar to V2: maintaining activity, seeking medical information, controlling stress and distress, managing side effects, accepting cancer/maintaining a positive attitude, seeking social support, and using spiritual coping. For samples 2 and 3, the fit statistics for the seven-factor solution were acceptable: comparative fit index (0.86, 0.87), root mean square error of approximation (0.09, 0.08), and standardized root mean square residual (0.06, 0.07). **CONCLUSIONS:** The factor structure of the CBI (V3) is stable and replicable, and the factors tap the major challenges in coping with cancer.

Research Implications: The next steps will be reliability and validity analyses, as well as item response theory analyses. The CBI-V3 has excellent utility for use in randomized controlled trials.

Practice Implications: The CBI-V3 has excellent potential as a clinical assessment and screening measure to assess strengths and weaknesses in coping, which may help to tailor interventions for cancer patients.

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P1-7

Assessment of Male and Female Reported Barriers and Facilitators to Cervical Cancer Screening in Kenya

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BACKGROUND/PURPOSE: Cervical cancer is the second most commonly diagnosed female cancer and a leading cause of cancer-related mortality in Kenya; however, cervical cancer screening is limited [1]. Since the release

of Kenya's National Cervical Cancer Prevention Program Strategic Plan [1], few studies have examined environmental and psychosocial barriers and facilitators to screening among women, and no known studies have accessed male opinions. **METHODS:** Women aged 25–49 years and male partners were screened and consented to participate in 10 focus groups [six female groups ($n=60$); four male groups ($n=40$)] in both rural and urban settings (Nairobi and Nyanza provinces) to explore screening barriers and facilitators. Focus groups were segmented by gender, language, geographic location, and screening status for women and female partners of male respondents (ever versus never screened). Focus group data were transcribed, translated into English, and analyzed using qualitative software (NVIVO 10). **RESULTS:** Respondents identified screening as a beneficial opportunity for initiating health and cancer discussions with doctors and detecting cervical cancer in earlier stages, but not as a method of detecting precancerous lesions. Perceived screening barriers included access (e.g., transportation, limited services, and cost), spousal approval, stigma, embarrassment related to the screening procedure, concerns about speculum use causing infertility, fear of residual effects of test results, lack of knowledge, and religious/cultural beliefs. **CONCLUSIONS:** Identifying screening barriers and facilitators in low-income and middle-income countries is important to the successful implementation of emerging screening programs. Findings can be used to inform developing communication strategies and targeted educational messages.

Research Implications: Formative research findings provide important information for researchers assessing knowledge, beliefs, and acceptability of cervical cancer screening and treatment services in low-resourced and middle-resourced countries, while also providing information that could be used in the development of health interventions, community education messages, and materials.

Practice Implications: Study findings illuminate the importance of understanding psychosocial barriers and facilitators to cervical cancer screening and community education needs, as important methods of improving prevention programs and increasing rates of screening among women.

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P1-8

Mental Health and Chronic Conditions in a Cohort of Non-elderly Adult Cancer Patients

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U.S. Department of Defense

BACKGROUND/PURPOSE: This study aimed to examine the prevalence and costs of mental health diagnoses in relation to other concomitant conditions in a cohort of non-elderly cancer patients. **METHODS:** Using administrative claims data from the Military Health System Data Repository, a cohort of 11,014 cancer patients, age 18–64, was identified; patients were diagnosed ≥ 2 years prior to the fiscal index year of 2009. Mental health and other concomitant conditions were based on the first 12 International Classification of Diseases 9 codes. Linear regression analysis was conducted to examine the relationship between mental health conditions and annual costs. **RESULTS:** There were 24.9% patients who had no concomitant condition. Among the 3405 patients with one concomitant condition, 28.3% were diagnosed with depression, anxiety, or acute reaction to stress/adjustment disorder (DAAA), and 0.2% had a diagnosis of serious, persistent mental illness (SPMI). Among 2578 patients with two and 1408 with three concomitant conditions, 41.7% and 62.0% had a diagnosis of DAAA or SPMI, respectively. Average annual claims costs for those diagnosed with asthma/COPD, cerebrovascular, heart disease, and another non-mental health condition were significantly less than when these conditions were coupled with DAAA. A diagnosis of DAAA predicted higher FY2009 claims cost after controlling for age, sex, military rank of sponsor, TRICARE enrollment status, marital status, and other concomitant conditions ($p < 0.01$, $r^2 = 0.266$); SPMI was not of FY2009 cost. **CONCLUSIONS:** The results suggest that there is a clinical need and fiscal incentive to screen and manage mental health concomitant conditions among cancer patients, particularly among those with multiple chronic medical conditions.

Research Implications: Given the high prevalence of chronic medical conditions among cancer patients, psychosocial oncology researchers need to include concomitant diseases when examining mental health and related costs.

Practice Implications: Based on the results, clinicians may consider evaluating the psychological responses to concomitant chronic conditions as well as to the cancer experience.

Acknowledgement of Funding: None.

P1-9

Involving Family Caregivers in Palliative Care Research: Challenges and Strategies

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BACKGROUND/PURPOSE: A key component of cancer and palliative care is psychosocial support for family caregivers (FC). Although some FC identify positive aspects, the impact is typically burdensome; FC are prone to physical and psychological morbidity, financial disadvantage, and social isolation. Outcomes of systematic reviews have highlighted the importance of investment in FC intervention research. However, there are several challenges associated with involving FC in palliative care research. The purpose of this presentation is to provide an overview of common methodological challenges associated with research involving FC of palliative care patients and to recommend strategies to overcome these difficulties. **METHODS:** Data to inform this presentation were drawn from published systematic reviews (within the last 15 years) of interventions for family caregivers of palliative care patients. **RESULTS:** Specific challenges and strategies were identified in the following areas: research funding, study design, ethics, recruitment, data collection, dissemination, and implementation of FC research. **CONCLUSIONS:** Barriers for conducting research with FC were identified in all components of the research process; however, several key recommendations for responding to these challenges were also ascertained.

Research Implications: Intervention research involving FC of palliative care patients is urgently needed; however, it is typically difficult to conduct; it can potentially be undertaken effectively through interdisciplinary research partnerships, modification of methods, and the provision of adequate resources and funds.

Practice Implications: Irrespective of a requirement for healthcare professionals to provide psychosocial support to FC, the reality is that in many instances this support is less than optimal. Strategies that foster effective intervention development and implementation are paramount.

Acknowledgement of Funding: None.

P1-10

Developing a Commitment to Cancer Control Organisations in Relay for Life Volunteers from Queensland, Australia

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BACKGROUND/PURPOSE: Volunteers for Relay for Life, a global movement founded by the American Cancer Society, raise vital funds for cancer research, prevention, education and support services. Problematically, volunteer turnover is high, and determinants of commitment to these events and cancer control organisations are poorly understood. Our study aimed to identify predictors of

organisational commitment in Relay team captains from Queensland with regional and team variations also explored. **METHODS:** Three hundred forty team captains ($M_{\text{age}}=42.9$ years; 90% female; 19% cancer survivors) completed a cross-sectional survey about their 2013 Relay experience. Linear regression tested proposed predictors of organisational commitment: demographics (e.g. age and cancer survivorship), Relay variables (e.g. fundraising goal), motives (social/enjoyment, material benefits, fight cancer, advocacy, financial support and community), social norm and satisfaction with volunteering for Relay. Multivariate analyses of variance explored differences in commitment and its predictors based on region (metropolitan, regional and remote) and Relay team composition (family, friends, corporate/school and mixed). **RESULTS:** Age ($\beta=-0.11$), survivorship ($\beta=0.08$), fundraising goal ($\beta=0.07$), advocacy ($\beta=0.16$), financial ($\beta=0.24$) and social/enjoyment ($\beta=0.24$) motives, social norm ($\beta=0.19$) and satisfaction ($\beta=0.22$) predicted commitment; 63% of variance was explained. Metropolitan team captains reported higher social/enjoyment and satisfaction scores than those of other regions. Family team captains reported higher commitment, socialising/enjoyment, fighting cancer, social norm and satisfaction scores compared with other team captains. **CONCLUSIONS:** Volunteers most committed to Relay and the organisation were younger, had survived cancer, set high fundraising goals, wanted to support the organisational mission and resources, felt supported by important others, enjoyed and were satisfied with their experience and captained a family team.

Research Implications: This study addresses the scant available research describing the factors that underpin volunteer's commitment to cancer control events and organisations.

Practice Implications: Results of this research suggest a profile of team captain volunteers who may be more committed to Relay for Life events and the organisations hosting them and suggests that encouraging formation of family teams may be an optimal approach to support development of a long-term commitment.

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P1-11

Psychological Factors at Early Stage of Treatment as Predictors of Receiving Chemotherapy at End of Life

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BACKGROUND/PURPOSE: Administration of chemotherapy in the last 14 days of life is a widely recognized

indicator of poor end-of-life (EOL) care. The current study aimed to investigate predictors of this outcome, focusing on patients' self-reported psychological symptoms. **METHODS:** This is a secondary analysis of a randomized controlled trial that examined the efficacy of early palliative care integrated with standard oncology practice in patients with metastatic non-small cell lung cancer. We analyzed associations between receipt of chemotherapy within 14 days of death and demographic, clinical, and quality-of-life variables in the 125 patients who received chemotherapy in the course of their illness and died during the 50 months of follow-up. **RESULTS:** Twenty-five patients (20%) received chemotherapy within the last 14 days of their life. Among demographic and clinical variables, only route of chemotherapy was significantly associated with receipt of chemotherapy within 14 days of death (oral 34.1% vs. intravenous (IV) 12.3%, $p < 0.05$). In the subsample of participants who received IV chemotherapy as their last regimen, greater anxiety and depression and lower quality of life in emotional, social, and existential domains were associated with greater likelihood of receiving chemotherapy at the EOL. These associations were not observed in patients who received oral chemotherapy as their last regimen. **CONCLUSIONS:** Anxiety, depression, and worse psychological quality of life at early stage of cancer treatment may be associated with the receipt of IV chemotherapy within 14 days of death. Further research is needed to examine how these factors might influence decision making about the discontinuation of chemotherapy at EOL.

Research Implications: Further studies are needed on mechanisms of the association between psychological factors at early stage of cancer treatment and decision making about the discontinuation of chemotherapy at EOL.

Practice Implications: Patients with higher psychological symptoms and worse psychosocial quality of life are considered as being at higher risk for receiving chemotherapy at the very EOL. Distress screening at earlier stage of cancer treatment may also represent an opportunity to improve EOL care.

Acknowledgement of Funding: None.

P1-12

Hand in Hand—Difficulties Divided ... Multiplied Joys

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BACKGROUND/PURPOSE: Evidences show the extent to which couples jointly respond to life stressors and how the nature of their dyadic coping and support helps determine both partners' adjustment to stressful events

like cancer. With a breast cancer diagnosis, it is not only the woman who faces the challenges but also all the family, especially her partner. So we idealized a weekend workshop for breast cancer patients and their partners. Supportive communication skills are crucial for partners' functioning on both individual and dyadic levels. These skills assist couples in navigating the challenges posed by their cancer experience in several ways. **METHODS:** The project was a weekend away from home, in a pleasant place, with psychological orientation in order to find out a better way to cope with their challenges together. We presented some educational speeches with information about the psychological and emotional differences between genders beside art therapy expressive techniques. **RESULTS:** All the participants were unanimously satisfied with the project. Seventy-five percent of the participants said that the information was enough and they did not miss anything, 15% were in doubt, and 10% did not answer. Ninety-five percent were satisfied with the team and their support. Ninety percent said the project corresponded to their expectations. They only asked for more time together and continuity to the project. They also gave suggestions for specific sexual problems for a next workshop. **CONCLUSIONS:** Working with breast cancer patients, we cannot forget their partners. They do not use to talk about them and their feelings and challenges, but after this project, the participants asked for us to start a men group support.

Research Implications: This is only a pilot project, and I think it would be very interesting to quantify results about the relationship improvement they got.

Practice Implications: In our country, Brazil, this is not common, and it is a pilot project. I would like to believe that more clinical psycho-oncologist would work in projects like this, outside of their therapeutic set.

Acknowledgement of Funding: None.

P1-13

Patient Proactivity and Physician Caring Jointly Enhance Cancer Prevention

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BACKGROUND/PURPOSE: Factors that contribute to cancer prevention and control among the elderly are still not well understood. Some researchers focus on characteristics of medical care while others emphasize patient characteristics as determinants. We have proposed a healthcare partnership model (Kahana & Kahana, 2007) that recognizes dual influences of physician attentiveness and patient initiative as influencing cancer prevention and screening recommendations for older adults. **METHODS:**

This paper reports empirical data that test elements of our interactive model. Our diverse sample was comprised of 657 community-dwelling older adults (mean age=78.47, *SD*=8.89) who participated in programs of AAA-sponsored senior centers in three states. The majority of participants were female (75.7%), White (64.5%), and at least high school graduates. Participants completed surveys related to their initiative and competence as healthcare consumers and about the attentiveness of care they received from their primary care physicians. **RESULTS:** We conducted multiple hierarchical regression analyses to determine the influence of patient and physician characteristics on cancer prevention recommendations offered in primary care visits. After controlling for demographic characteristics of patients, we found a significant interaction effect of patient initiative in communication and attentiveness of care by physicians on the number of screening recommendations that patients received. **CONCLUSIONS:** These data lend support to an interactionist view that acknowledges both agency and structure in shaping cancer prevention outcomes. **Research Implications:** These data lend support to an interactionist view that acknowledges both agency and structure in shaping cancer prevention outcomes. Our findings underscore the potential value of both patient-focused and practitioner-focused interventions for improving cancer prevention and control in late life.

Practice Implications: Current findings shed light on the importance of attentiveness of primary doctors' care in obtaining cancer prevention.

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P1-14

FORT: Introducing a New Randomized Control Study To Address Fear of Recurrence in Women with Cancer

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BACKGROUND/PURPOSE: Despite evidence that fear of cancer recurrence (FCR) is highly prevalent, there is little evidence to guide on how best to clinically manage this issue. The goal of this study is to propose and test an innovative approach to manage FCR. This study is a multicentered, prospective, randomized clinical trial to assess the efficacy of a 6-weekly, 2-h, cognitive existential group intervention that addresses FCR in women with breast (BC)

or gynecological cancer (GC). **METHODS:** One hundred and forty-four BC or GC survivors will be recruited from four Canadian hospitals. Sixteen groups of seven to nine women with BC or GC will take part in either the cognitive existential group intervention or the structurally equivalent control group. The primary outcome (FCR) will be measured with the Fear of Cancer Recurrence Inventory. Secondary outcomes will include cancer-specific distress, perceived risk of cancer recurrence, illness uncertainty, intolerance of uncertainty, coping, and quality of life. Instruments will be administered before the first session, immediately after the last session, and 3 and 6 months later. Each participant's trajectory will be calculated using generalized estimating equations logistic regression to determine time and group effects. An intent-to-treat analysis will be used. **RESULTS:** The study is ongoing. Descriptive data will be presented on measures obtained from participants who to date have participated in the study. **CONCLUSIONS:** This randomized clinical trial is needed to determine the most effective way of addressing FCR before it can be recommended as part of standard survivorship care.

Research Implications: If the study outcomes prove successful, the intervention can be further tested with different cancer populations.

Practice Implications: Our therapeutic model and the content of the six sessions will be presented to support clinicians in assisting survivors who are struggling with FCR.

Acknowledgement of Funding: Canadian Cancer Society Research Institute.

P1-15

How To Lead the New Psycho-oncologists toward a Third Wave: A Mindfulness-based and Metacognition-based Intervention for Women in Follow-up Cancer Care

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BACKGROUND/PURPOSE: In recent years, the third wave of cognitive behavioral therapy (CBT) has shown significant results in facing mechanisms and symptoms that are very common in cancer patients: worry and rumination, and anxiety and depression. At the same time, Italian psycho-oncological services are dealing with a huge human resources problem: many patients, not many permanent professionals, and many internships in psychotherapy. The aim of this study is to pilot test the effectiveness of an individual intervention that may be easily learned and applied by probationers. **METHODS:** Women with a diagnosis of breast or gynecological cancer ($n=32$) attended, during their follow-up care, eight weekly sessions plus a before and after

assessment. Measures of depressive and anxious symptoms, psychological distress, and quality of life were completed at the two stages of assessment. The intervention includes three main strategies: (i) mindfulness-based CBT; (ii) metacognitive therapy; and (iii) psychoeducation about the impact of cancer. All the therapists ($n=6$) attended two 4-h training sessions plus a monthly group supervision during the research. **RESULTS:** Attrition was minimal, and large intent-to-treat effects were observed. Results showed that depressive and anxious symptoms and distress reduced significantly. No differences between pre-treatment and post-treatment were found in quality of life. **CONCLUSIONS:** A brief mindfulness-based and metacognition-based therapy is an acceptable and powerful treatment for women with cancer. It is also an easy-to-apply protocol for junior psycho-oncologists. Further studies are needed in order to overcome the main limitations of the present study: the sample size and absence of a control group.

Research Implications: Despite many researches having published about the effectiveness of the so-called third wave of CBT, little is still known about its possible application in psycho-oncology. Metacognitive therapy, mindfulness-based CBT, and acceptance and commitment therapy usually deal with mechanisms and disorders that are very common in cancer patients. The present research assumes that psychological mechanisms of cancer patients may be better understood in terms of worry, rumination, and metacognitive awareness. The protocol we describe tries to integrate three modern trends of psychology: mindfulness, metacognition, and psychoeducation.

Practice Implications: This study aims to offer a protocol both for training psycho-oncologists and for supporting patients. On the one hand, we want to promote an updating of the psycho-oncology standards in light of modern psychological trends. On the other hand, we need to face the increasing costs of cancer care and reduction of human and material resources of the Italian National Health System. The present research may be useful for all psycho-oncologists that work in challenging healthcare systems where the cost-benefit ratio is a practical constraint rather than a methodological possibility.

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P1-16

A Metacognitive Therapy Intervention for Family Caregivers of Cancer Patients: A Case Study

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BACKGROUND/PURPOSE: Family caregivers of cancer patients frequently experience persistent emotional

distress. At the same time, scientific literature reports that usual interventions have small to medium effects. Metacognitive therapy (MCT) is an effective treatment for depression, anxiety, and post-traumatic disorders, but little research has evaluated its efficacy in cancer settings. MCT is a transdiagnostic model, which assumes that emotional disorders are maintained by maladaptive styles of thinking and coping. This case study aims to evaluate the potential efficacy of MCT for reducing symptoms of anxiety and post-traumatic stress in a mother of a young adult female survivor of leukemia. **METHODS:** The referral problem of Emma (pseudonym) was a difficulty in alleviating her daughter's distress. The baseline assessment measures indicated a significant level of anxious and post-traumatic symptoms. From an MCT viewpoint, her experience was characterized by two common beliefs: (i) positive metacognitive beliefs about the usefulness of worry about daughter's concerns and (ii) negative metacognitive beliefs about the uncontrollability of her own thoughts and emotions. Emma fulfilled the DSM-V criteria for a diagnosis of generalized anxiety disorder. An AB design with a 3-month follow-up was used to evaluate the efficacy. **RESULTS:** Emma was seen for 10 sessions in total, with sessions lasting 50 min. The sessions followed the usual MCT treatment plan. The symptom measures significantly decreased at the end of treatment. No significant differences were found between the final assessment and the follow-up. **CONCLUSIONS:** This case study demonstrates the applicability of MCT to treating emotional distress of family caregivers of cancer patients.

Research Implications: Little is known about the applicability and the efficacy of MCT in cancer settings, both for patients and for caregivers. This case study may help researchers to better understand the conceptualization model of MCT in coping with cancer. Since the MCT is a transdiagnostic model, it turns out to be very useful in populations where it is difficult to define a clear diagnosis. Moreover, MCT is widely used and proven to be effective in facing the most recurrent symptoms of cancer populations (patients and caregivers): depression, anxiety, and post-traumatic stress.

Practice Implications: This case study may help psycho-oncologists in better understanding the standard treatment plan of MCT. During the 10 sessions, all the usual steps were fulfilled: (i) case formulation; (ii) socialization to the metacognitive model; (iii) distinction between triggering thoughts/feelings and perseveration; (iv) modifying negative and positive metacognitive beliefs; (v) removing threat monitoring and maladaptive coping behaviors; (vi) reinforcing new plans for processing; and (vii) relapse prevention.

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P1-17

A Continuum of Intangible Support for Implementation of Evidence-based Treatments

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BACKGROUND/PURPOSE: Implementation theories agree that context (e.g., culture and infrastructure) substantially impacts implementation efforts. Our objective was to develop a practical framework for use in tailoring implementation strategies to different contexts. **METHODS:** Full-time psychosocial care providers ($n=63$) employed predominantly at National Cancer Institute-designated cancer centers (26%) or community hospital cancer programs (26%) attended National Institutes of Health-funded, 3-day training institutes on delivery of a cancer-specific, evidence-based psychological intervention targeting stress and adjustment in cancer patients. Providers subsequently participated in six monthly group conference calls on implementation topics led by trainers. Call transcripts were coded line by line, and then emerging themes were identified and grouped into an overarching framework. **RESULTS:** Themes of 'intangible' (i.e., attitudes, vocalizations, and behaviors of others) and 'tangible' (i.e., material, monetary, and time resources) factors affecting implementation emerged. Though providers generally endorsed both kinds of barriers, it appeared that levels of intangible support at their home institutions determined how easily barriers could be addressed. For example, when physicians at the institution believed their patients would not benefit from the intervention (negative intangible support), they refused to refer patients or spoke out against implementation. When physicians believed in the intervention (positive intangible support), they were more willing to refer and trainees could dedicate more time to intervention delivery. Thus, the resulting framework was based upon a continuum of intangible support ranging from negative to positive. **CONCLUSIONS:** Under this proposed conceptual framework, implementation efforts should target intangible support first and address other needs once intangible support is in place.

Research Implications: When planning implementation studies, researchers must be prepared to tailor efforts to the different contexts of the targeted organizations as one size truly does not fit all; intangible support may be an important factor to consider in this planning.

Practice Implications: When planning the implementation of evidence-based treatments, it is important to target efforts first at generating intangible support (e.g., by persuading key administrators and healthcare providers), which then may be leveraged to address other barriers to implementation as they arise.

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P1-18

Evaluating Survivorship Program Outcomes through Qualitative Metrics

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BACKGROUND/PURPOSE: Living Beyond Breast Cancer (LBBC) delivers education and support programs for people diagnosed with breast cancer across many platforms—online, live, by phone, and in print. A comprehensive qualitative evaluation tool was needed to compare within and across program platforms to effectively assess the knowledge acquisition, quality-of-life improvements, and anticipated positive health behaviors of participants. **METHODS:** Living Beyond Breast Cancer staff identified the audiences served by LBBC programs, the overarching program goals and outcomes for participants, and the types of feedback necessary for future program planning. A landscape analysis of peer organizations explored other models for survivorship program evaluation and identified the types of program outcomes reported to key stakeholders in grant writing, annual reports, and descriptions of organizational impact. **RESULTS:** Living Beyond Breast Cancer programs are live, archived, in print, and online simultaneously. Pre-testing and post-testing of program participants were not a viable option. A qualitative post-program evaluation tool was developed to measure knowledge acquisition, quality-of-life improvements, and anticipated positive health behaviors. The tool is distributed online and in print. A monthly drawing for a \$25 gift card incentivizes participation. **CONCLUSIONS:** Living Beyond Breast Cancer now reports knowledge acquisition, quality-of-life improvements, and anticipated positive health behavior outcomes to participants, funders, and key stakeholders. LBBC analyzes outcome differences among program delivery platforms, audience types (patient, caregiver, and healthcare provider), and participant demographics (education level, age, race, and time since diagnosis). Oncology psychosocial healthcare providers responsible for survivorship programming may also consider a qualitative post-program evaluation as a useful tool for assessing program outcomes.

Research Implications: Using a qualitative post-program evaluation tool that collects demographic information allows researchers to explore the effectiveness of different types of survivorship programming and its impact on anticipated positive health behaviors in and across a variety of populations of patients, caregivers, and healthcare providers.

Practice Implications: Clinicians responsible for developing and delivering survivorship care may consider a qualitative post-program evaluation as a useful tool for assessing program outcomes and reporting progress toward goals to stakeholders. Program outcomes can be used to improve existing program and develop new programs to better serve their patient population.

Acknowledgement of Funding: None.

P1-19

Post-intensive Care Syndrome—Family Type: Care Diaries for Families of Oncology Patients

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BACKGROUND/PURPOSE: Drug reactions, sepsis, acute respiratory failure, and other medical events can result in an intensive care unit (ICU) admission for oncology patients. Research suggests that the patient's social supports are at risk of developing post-intensive care syndrome—family type. The syndrome may impair the availability and effectiveness of social supports if/when the patient survives or dies. Literature on psychosocial interventions with patients using 'care diaries' following an ICU stay suggests that this may help diminish the occurrence or severity of post-intensive care syndrome—patient type. **METHODS:** A convenience sample of family members of four cancer patients, admitted to the ICU at different points of time and for different reasons, was asked to keep a care diary while their loved one was in the ICU. **RESULTS:** The care diaries were part of supportive counseling with family members based on the therapeutic use of journaling during the patients' ICU stay, following their transfer out of the unit, following their discharge home, and following the patients' deaths. The externalization of the stress of the ICU stay in writing appeared to help families organize medical information, keep track of various healthcare professionals' roles, express feelings/thoughts, and record their efforts to care for and protect the patients. **CONCLUSIONS:** Care diaries may be helpful to families of cancer patients admitted to the ICU. Care diaries can provide psychosocial support staff with information about the family members' coping skills and optimize time in ICU waiting room meetings with families.

Research Implications: Research could determine if care diaries have any impact on the occurrence or severity of post-intensive care syndrome—family type. Care diaries' effectiveness as compared with waiting room support groups for families or as an enhancement of these groups still needs to be determined.

Practice Implications: Care diaries may enhance psychosocial services to families of cancer patients in the ICU and should be a standard part of their care.

Acknowledgement of Funding: None.

P1-20

BDNF Promoter Methylation and Depression in Korean Breast Cancer

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BACKGROUND/PURPOSE: Brain-derived neurotrophic factor (BDNF) is investigated in depression related to medical disorders, and its secretion is influenced by epigenetic factors. We investigated the association between BDNF promoter methylation and depression following mastectomy for breast cancer. **METHODS:** In total, 309 patients with breast cancer were evaluated 1 week after mastectomy, and 244 (79%) were followed up 1 year later. Depression was diagnosed (major or minor depressive disorder) according to DSM-IV criteria, and depression severity was estimated by Montgomery-Åsberg Depression Rating Scale. We assessed BDNF promoter methylation using leukocyte DNA. The effects of BDNF methylation on depression diagnosis and severity were investigated using multivariate logistic and linear regression models, respectively. The two-way interaction between BDNF methylation and the val66met polymorphism on depression was also evaluated using multivariate logistic regression models. **RESULTS:** Higher BDNF methylation was independently associated with depression diagnosis and with more severe symptoms at both 1 week and 1 year after mastectomy. No significant methylation-genotype interactions were found. **CONCLUSIONS:** A role for BDNF in depression related to breast cancer was supported. Indeed, the association between depression and BDNF methylation may be useful for identifying patients who are at high risk for depression and for suggesting directions for promising drug research.

Research Implications: Given that DNA methylation status is potentially reversible by treatment with pharmacological agents (Mill and Petronis, 2007), development of a new drug that regulates DNA promoter methylation may be helpful for improving the treatment of depression in patients with breast cancer (Schroeder *et al.*, 2010; Melas *et al.*, 2011). We believe that our study represents an important first step in elucidating the role of epigenetic mechanisms in the etiology of depression in breast cancer and that it serves as a foundation for future research.

Practice Implications: Considering the higher morbidity associated with depression in breast cancer, it is possible that more careful evaluation and management are indicated for those with increased genetic vulnerability. A BDNF methylation test may be a useful tool for identifying those at high risk for depression related to breast

cancer, as this approach is non-invasive and simple if more evident associations on the methylation status between CNS and blood will be found in future studies.

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P1-21

Identification of Cancer-related Psychological Suffering Experienced by Young People Diagnosed with Cancer During Adolescence and Development of a Psychological Treatment to Reduce This Suffering

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BACKGROUND/PURPOSE: The cancer-related psychological suffering experienced by a substantial subgroup of young people diagnosed with cancer during adolescence has most often been conceptualized as posttraumatic stress, anxiety, and depression. Whether these concepts sufficiently capture this group's psychological suffering has been questioned, and there is no evidence-based psychological intervention to treat this suffering. The purpose of the present project is to identify and describe cancer-related psychological suffering experienced by young people diagnosed with cancer during adolescence (Study A) and to develop and test a psychological treatment based on cognitive behavioral therapy (CBT) to reduce this suffering (Study B). **METHODS:** Study A has an explorative design, and each participant is interviewed twice about cancer-related psychological suffering with unstructured questions. Study B has a within-group design in which up to 15 sessions of individually tailored face-to-face CBT based on a clinical behavior analysis are given. The same persons participate in both studies. Persons are eligible if they are 15–25 years, were diagnosed with cancer during adolescence, have completed cancer treatment, and experience cancer-related psychological suffering. Approximately 20 persons will be included. **RESULTS:** The results will increase the knowledge of how to conceptualize the cancer-related psychological suffering experienced by young people diagnosed with cancer during adolescence and how this suffering can be treated with CBT. Preliminary findings will be presented at the congress. **CONCLUSIONS:** Findings will have theoretical and clinical implications and contribute to the development of a relevant psychological treatment of cancer-related psychological suffering experienced by young people diagnosed with cancer during adolescence.

Research Implications: The findings will contribute to the theoretical understanding of the cancer-related psychological suffering experienced by young people diagnosed with cancer during adolescence.

Practice Implications: There are no evidence-based interventions to treat the cancer-related psychological suffering experienced by a subgroup of young people diagnosed with cancer during adolescence. The findings will contribute to the development of a psychological treatment tailored for the cancer-related psychological suffering that young people diagnosed with cancer during adolescence may experience.

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P1-22

Coaching Patients and Family by Telephone

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BACKGROUND/PURPOSE: Research has indicated that oncological patients and their family can suffer from distress during and after cancer treatment. This distress often has a severe impact on their quality of life. Psychosocial professionals—social workers, nurses, psychologists, and so on—already provide assistance within the hospital setting. However, little specialized help is provided to patients and their loved ones when their treatment is finished. **METHODS:** The Belgian Foundation against Cancer (BFC) has developed a service for patients and first-degree relatives, specifically focusing on psychological aid in the post-treatment setting and for long-term survivors who are still experiencing effects of cancer. Through this service, they can get in contact with a network of psychologists who are well trained within the field of psycho-oncology. However, having to schedule a physical appointment with a psychologist can be experienced as daunting. Continuously trying to improve the accessibility of this psychological care, BFC, therefore, developed a pilot study on psychological coaching by telephone. **RESULTS:** From January 2014 onwards, people who contacted BFC for psychological advice were offered the opportunity to schedule appointments for six counseling sessions by telephone. Different tests (e.g., Hospital Anxiety and Depression Scale and a satisfaction survey) were performed before and after completing the program. **CONCLUSIONS:** This paper discusses the preliminary findings of this pilot study. Our research demonstrates that psychological coaching by telephone

is a valid approach that is indeed experienced as less daunting than a classic appointment. Patients and family members who enrolled in the program not only reported lower levels of anxiety and depression (Hospital Anxiety and Depression Scale scoring) but also mentioned that their levels of strength and resilience improved.

Research Implications: Emotional distress that has not been screened or detected can influence the lives of patients and their families on the long term.

Practice Implications: Coaching by telephone, as low-level care, provides a solution for instant help. Being able to bring up everyday problems and concerns offers an opportunity to ventilate and to lower the level of anxiety.

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P1-23

Body Image and Psychological Distress in Women with Breast Cancer-related Lymphedema

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BACKGROUND/PURPOSE: Breast cancer-related lymphedema can compromise a woman's physical and psychological functioning, including her body image. The aim of this study was to identify factors associated with psychological distress in women living with breast cancer-related lymphedema. **METHODS:** Australian women ($N=168$) diagnosed with breast cancer-related lymphedema were recruited through a community-based breast cancer organization and lymphedema treatment clinics. Participants completed an online survey assessing demographic and medical history information, psychological distress (Depression Anxiety Stress Scale), body image disturbance (Body Image Scale), lymphedema-related cognitions (revised Illness Perception Questionnaire), and perceived ability to self-regulate lymphedema-related negative affect. **RESULTS:** Mean psychological distress for this sample was significantly higher than the Australian population norm. Number of symptoms of lymphedema, beliefs about the consequences and controllability of lymphedema, body image disturbance, and perceived ability to self-regulate lymphedema-related negative affect were correlated with psychological distress. Multivariate regression analysis indicated that these correlates explain 31.8% of the variance in psychological distress; however, only body image disturbance was a statistically significant predictor of psychological distress. **CONCLUSIONS:** Lymphedema therapists and other health professionals need to be aware that women diagnosed with lymphedema are at risk of experiencing psychological distress, particularly arising from body image disturbance. Efforts should

be made to screen patients for symptoms of depression, anxiety, and stress as well as body image disturbance to determine which women may benefit from additional support.

Research Implications: These findings are the first to investigate specific psychosocial factors associated with distress in women living with lymphedema. The identification of body image disturbance as the sole factor related to distress points to the need for interventions designed to assist women with coping with the bodily changes resulting from lymphedema and in managing associated psychological distress.

Practice Implications: Breast care nurses, lymphedema therapists, and other health professionals involved in the care of women at risk of developing lymphedema, or who are currently living with lymphedema, need to be aware that these women are at risk of experiencing psychological distress and body image disturbance. Efforts should be made to screen patients for symptoms of depression, anxiety, and stress as well as body image disturbance to determine which women would benefit from additional support.

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P1-24

A Dual-trajectory Model of Post-traumatic Growth and Depression among Breast Cancer Patients

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BACKGROUND/PURPOSE: Empirical studies of the relationship between posttraumatic growth (PTG) and depression reveal a fairly inconclusive picture. We argue that both PTG and depression show different trajectories over the course of cancer treatment. Therefore, to understand the relationship between PTG and depression, we conducted a dual-trajectory model of PTG and depression. **METHODS:** A longitudinal study was conducted with 311 female newly diagnosed breast cancer patients. The depression subscale of the Hospital Anxiety and Depression Scale and the Posttraumatic Growth Inventory were assessed at 1 day and 3, 6, and 12 months after surgery. A group-based trajectory model was used to identify subpopulations of individuals who shared homogeneous PTG and depression developmental patterns. Then, we adopted a dual-trajectory model of PTG and depression using the SAS TRAJ procedure (Nagin, 2005). The dual-trajectory model was used to understand the relationship between PTG trajectories and depression trajectories. **RESULTS:** We identified four trajectories for PTG and four trajectories for depression. The four

trajectories of PTG were stable high, medium stable, low increasing, and low decreasing. The four trajectories of depression were high depression, medium depression, low depression, and depression drop. We then examined the interrelationship between PTG and depression across the trajectory groups over 1 year. In the dual-trajectory model, 68% of the stable high PTG group was members of the low depression group; 52% of the low-depression group was members of the stable high PTG group. For the high depression group, they were the least likely to be members of the stable high PTG group (0.5%). Therefore, there was a negative correlation between PTG and depression. **CONCLUSIONS:** The results indicate that depression and PTG did show a negative correlation. By examining dynamic linkages across all trajectory groups between two longitudinal outcomes, the dual-trajectory model showed that when PTG level is the highest, depression level is most likely to be the lowest.

Research Implications: The dual-trajectory model provides a more comprehensive and realistic understanding of the underlying relationships between PTG and depression. The relationship between PTG and depression is consistent with the benefit-finding model. That is, PTG is a positive way to cope with cancer.

Practice Implications: This study showed that breast cancer survivors are less depressive when they have higher PTG experience. To screen for those who had high depression is important because depression might impede positive appraisal.

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P1-25

Coping Mediates the Relationship between Rumination and Depression among Breast Cancer Patients

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BACKGROUND/PURPOSE: Ruminative style has two aspects: reflective pondering and brooding (Treyner, Gonzalez, & Nolen-Hoeksema, 2003). Brooding has maladaptive effects (e.g., increase depressive level) on general population and cancer patients. Although reflection is thought to be associated with problem solving and the promotion of mental health, previous researches have shown that reflection does not always have an adaptive effect on depression. Marroquín, Fontes, Scilletta, and Miranda (2010) argue that whether reflective pondering is adaptive likely depends on the active nature of the surrounding coping response. Therefore, we assumed that the adaptive

effect of reflective pondering is mediated by active coping. In this study, we aim to clarify the adaptive and maladaptive effects of different types of cognitive processing (reflective pondering and brooding) on depression among breast cancer patients. We proposed a hypothesized model, in which, controlling for T1 depression, brooding predicts depression directly, whereas reflective pondering predicts a lower level of depression through the mediation of active coping. **METHODS:** A longitudinal study was conducted with 311 female newly diagnosed breast cancer patients at the third month after cancer surgery (T1) and 12 months after the surgery (T2). The Hospital Anxiety and Depression Scale (HADS) was used to assess depression. The Ruminative Responses Scale short form (RRS-SF; Treynor, Gonzalez, & Nolen-Hoeksema, 2003) was used to assess reflective pondering and brooding. The Chinese version of the Brief COPE (Carver, 1997) was used to assess active coping. The HADS and the RRS-SF were assessed at both T1 and T2. The Brief COPE (Carver, 1997) was assessed at T2. Exploratory factor analysis was conducted before analyzing. **RESULTS:** According to the criterion proposed by Ho and Bentler (1999), the hypothesized models fit the data well ($\chi^2_{(616)}/df = 2.13$; comparative fit index = 0.95; root mean square error of approximation = 0.061). Controlling for T1 depression, T1 brooding predicted T2 brooding ($\beta = 0.45$; $p < 0.05$), and T1 reflective pondering predicted T2 reflective pondering ($\beta = 0.70$; $p < 0.05$). T2 brooding predicted T2 depression ($\beta = 0.49$; $p < 0.05$), whereas T2 reflective pondering did not significantly predict T2 depression ($\beta = 0.04$). However, T2 reflective pondering predicted T2 active coping ($\beta = 0.54$; $p < 0.05$), and T2 active coping predicted T2 depression ($\beta = -0.37$; $p < 0.05$). **CONCLUSIONS:** Ruminative style has two aspects: reflective pondering and brooding (Treynor, Gonzalez, & Nolen-Hoeksema, 2003). Brooding has maladaptive effects (e.g., increase in depressive level) on the general population and cancer patients. Although reflection is thought to be associated with problem solving and the promotion of mental health, the results have shown that reflection does not always have an adaptive effect on depression. Marroquín, Fontes, Scilletta, and Miranda (2010) argue that whether reflective pondering is adaptive likely depends on the active nature of the surrounding coping response. The results supported that the adaptive effect of reflective pondering is mediated by active coping.

Research Implications: With regard to depression among cancer, reflective pondering was associated with a lower level of depression through the full mediation of active coping; brooding, with a higher level of depression. The results indicate that reflective pondering per se does not have an adaptive effect, but through improving active coping, it has an adaptive effect on cancer adaptation.

Practice Implications: To improve life quality and reduce depressive mood among cancer patients, two different types of cognitive processing (reflective pondering and brooding) should be differentiated. Interventions that are designed to reduce brooding and increase reflective pondering are helpful.

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P1-26

Patients' and Health Professionals' Understanding of and Preferences for Graphical Presentation Styles for Individual Quality-of-life Scores obtained with the EORTC QLQ-C30

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BACKGROUND/PURPOSE: Although the use of patient-reported outcomes (PROs) in clinical oncology practice is increasing, relatively little information is available regarding how PRO results should best be presented. We investigated patients' and health professionals' understanding of and preferences for different graphical presentation styles for individual European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 scores. **METHODS:** We recruited cancer patients (any treatment and diagnosis) in Austria, the Netherlands, Poland, and the UK, and health professionals at the Netherlands Cancer Institute. Using a questionnaire, we assessed objective and self-rated understanding of five graphical Quality of Life Questionnaire Core 30 presentation styles (bar charts and line charts, with or without color coding, and a heat map) and preferences for certain styles. **RESULTS:** In total, 548 patients and 238 health professionals completed the questionnaire. Patient mean age was 60.6 years, 54% were female, and the largest group was women with breast cancer (25.7%). Eighty-three percent of the patients indicated that the graphs were very or quite easy to understand, but the average number of correct answers to the questions assessing objective understanding was 7.3 (out of 12; 61%). Self-rated and objective understanding were not significantly different between graphical formats, but patients reported a preference for bar charts. Data from the health professionals are currently being analyzed and

will be presented at the conference. **CONCLUSIONS:** We found a substantial discrepancy between patients' high self-rated and relatively low objectively measured understanding of graphical presentation of PRO results. This highlights the need to provide sufficient guidance to patients when providing them access to their own PRO results.

Research Implications: It would be interesting to further investigate the substantial discrepancy we found between patients' high self-rated and relatively low objectively measured understanding.

Practice Implications: Our study shows that patients' understanding of graphical presentation of PRO results is relatively low. This highlights the need to provide sufficient guidance to patients when providing them access to their own PRO results, for example, by creating appropriate tutorial materials.

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P1-27

Effectiveness of Nurse Case Management Model Compared with Usual Care in Lymphoma Patients

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BACKGROUND/PURPOSE: This study examines and evaluates the effect that adopting a 'nurse case management' (NCM) model has on the care and survival rates of lymphoma patients. **METHODS:** In this retrospective study, 242 lymphoma patients were recruited between January 2010 and August 2014. The experimental group comprised 161 patients who had received care from a lymphoma 'NCM'. The team members comprised numerous professionals, including a physician, case manager, dietician, and social worker, who formulated the care plan and the patient treatment and care processes. The case manager coordinated the recruitment, liaison, and care plan implementation and conducted disease education, telephone consultations, follow-ups, and evaluations. The control group comprised 81 lymphoma patients. The patients in the control group had similar characteristics to those in the experimental group and received traditional care. **RESULTS:** Adopting an NCM model in lymphoma care increased patient follow-up appointment adherence rates at 1 week and 1 and 3 months ($p=0.011$, $p=0.006$, $p=0.001$). The model also effectively reduced the patients' 14-day readmission rate. Furthermore, these improvements were statistically significant. The results also indicated that the survival rate for patients receiving care from the lymphoma NCM was superior to that of

the control group receiving traditional care. The average survival time of the NCM group (37.5 months) was longer than that of the control group (28.2 months) ($p < 0.001$). **CONCLUSIONS:** Adopting an NCM model in lymphoma care effectively enhanced clinical treatment adherence, increased survival rates, and reduced the 14-day readmission rate. The results of this study may be valuable for medical institutions promoting an NCM model in lymphoma care, improve cancer patient care, and ultimately enhance the quality of health care.

Research Implications: The approach could further reduce the cost of the intervention and facilitate its dissemination in the oncology setting.

Practice Implications: The NCM model was optimally positioned to deliver support and guidance for promoting adaptation in patients with cancer and use in clinical practice to enhance coping in patients.

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P1-28

Support Needs of Telephone Helpline Service in Lymphoma Patients

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BACKGROUND/PURPOSE: Telephone helpline services are useful in gaining rapid access to oncology facilities. The objective of this study was to develop a telephone helpline called 'cancer telephone helpline services' (CTHS) to provide lymphoma patients support needs in time and evaluate the support needs of callers of CTHS. **METHODS:** This was a retrospective study of telephone services during 2007–2011, to describe the support needs to a CTHS and caller characteristics, reason for call, and satisfaction of CTHS. **RESULTS:** A total of 207 calls were made to the CTHS during 2007–2011, with the majority of callers being men (62.3%) and generally younger (58.9%). Callers included patients (64.7%) and caregivers (19.3%); 72.7% occurred at 8 AM–1 PM; 69.9% called to obtain information about cancer treatment problems and on how to manage chemotherapy side effects; 28.6% calls were transferred to the emergency room for assessment. The overall satisfaction rate for CTHS was 96%. **CONCLUSIONS:** Through the CTHS, lymphoma patients and caregivers could receive higher quality of care during the treatment and management of their problems in time. We suggest such telephone helpline services can be used in other diseases to help the patients in time. The finding may provide hospitals with additional information regarding optimal skills to perform educational strategies.

Research Implications: This research has a very useful function, and data emerging from helplines can be used to inform training and procedural policy decision making.

Practice Implications: The international significance of these findings for practice includes its demonstration of the multifaceted symptom experience of patients. It demonstrates the capacity of helplines to identify gaps in professional skills and training.

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P1-29

Evaluating Effectiveness on Case Management Model in Gastric Cancer

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BACKGROUND/PURPOSE: This study examines and evaluates the effect that adopting a case management model (CMM) has on the care and survival rates of gastric cancer patients. **METHODS:** In this retrospective study, 165 gastric cancer patients were recruited between January 2007 and December 2010. The experimental group comprised 80 patients who had received care from a CMM. The case manager coordinated the recruitment, liaison, and care plan implementation and conducted disease education, telephone consultations, follow-ups, and evaluations. The control group comprised 85 gastric cancer patients. The patients in the control group had similar characteristics to those in the experimental group and received routine care. **RESULTS:** Adopting a CMM in gastric cancer care increased patient follow-up appointment compliance rates at 1 and 3 months ($p=0.02$, $p<0.001$). The model also effectively reduced patients' 14-day readmission rate ($p<0.001$). Furthermore, these improvements were statistically significant. The results also indicated the survival rate for patients receiving care from gastric cancer. A CMM was superior to that of the control group receiving traditional care. More than 90% satisfaction with all aspects of patients was found. The average survival time of the CMM group (65 months) was longer than that of the control group (58 months) ($p<0.001$). **CONCLUSIONS:** Adopting a CMM in gastric cancer care effectively enhanced clinical treatment adherence, increased survival rates, and reduced the 14-day readmission rate. The results of this study may be valuable for medical institutions promoting a CMM in gastric cancer care, improve cancer patient care, and ultimately enhance the quality of health care.

Research Implications: This study established a model of nurse case management for standard care in cancer patients and contributed to additional financial support from the national healthcare system.

Practice Implications: The results could also provide useful information for managing other diseases and promote the quality of cancer care.

Acknowledgement of Funding: None.

P1-30

Reasons for Refusal of Treatment and Survival Rate in Colorectal Cancer Patients

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BACKGROUND/PURPOSE: Colorectal cancer (CRC) is the most prevalent form of cancer in Taiwan, and its fatality rate is the third highest among all cancers. Patients who begin treatment within the first year have a survival rate of over 80%, compared with the approximately 50% for those who do not undergo treatment. The purpose of this study was to analyze the rate of and reasons for CRC patients' refusal of treatment in order to understand related factors. **METHODS:** This was a retrospective study of CRC patient histories at a teaching hospital in southern Taiwan. Analysis was performed on data for 523 CRC patients who had gone to the hospital from 2006 to 2013 in order to understand their treatments, reasons for refusal of treatment, and survival rates. **RESULTS:** One hundred forty-five patients stopped or refused treatment (27.7%). Among these, the most common types of treatment were chemotherapy ($n=57$, 39.3%) and surgery ($n=46$, 31.7%). The most common reasons for discontinuation and refusal of treatment were family burden ($n=25$, 17.2%) and quality of life after treatment ($n=18$, 12.5%). This study found that age and sources of support were factors that influenced patients' treatment compliance rate. The survival rate for patients who accepted treatment was higher than that for patients who refused treatment. **CONCLUSIONS:** Of the CRC patients, 27.7% refused or quit treatment. The survival rate of CRC patients who receive treatment is high. The CRC patients reported being afraid of the operation and chemotherapy. They worried about becoming a burden on their families. We suggest that enhancing patient social support and adequacy strategies is a suitable method for improving the quality of care for CRC cancer patients.

Research Implications: Further research is needed to provide more conclusive results into the factors involved in patient compliance and to test the effectiveness of compliance-enhancing strategies.

Practice Implications: Nurses are well placed to deliver individually tailored information about treatment, answer patient questions, and recheck information, and enhancing patient social support and adequacy strategies is a suitable method for improving the quality of care.

Acknowledgement of Funding: None.

P1-31

A Project of the Humanization of Medical Care

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BACKGROUNDS/PURPOSE: ‘Health in the Mirror’ is a psychosocial program for female cancer patients. Its aim is to improve well-being and quality of life along with medical therapies through the realization of patients’ group sessions, during which a team of fashion and aesthetic consultants illustrate techniques and strategies to manage the effects of the disease and its treatments. After ‘beauty treatment’, patients are formed into discussion groups, led by a team of psychologists. The present study is in line with the previous one presented at IPOS 2014. **METHODS:** Up to now, 61 patients undergoing cancer treatment (chemotherapy, radiotherapy, or surgery) at San Raffaele Hospital (Milan, Italy) took part in the program. Levels of anxiety (State–Trait Anxiety Inventory, form Y), depression (Beck Depression Inventory), and perceived quality of life (European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30) were evaluated through a three-time assessment: before the beginning of group sessions (t_0), at the end of the program (t_1), and after 3 months (t_2). **RESULTS:** Patients showed a significant decrease in depression level between t_0 and t_1 ($p=0.0002$) and perceived quality-of-life level to significantly increase between t_0 and t_1 ($p=10.86 \times 10^{-7}$) and between t_1 and t_2 ($p=0.003$), while state–anxiety level showed a decrease only between t_0 and t_1 ($p=30.73 \times 10^{-7}$). **CONCLUSIONS:** These results seem to confirm that taking part in the ‘Health in the Mirror’ program leads to a stable improvement in the measured variables, confirming the importance of integrating psychosocial support interventions and conventional medical treatments. It represents an example of ‘humanization of medical care’ in the oncological field.

Research Implications: Despite the increase in the sample size by 150% compared with the previous research in 2014, the study is still limited by the different numbers of patients assessed in the three observations (t_0 , $n=61$; t_1 , $n=58$; t_2 , $n=37$). The small sample size does not allow us to consider the role of clinical variables (i.e., whether the medical situation is getting better or worse) that could

affect psychological well-being and quality of life beyond participation to the program. Finally, it could be also useful to assess a control group of patients who do not take part in the project, in order to study the causal effect of the obtained results.

Practice Implications: ‘Health in the Mirror’ is now considered a specific part of cancer treatment: it promotes a better and faster adaptation to the new psychophysical condition, facilitates compliance, and encourages positive attitude towards the medical staff. Today, it represents a pioneering example of ‘humanization of medical care’ in the oncological field.

Acknowledgement of Funding: None.

P1-32

Development and Evaluation of the Communication Skills Training Program for Lithuanian Cancer Care Professionals

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BACKGROUND/PURPOSE: Effective communication is essential for cancer care. For this reason, the communication skills training (CST) program was developed by the Lithuanian Association of Psychosocial Oncology. In 2013–2014, intensive 2-day workshops for 10 groups of oncology doctors and nurses involving 164 participants were accomplished. The CST program offered a variety of theoretical models, with a special focus on handling emotions and breaking bad news in oncology, and integrated many interactive methods such as self-reflection, video analysis, exercises, and role plays. This research aims to identify the efficacy of the new program. **METHODS:** Specific self-report questionnaires for healthcare professionals were designed. Surveys were based on three main topics: stress, confidence level, and personal opinion about the training and ability to apply learned communication skills in practice. The questionnaire also contained socio-demographic data. Six months after the CST program, 88 (67.2%) participants completed the questionnaires. **RESULTS:** Improvements in respondents’ confidence (61.4%) and specific skills in communication with cancer patients (75.0–90.9% of respondents) were found. The cancer care professionals evaluated the CST program well and very well (86.4–92.1%) on different aspects. Correlation was found between tutors’ competences and respondents’ satisfaction ($r=0.570$, $p<0.001$). The older respondents (>47) more often evaluated the CST program as very effective ($p=0.006$). **CONCLUSIONS:** Research proves the efficacy of CST program for cancer care professionals.

Research Implications: In order to find out long-term effects of the program, further research is necessary.

Practice Implications: It is recommended to use the CST program in further communication skills' trainings.

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P1-33

Characteristics of Patients Attending Psychology Appointments in a Cancer Center

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BACKGROUND/PURPOSE: Support service utilization and distress prevalence in the cancer patient population are well known; however, there is a dearth of information regarding the characteristics of individuals who actually engage in psychological services housed in cancer centers. The aim of the current study was to obtain descriptive information about individuals attending psychological services in a cancer center to further inform programmatic initiatives, training, and practice in psycho-oncology. **METHODS:** Data were collected between September 2013 and November 2014 from 252 patients attending initial psychology appointments at a cancer center. Patients provided demographic, disease, and referral information and completed the Patient-reported Outcomes Measurement Information System anxiety (8a), depression (8a), and applied cognition abilities (8a). **RESULTS:** Patients' mean age was 53.4 ($SD=13.3$). Most patients were referred by medical providers (76%) and were using psychotropic medication (62%). Forty-two percent of patients had no history of psychological service utilization. The most represented disease groups were hematological (27%), breast (18%), and gastrointestinal (16%). The mean anxiety score was a *T*-score of 60 (10% of patients obtained a *T*-score of 70 or greater). The mean depression score was a *T*-score of 56 (5% of patients obtained a *T*-score of 70 or greater). The mean applied cognition abilities score was a *T*-score of 42. **CONCLUSIONS:** Greater knowledge about cancer patients using psychology services will advance the field of psycho-oncology. These results indicate that medical providers are the primary referral source and patients tend to have clinically significant anxiety and current prescriptions for psychotropic medications. The generalizability of these findings is a point of future research.

Research Implications: The degree to which the results of the current study are generalizable to other psychology

programs housed in cancer treatments centers is an area of future study. This would allow for more reliable discrimination among the characteristics of psychology patients in cancer centers that may be institutional artifacts and those that may be disease driven.

Practice Implications: These results have implications for program developments, in terms of identifying medical providers as the primary referral source and systemic reasons for low rates of self-referrals. Additionally, the prominence of anxious distress over depressive symptoms in this sample has implications for both training and clinical practice.

Acknowledgement of Funding: None.

P1-34

Active Coping and Active Participation In Decision Making during Chemotherapy

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BACKGROUND/PURPOSE: Shared decision making encourages patients to take an active role in their healthcare choices. Most work examining influences on shared decision making among cancer patients has evaluated demographic or clinical variables. Minimal work has explored the influence of psychological factors, such as coping, personality, or resilience, to patients' roles in cancer treatment decisions. This study examined the relationship between demographic, clinical, and psychosocial characteristics and patients' decision-making roles. **METHODS:** Among 863 patients with breast, lung, gastrointestinal, or gynecologic cancer, self-reported decision-making role was assessed with the Control Preference Scale. and coping (Brief COPE), resilience (Connor–Davidson Resilience Scale), and personality (Neuroticism–Extraversion–Openness Five-factor Inventory) were assessed. Descriptive statistics, multivariate analysis of variance, and analysis of variance were used to examine relationships between demographic, clinical, and psychosocial characteristics and decision-making roles. **RESULTS:** Mean age was 57.1 years ($SD=11.8$). The majority had breast cancer (39.9%), followed by gastrointestinal (28.7%), gynecologic (18.7%), and lung (12.7%) cancer. Decision-making role varied significantly by age ($p < 0.001$) and income ($p = 0.003$), with younger participants and those in higher-income groups reporting more active roles. Reported decision-making roles did not vary by cancer type. Patients with a greater number of comorbidities reported more passive decision-making

roles ($p=0.028$). Those with a more active coping style ($p=0.002$), higher levels of 'openness to experience' ($p=0.014$), and greater resilience ($p=0.024$) reported more active decision-making roles. **CONCLUSIONS:** These data suggest that decision-making roles are conceptually related to, and possibly influenced by, underlying psychological factors.

Research Implications: Further research is needed to examine the pathway through which psychological factors may influence decision-making roles.

Practice Implications: Clinically, providers should be aware that decision-making roles may be a construct that is related to coping style, although demographic variables appear to play a role as well

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P1-35

School-based Brief Psychoeducational Intervention To Raise Adolescent Cancer Awareness and Address Barriers to Seeking Medical Help about Cancer: Cluster Randomized Controlled Trial

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BACKGROUND/PURPOSE: Raising cancer awareness increases early diagnosis. This study aimed to assess if a school-based brief psychoeducational intervention improved cancer awareness and help seeking among adolescents. **METHODS:** The study was designed as a cluster randomized controlled trial conducted in 2013–2014. There were 2173 participants, aged 12–13 years, who came from 20 schools. The sample size had an intraclass correlation of 0.05, which would have 90% power to detect a difference of 0.5 cancer warning signs between intervention and control groups. The intervention group had a 1-h visual/verbal presentation about cancer. Control schools had no presentation. Schools were stratified by size and area-level deprivation and randomly allocated within these strata to the intervention or control group. Measures included a self-report questionnaire (Cancer Awareness Measure) administered by a teacher in the classroom, with baseline assessment 3 months pre-intervention and follow-up assessments 2 and 24 weeks post-intervention. Multiple linear regression for analyses of variables (i.e., number of cancer warning signs and risk factors recognized and barriers to help seeking) was

carried out. **RESULTS:** Regression models showed a significant difference in number of cancer warning signs recognized in intervention compared with control group ($\beta=0.6891$, 95% confidence interval (CI) [0.3506, 1.0275]; $p<0.0001$), remaining significant at 6 months ($\beta=0.4707$, 95% CI [0.1034, 0.8380]; $p=0.012$). Similarly, statistically significant differences in number of cancer risk factors recognized in intervention compared with control groups were observed ($\beta=0.7114$, 95% CI [0.4471, 0.9756]; $p<0.0001$) and remained significant at 6 months ($\beta=0.2773$, 95% CI [0.004918, 0.5497]; $p=0.046$). No significant differences between groups for help-seeking barriers were found. **CONCLUSIONS:** A school-based brief psychoeducational intervention had modest effect on cancer awareness and should be implemented. More intensive psychoeducational interventions or use of different modalities is required to address help-seeking barriers.

Research Implications: This presentation may be relevant to researchers because there is currently insufficient evidence to recommend the active ingredients (e.g., delivery format and intervention modalities) for interventions to improve cancer awareness and address help-seeking barriers. The presentation is also relevant to researchers because there is insufficient evidence to recommend theories and models to guide the development and testing of these interventions.

Practice Implications: The possibility of raising adolescent cancer awareness and addressing barriers to seeking medical help about cancer by a simple brief intervention is tantalizing because it uses relatively modest resources and time while yielding meaningful improvements. Brief interventions offer a resource-efficient and practical opportunity for schools because they are relatively easy to implement compared with large-scale intensive interventions and do not require large investments in human and material resources. In addition, intensive interventions may be impractical for schools that are unable or unwilling to devote a significant proportion of the curriculum to one single public health issue. Given the potential low cost and ease of implementing brief interventions, an important question is whether they are effective.

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P1-36

User-centered Design: Development of a Web-based Self-help Intervention for Partners of Cancer Patients

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BACKGROUND/PURPOSE: Partners of cancer patients often suffer from distress. Effective interventions, specifically and solely targeting this population, are scarce, and partners hardly use the existing interventions. This study describes the user-centered development of a low-threshold Web-based intervention for this specific population. The intervention aims at reducing distress and improving resilience and mental health in partners of cancer patients. To make sure the intervention fits the users' needs, the CeHRes (Van Gemert-Pijnen *et al.*, 2011) road map was used as framework for the iterative and user-centered development. **METHODS:** For the *contextual inquiry* and *value specification*, both interviews and a survey-study were used. Based upon the results of these stages, content material was developed in the *design* stage. Subsequently, the content was *formatively evaluated* with end users and adjusted when necessary. Then, the Web-based application was developed, formatively evaluated with end users, and adapted. **RESULTS:** Contextual inquiry and value specification showed that there is an interest in a Web-based intervention among partners of cancer patients. We also gained insight into preconditions the intervention should meet (e.g., hours per week), which type of support it should contain (e.g., information), and which themes should be addressed (e.g., coping with emotions). Formative evaluation, of both content and application, rendered insights for improvement of materials, e.g., usefulness, usability, and design. **CONCLUSIONS:** The CeHRes road map helped us to develop an intervention that meets the end users' needs. This is confirmed by positive reactions of the users of the final intervention. Currently, our intervention is being tested in an randomized controlled trial.

Research Implications: This research contributes to the development of a methodology through which the particular target population can be involved in the development of an eHealth technology that fits their needs and their personal situation. Besides the ongoing effect study of the intervention, future research may also focus on the analysis of log data, to gain insight into how the intervention is used and its working mechanisms.

Practice Implications: If proven to be effective, the newly developed Web-based intervention can be an invaluable contribution to the standard service for partners of cancer patients.

Acknowledgement of Funding: This research was supported by a grant from the Dutch Cancer Society (KWF)/Alpe d'HuZes, contract grant number 5248.

P1-37

Psychosocial Aspects of Cancer Care

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BACKGROUND/PURPOSE: Statistical data as well as our own common knowledge indicate that cancer is becoming more and more common. A diagnosis of cancer is a nightmare that creates stress not only in the patient but also in every member of his or her family. The disease has such negative connotations that it is equated with death in most minds, and associated fears, myths, and misinformation only add to the trauma. As a professional oncology nurse working with cancer patients, experience has helped me to discern certain patterns in individuals and their reactions and responses. Such observations have helped me to understand patients better and to plan the appropriate strategy to support them. When patients are with advanced cancer, they go through several well-recognized stages of psychological reaction before they come to acceptance like anger, fear, denial, bargaining, analysis, and acceptance. At this point, it is important to encourage patients to vent their feelings and to recognize the need to help them analyze the situation in which they find themselves. **METHODS:** The methods that are used in preventing these patients from going into severe depression when they go through further stages of denial, provide a peaceful, painless existence and medical control of symptoms, and make the remaining days peaceful will include being a good listener, accepting the wishes of the patient, being compassionate, and using verbal and nonverbal communications; all these are needed to develop a good rapport with the patient based on trust. When realistic goals are set, anxiety is reduced; the patients must feel that their grief and sorrow are shared through appropriate communication and tender touch. The stress that a caregiver undergoes generally goes unrecognized because it was done with love and for the interest of the patient cared for. **RESULTS:** When the psychosocial problems of patients with cancer are managed effectively with the condition they were diagnosed with, we see them recovering well and coping effectively with their disease condition compared with a patient who was not offered psychological help. **CONCLUSIONS:** In developing countries where psycho-oncology care is still very rare as many hospital settings cannot provide this care because of lack of expertise in this field, it will be a great help if international bodies can offer help in terms of their skills in psycho-oncology care.

Research Implications: Others from developed world can compare with theirs.

Practice Implications: This would make the international world see the challenges that the developing world faces in offering psycho-oncology care.

Acknowledgement of Funding: None.

P1-38

Thresholds for Clinical Importance for Key Domains of the EORTC QLQ-C30

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BACKGROUND/PURPOSE: The aim of our study was to identify thresholds for clinical importance for four European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30) scales: physical functioning (PF), emotional functioning (EF), pain (PA), and fatigue (FA). **METHODS:** We recruited adult cancer patients from Austria, the Netherlands, Poland, and the UK. No restrictions were placed on diagnosis or type of treatment. Patients completed the QLQ-C30 and three anchor items designed to assess different potential attributes of clinically important levels of PF, EF, PA, and FA. We merged the anchor items assessing perceived burden, limitations in daily activities, and need for help into a dichotomous external criterion to estimate thresholds for clinical importance. We used receiver operator characteristic analysis. **RESULTS:** We recruited 548 patients with a mean age of 60.6 years. Fifty-four percent was female, and the most frequent diagnoses were breast (26%), colorectal (13%), and lung cancer (12%). The QLQ-C30 scales showed high diagnostic accuracy with regard to predicting burden, limitations, and need for help related to PF, EF, PA, and FA (all areas under the curve were above 0.86). We were able to estimate thresholds for clinical importance for these four QLQ-C30 scales. **CONCLUSIONS:** Thresholds for clinical importance will facilitate interpretation of scores both at individual and group levels. When used in daily clinical practice, these thresholds can help identify patients with clinically relevant problems requiring further exploration and possibly intervention by healthcare professionals. The thresholds also allow converting QLQ-C30 scores into prevalence rates.

Research Implications: The developed thresholds will allow us to calculate prevalence rates from EORTC QLQ-C30 scores.

Practice Implications: The developed thresholds will make the EORTC QLQ-C30 usable for symptom screening in daily oncological practice.

Acknowledgement of Funding: The work of Johannes M. Giesinger has been funded by a grant from the Austrian Science Fund (FWF J3353).

P1-39

'The Pain May Be Singular, but the Suffering Is Plural': A Qualitative Analysis of the Hardship, Resources, and Rearrangements of Senegalese Families Dealing with a Child with Cancer

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BACKGROUND/PURPOSE: It is assumed that the diagnosis of childhood cancer will agitate the family. We aim to explore numerous families' testimony to analyze their own description of this experience and the affects it enhances. **METHODS:** This is a qualitative analysis of 30 focus groups with 387 parents of hospitalized children. We address their journey before they reach the only pediatric oncology unit in Senegal, hardships during hospitalization, and the strain on the family equilibrium, but we also discuss the resources they mobilize to manage the cancer experience. **RESULTS:** Parents report delays in diagnosis because they have wasted time seeking traditional treatment and were not suitably referred in the medical system. They discussed the financial burden of treatment fees but mostly the struggle to balance the cost of living in the hospital with the expenses at home. Parents report feelings of powerlessness and frustration when not informed sufficiently by the medical team or when their child's health degrades. Mothers testify being distressed by the lack of understanding from their spouses or in-laws who blame them for voluntarily extending their hospitalization. Regardless, parents are grateful for the quality of care and the reassuring improvement of their child's health. They also value the support from other parents and the impressive internal resources they were unaware of. **CONCLUSIONS:** Dealing with the emergence of cancer in a child disturbs the family's homeostasis. Families are fragile since they are separated, have to reorganize their structure, and have to mobilize sparse resources. Parents report a highly stressful period in which they must be resilient and perseverant to support their children when they are themselves overwhelmed and lonely. Yet they thrive, for giving up on their child is never an option.

Research Implications: This study allows us to be better aware of the discrepancies between the assumptions made by researchers (on behalf of the patients and their families) and the reality described by the patients themselves.

Practice Implications: This qualitative evaluation may be useful to clinical practitioners, for it will allow for

intervention and reduced delays in caregiving prior to the arrival in a specialized pediatric oncology unit. Also, being better informed of the parental experience might allow clinicians to address some concerns for families, which will increase adherence to treatment and promote quicker reference to the appropriate specialists.

Acknowledgement of Funding: None.

P1-40

Development, Testing, and Evaluation of an Online, Guided, Psychological Intervention for Parents of Children Previously Treated for Cancer

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BACKGROUND/PURPOSE: Survival rates for childhood cancer have increased over the past 30 years, resulting in an increasing number of parents of children previously treated for cancer. Research shows that a considerable proportion of these parents reports a clinically significant level of cancer-related distress; there is however no evidence-based intervention targeting this distress. We are currently running a research program in which an online psychological intervention for parents of children previously treated for cancer is developed according to guidelines from the Medical Research Council, UK, and principles from public involvement and participatory action research. An overview of the research program and current progress will be presented at the conference. **METHODS:** The research program includes a literature review, a pilot study developing a psychological intervention, a participatory action research study translating the intervention to an online format including stakeholders with lived experience as research partners, a feasibility study of the online intervention, and a controlled trial evaluating the intervention. **RESULTS:** The first phases of the program including the literature review and the pilot study in which the psychological intervention was developed have been completed. **CONCLUSIONS:** So far, using the guidelines from the Medical Research Council, UK, and principles from public involvement and participatory action research has proven to be a viable strategy when developing a complex intervention for parents of children previously treated for cancer reporting cancer-related distress.

Research Implications: This research will show whether using guidelines from the Medical Research Council, UK, for development of complex interventions and principles from public involvement and participatory action research will contribute to the development of a clinically effective online, guided, psychological intervention for parents of children previously treated for cancer.

Practice Implications: If the intervention is shown to be clinically effective, it could be offered by regular health care to parents of children previously treated for cancer.

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P1-41

Internet-based Guided Self-help for Parents of Children Diagnosed with Cancer: 1-year Follow-up of a Randomized Controlled Trial

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BACKGROUND/PURPOSE: A considerable proportion of parents of children diagnosed with cancer reports a clinically significant level of distress such as symptoms of posttraumatic stress (PTSS), depression, and anxiety during and after their child's treatment. Results from intervention studies targeting distress during the child's treatment have been mixed, and long-term follow-ups are lacking. In a randomized controlled trial, we investigate the efficacy of Internet-based guided self-help for parents of children recently diagnosed with cancer. Significant effects with large effect sizes for PTSS and depression have been shown from pre-assessment to post-assessment, indicating that the intervention is efficacious in the short term. Results from the 1-year follow-up for PTSS, depression, and anxiety will be presented at the conference. **METHODS:** Fifty-eight parents of children recently diagnosed with cancer, fulfilling criteria for partial posttraumatic stress disorder (PTSD) on the PTSD Checklist, were randomly allocated to the intervention ($n=31$) or to a wait-list control condition ($n=27$). The intervention group accessed a 10-week guided self-help program via the Internet based on principles from cognitive behavioral therapy. The primary outcome PTSS and the secondary outcomes depression and anxiety were assessed by self-reports pre-intervention and post-intervention, and at 1-year follow-up. Eighteen participants completed the intervention, and 37 participants completed the post-assessment. One-year follow-up data will be available in June. **RESULTS:** Results from the 1-year follow-up will be presented at the conference. **CONCLUSIONS:** The intervention is efficacious in the short term, and results presented at the conference will clarify if the effects are maintained at 1-year follow-up.

Research Implications: Not only the short-term but also long-term efficacy of guided self-help via the Internet for

parents of children recently diagnosed with cancer should be investigated in future research.

Practice Implications: If the findings will show that the guided self-help is efficacious in the long-term, it could be provided by regular health care to parents of children recently diagnosed with cancer who report a high level of PTSS.

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P1-42

Internal Consistency and Construct Validity of the Dutch Version of the Cognitive Symptom Checklist-Work in Cancer Patients

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BACKGROUND/PURPOSE: This study aimed to examine the reliability and validity of the Cognitive Symptom Checklist-Work Dutch version (CSC-W DV) in working cancer patients. **METHODS:** The original CSC-W21 was cross-culturally translated and adapted to Dutch from English. The 20-item CSC-W DV is scored on a 5-point scale, with higher scores indicating more cognitive symptoms. A validation study was conducted among cancer patients who had returned to work. Internal consistency was evaluated by Cronbach's alpha. Construct validity was evaluated by hypothesis testing, assuming that cancer patients with lower levels of work functioning (Work Role Functioning Questionnaire, <74, 75–89, >90) and self-rated health (Short Form 1, excellent–good versus poor–fair) and higher levels of fatigue (Checklist Individual Strength-8, tertiles) and depressive symptoms (Patient Health Questionnaire-9, >10) had higher CSC-W DV scores. **RESULTS:** Two hundred fifty-two

cancer patients (60% women) with a mean age of 50.8 ($SD=7.9$) years were included. Internal consistency was high ($\alpha=0.95$). As hypothesized, cancer survivors with lower work functioning ($p<0.001$) and higher fatigue ($p=0.001$) and depressive symptoms ($p<0.001$) had higher scores on CSC-W DV compared to cancer patients with higher work functioning levels and lower fatigue levels and depressive symptoms. No significant difference was found for self-rated health ($p=0.24$). **CONCLUSIONS:** The CSC-W DV showed strong internal consistency and construct validity for measuring cognitive symptoms in working cancer patients. The CSC-W DV was able to distinguish between working cancer patients with different levels of work functioning, fatigue, and depressive symptoms. The CSC-W DV is a valuable tool to study cognitive functioning at work of cancer patients. Further research is needed to examine other measurement properties, especially responsiveness.

Research Implications: The CSC-W DV is able to measure cognitive symptoms at work in cancer patients. After examining other measurement properties (e.g., responsiveness), research is needed to explore cognitive symptoms in cancer patients over time.

Practice Implications: It is important to enhance knowledge about cognitive symptoms at work in cancer patients, to guide and support them as well as possible when they are back at work and to improve their work functioning over time.

Acknowledgement of Funding: The Dutch Cancer Society (KWF, 2011-5266).

P1-43

A Proposal: Transforming a Qualitative Biopsychosocial Needs Assessment into Operational Quantitative Data

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BACKGROUND/PURPOSE: Several tools exist for measuring a patient's depression, anxiety, pain, and so on, but none provide a picture of the patient as a whole. Biopsychosocial assessments can provide this systems perspective and deliver invaluable information that allows for tailored interventions; however, these assessments are qualitative and subject to interpretation. In order to optimally identify and address biopsychosocial needs, a more quantitative assessment tool is necessary. **METHODS:** To establish baseline data, a team of oncology social workers assessed the same patient. Not surprisingly, for a qualitative science, their results varied. To develop a new quantitative standard, we assigned each assessment line item a specific operational definition, a weighted value,

and a threshold that when crossed would graphically alert the social worker that intervention was needed. Patient responses were evaluated using a Likert scale (1–5) and then multiplied by the weighted value to determine where each item landed relative to its threshold value. **RESULTS:** Statistical analysis of qualitative baseline data revealed wide variation among assessments by as much as 27% of total points, indicating no standardization. Aided by concise operational definitions, a quantitative tool has been further refined to identify standard thresholds for each assessment item with reduced variation by >50%. **CONCLUSIONS:** By converting qualitative data into a more reliable standardized quantitative tool, we have reduced the variation in needs assessments among social workers for individual patients. With increased confidence, the social worker can implement effective interventions in a prioritized fashion based on threshold data. This benefits the patient, the social workers, and the entire care team.

Research Implications: This standardized quantitative assessment tool is relevant to the science of psychosocial oncology as it has been found to be more time efficient by prioritizing patient needs and interventions, more consistent by providing numerical data instead of subjective conclusions, and more reliable by decreasing variation found in biopsychosocial assessments completed on an individual patient by differing social workers. In regard to the need for future development and research, there is a need for a larger sampling size in order to substantiate findings and confirm the validity of the tool.

Practice Implications: These findings are relevant to psychosocial oncology clinical practice as they allow clinicians to more effectively and efficiently identify and manage each patient's psychosocial needs. The quantitative assessment tool provides a comprehensive systems perspective on each patient by looking at each component of biopsychosocial functioning, which then allows the clinician to deliver tailored interventions that may lead to improved quality of life for patients and their loved ones as well as improved compliance with care. Additionally, this tool clearly demonstrates graphically to all medical team members each patient's progress (or lack thereof) on each individual assessment item over time.

Acknowledgement of Funding: None.

P1-44

Impact of Body Image on Cancer Prevention Efforts among Emerging Adults

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BACKGROUND/PURPOSE: Body image disturbances are associated with health-damaging behaviors that can

increase risk of later cancer diagnosis and are related to cancer screening behaviors (Ridolfi & Crowther, 2013). However, past research on this relationship used single-item measures of body image and investigated only females.

Our study uses the Body Appreciation Scale (Avalos, Tylka, & Barcalow, 2005) to confirm the relationship between body image and skin and breast cancer prevention efforts (CPE) and investigate if body image predicts CPE for testicular, lung, liver, and HPV-related cancers in both genders. Emerging adults often place their future health at risk by ignoring or being uninformed about CPEs they should currently engage in. Our study investigates self-efficacy, risk perception, knowledge, and perceived importance as moderators of the relationship between body image and CPE among undergraduates as these moderation relationships have been hypothesized in previous research but not investigated.

METHODS: An anonymous, online survey assessed body image, CPEs, and potential moderators in 452 undergraduates (64% female). **RESULTS:** Hierarchical regressions found that body image is predictive of engaging in CPE for skin, lung, and HPV-related cancers among females and for lung, liver, and HPV-related cancers among males. Knowledge was a moderator of body image and tanning behaviors among females and also moderated body image and the frequency of engaging in breast self-examinations among males. **CONCLUSIONS:** The findings suggest that body image plays a role in the frequency of CPE students take and that knowledge can moderate the relationship between body image and certain CPEs.

Research Implications: Further research should aim to better understand our surprising finding of how knowledge moderates the relationship between body image and the frequency of engaging in breast self-examinations within males. Experimentation investigating whether improving one's body image directly leads to an increase in CPE can also enhance understanding of our findings. Also, additional research should consider other moderators of the relationship between body image and CPEs such as health anxiety, age, and ethnicity. Further specifying different types of prevention efforts within a cancer and how each may be associated with body image may contribute to the existing body of research.

Practice Implications: Practitioners should be aware of how body image plays a role in engaging in CPE when counseling their patients, specifically their emerging adult patient population. Additionally, findings from this study will inform cancer prevention programs for undergraduate students with attention to how body image impacts prevention behaviors.

Acknowledgement of Funding: This research was funded by the University Scholars Program at the University of Florida.

P1-45

Building an Infrastructure and Measuring the Implementation of Advance Care Planning in the Oncology Practice Setting

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BACKGROUND/PURPOSE: This abstract will describe the development of an advance care planning (ACP) program infrastructure and identification of its outcome metrics, as they relate to the aim to enhance the patient/provider experience with ACP. **METHODS:** As part of the institution's strategic plan, executive leadership assembled an interdisciplinary team to address the ACP needs of its patients, families, and staff. By team consensus, a project charter was established to form the program's business case, mission, scope, metrics/targets, expected benefits, and milestones. Efforts focused on (1) institutional policy, (2) patient/family/staff education, and (3) identification of outcome metrics. **RESULTS:** The 13-member team identified multi-level strategies for implementing the program: (1) documentation of advance directives or ACP discussions, by the third office visit; (2) the number of documented discussions of cancer prognosis and goals of treatment; (3) the number of providers completing the ACP documentation training; and (4) the number receiving their Maintenance of Certification Part IV designation from enrolling and participating in the ACP quality improvement project. **CONCLUSIONS:** Change in ACP is achieved through the support of institutional leadership and the use of multi-level strategies. In a large oncology setting, there are many aspects to consider when planning, coordinating, and implementing an institution-wide initiative, including policy, education, clinician engagement, personnel, and standard measures by which to evaluate program efforts.

Research Implications: Clinical knowledge and practice of ACP in an oncology setting can be enhanced.

Practice Implications: See above.

Acknowledgement of Funding: Not applicable.

P1-46

One-on-One Cancer Support: The 4th Angel Mentoring Program

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BACKGROUND/PURPOSE: 'You have cancer.' Hearing these words can be devastating; not knowing what

will happen physically, mentally, and emotionally can change your whole world and bring feelings of loneliness and inability to relate to loved ones. The 4th Angel Mentoring Program facilitates social support by matching patients and caregivers in a supportive, mentoring relationship with a survivor. Mentor volunteers are typically 6 months posttreatment survivors who receive individualized training, guidance, and support from program coordinators. Patients/caregivers and their mentors communicate via email or telephone from the comfort of their own home. **METHODS:** Goals of the program include being committed to improving quality of life, providing emotional support for those affected by cancer, and enhancing patient/caregiver clinical and psychosocial outcomes by connecting patients and caregivers with mentors. **RESULTS:** On average, 100 patient and caregiver mentor matches are made monthly. The program has 800 mentors actively participating; program activity spans all 50 states, including some international activity. The 4th Angel Program currently partners with over 925 organizations. Enhancing emotional support for patients and caregivers improves patient experience by developing stronger coping skills, reducing feelings of fear and isolation, and offering hope along the survivorship journey. **CONCLUSIONS:** Current research findings suggest that enhancing emotional support for patients and caregivers experiencing a cancer diagnosis may improve patient experience by developing stronger coping skills, reducing feelings of fear and isolation, and offering hope along the survivorship journey.

Research Implications: By sharing current research findings and indications as to the potential benefits and impact of peer mentoring on improving physical and psychosocial outcomes for cancer patients and their families, our intention is to create a greater awareness as to the need for conducting further research in demonstrating lay peer mentoring's critical impact and contributions on patient and caregiver outcomes.

Practice Implications: Today, cost-effective psychosocial resources for cancer patients and their caregivers are extremely sparse; the 4th Angel Mentoring Program provides clinicians with a free, accessible resource that may be offered to all cancer patients and families regardless of their geographical location and chosen center of care.

Acknowledgement of Funding: The Scott Hamilton Cancer Alliance for Research, Education, and Survivorship (CARES) Initiative was founded at Cleveland Clinic in 1999 and evolved into The Scott Hamilton CARES Foundation in 2014. The 4th Angel Mentoring Program is funded by Cleveland Clinic.

P1-47

Risk of Recurrence and Quality of Provider Communication Predict Treatment-related Decisional Conflict among Women with Breast Cancer

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BACKGROUND/PURPOSE: Practice guidelines incorporate genomic tumor profiling to refine recurrence risk (RR) estimates for breast cancer patients with early-stage, estrogen receptor-positive disease. While high-RR and low-RR results are associated with clear treatment recommendations, appropriate treatment for women with intermediate RR is less certain pending clinical trials. This uncertainty could result in greater treatment-related decisional conflict, which may be alleviated by high-quality communication with an oncologist. **METHODS:** We prospectively assessed the effect of RR category, patients' perception of oncologists' communication quality (Makoul *et al.*, 1995), and their interaction, as predictors of post-test decisional conflict (O'Connor, 1995) related to selection of chemotherapy. Participants were 161 women (mean age=57) newly diagnosed with breast cancer with low ($n=96$), intermediate ($n=45$), or high ($n=20$) RR. **RESULTS:** In a linear regression model adjusted for patient age, clinical variables, and pretest decisional conflict, intermediate (versus high or low) RR ($B=-0.83$, $p<0.001$) and poorer perceived communication quality ($B=-0.27$, $p<0.001$) were significantly related to greater decisional conflict. Communication quality significantly moderated the effect of RR category ($B=0.62$, $p<0.001$). Patients reporting poorer communication quality reported higher decisional conflict regardless of test result ($M=2.4$) as compared to patients who reported better communication quality with high/low ($M=1.8$) and intermediate ($M=2.0$) RR. **CONCLUSIONS:** Patients who report poorer-quality communication with their oncologist are at greater risk for treatment-related decisional conflict. Decisional conflict of patients receiving intermediate RR remained problematic, even with high-quality clinical communication, suggesting that these patients could benefit from additional treatment decision-making support.

Research Implications: This information could be useful to fellow researchers looking to examine patient–oncologist communication and inform interventions.

Practice Implications: The information presented in this study can be used to guide and strengthen patient–

oncologist communication in clinical practice. The results inform practice of those treating women with breast cancer.

Acknowledgement of Funding: National Cancer Institute.

P1-48

The Importance of Psychosocial Care, in a Private Clinic in Chile, to Cancer Patients Who Are Foreign, Patients Who Live Outside the Capital of Chile and Patients Who Are Transferred from Their Base Hospital Due To 'Bed Management' or 'Emergency Law'

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¹Clinica Las Condes

BACKGROUND/PURPOSE: The present investigation has aimed to analyze and understand the psychological impact of and how foreign patients face the oncology process, those who are not from the city where they receive their treatment and those patients who because of 'bed management' and 'emergency law' are admitted to a private clinic of high-quality standards and gain access to the best specialists and treatments. (Bed management and emergency law are going to be explained as part of Chilean legislation.) **METHODS:** A quality method was used, with the aim to access feelings and emerging emotions, the social and cultural problem, the rootlessness perception, the psychological and financial impact, and the meanings created by the patients with respect to their diagnosis and cancer treatment. It was important to define and explain the significance of emergency law and bed management to understand the performance of public medicine in Chile. A psychosocial evaluation and semi-structured interviews were used, which were subjected to content analysis. **RESULTS:** As results, we can say that 92% of evaluated patients suffered a great impact because of the big difference between public medicine and private medicine when returning to their corresponding public hospital after living a reality which had no consciousness. One hundred percent of them felt secure to be treated in the private hospital. One hundred percent of them suffered some feelings like frustration, helplessness, and awareness of the lack of opportunities. **CONCLUSIONS:** From the results, it is concluded that even though patients are highly beneficiary in so far as the treatment of their illness, the psychological impact of knowing the social difference and the opportunity generates a high degree of frustration after their release from the hospital.

Research Implications: This research is so relevant, because here in Chile there is no investigation about it and nobody has written about this topic. It is believed that the emergency law and bed management is *per se* beneficial for people who cannot afford better medicine,

but nobody has stopped to think and analyze how they feel when they return to their reality and create a reintegration program.

Practice Implications: This information will be very relevant to clinical practice for creating protocols to order the derivation a treatment system with the objective that patients can be relaxed and not worry that their treatment will be stopped any moment and that they will have to return to the public hospital when a bed becomes available, where they have to wait so long for procedures and treatment.

Acknowledgement of Funding: None.

P1-49

Care of Cancer Patient and His Family: Biopsychosocial Approach

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BACKGROUND/PURPOSE: The purpose of this paper is to show the importance of biopsychosocial evaluation and intervention on cancer patients and their families. This intervention considers patient, family patient, doctors, nurses, nutritionist, psychology, and so on. **METHODS:** The method used to evaluate the patient and their families was a semistructured interview. The method used to evaluate the sanitary group (on a private medical clinic) was a chart with a series of items designed by the psycho-oncology unit. **RESULTS:** The results of the patients' and their families' evaluation indicate that over 50% of patients with a factor risk on their families affects the communication between members of the family and the proper adaptation of the patient to the cancer treatment. These implications worsen when the sanitary group is not aware of the psychosocial spectrum of families and does not have the tools to give proper medical attention.

The analysis of the background on 'medical family therapy' gives evidence on the most effective way to approach a family when a member is ill.

CONCLUSIONS: After analyzing the information derived from the evaluation done to cancer patients, their families, and the sanitary group, it can be concluded that the biopsychosocial model of care involves a thorough evaluation regarding risk factors, patient, family, and the professionals in charge of the cancer treatment. That is why this paper seeks to propose a model of evaluation and appropriate intervention to psychosocial needs and risk factors detected.

Research Implications: This paper has implications on sanitary groups that treat cancer patients, as also on families that have to face a cancer on a family member. An effective communication between the family of the

cancer patient and the professionals in charge allows a better adaptation of the patient to the cancer treatment. The family becomes part of the care of the patient.

Practice Implications: Clinical practice on psycho-oncology implicates an intervention on cancer patients, on their family and also on the group that is taking care of the patient. This is why it is important to have an effective evaluation of the family and a proper intervention on the group of professionals that are responsible for the well-being of the patient. It could result to an effective communication and prevent burnout in families and in professionals in charge.

Acknowledgement of Funding: None.

P1-50

Positive and Negative Mood Following Imaging-guided Core Needle Breast Biopsy and Receipt of Biopsy Results

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BACKGROUND/PURPOSE: Positive and negative moods are independent psychological responses to stressful events. Negative mood can negatively impact well-being, whereas co-occurring positive mood can lead to improved psychological adjustment. Women undergoing needle breast biopsies experience distress during biopsy and awaiting results; however, influences on positive and negative moods in this setting are not well-known. This study examines psychosocial, biopsy-related, and spirituality-related factors impacting positive and negative moods in patients post-biopsy and post-results. **METHODS:** Ninety women undergoing breast biopsy completed questionnaires on psychosocial factors (life stress and social support), biopsy experiences (pain and communication with radiologist), and Functional Assessment of Chronic Illness Therapy-Spirituality (meaning, peace, and faith) post-biopsy. Measures of positive and negative moods were completed post-biopsy and post-results (benign results $n = 50$; abnormal results requiring surgery $n = 25$). Multiple linear regression analyses were conducted. **RESULTS:** Following biopsy, greater positive mood correlated with greater peace ($\beta = 0.25$, $p = 0.02$). Lower negative mood correlated with greater peace ($\beta = -0.29$, $p = 0.004$) and less pain during biopsy ($\beta = 0.19$, $p = 0.07$). Following benign results, only post-biopsy positive mood predicted positive mood post-results ($\beta = 0.29$, $p = 0.04$) and only chronic life stress predicted negative mood ($\beta = 0.36$, $p = 0.02$). For women with abnormal results, greater meaning predicted lower negative

mood ($\beta = -0.49$, $p = 0.04$). **CONCLUSIONS:** Higher scores for peace resulted in greater positive mood and lower negative mood post-biopsy, and greater meaning resulted in lower negative mood post-results for patients requiring surgery.

Research Implications: Studies should further examine the impact of peace and meaning for women undergoing breast biopsy and surgery.

Practice Implications: Interventions to improve peace and meaning may enhance positive mood and lower negative mood, resulting in improved psychological adjustment in these women.

Acknowledgement of Funding: Duke Department of Radiology Pilot Funding Program.

P1-51

Family-focused Therapy for Cancer Survivors (FFT-CS): A Case Study

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BACKGROUND/PURPOSE: Cancer is a family illness, but little research exists on family-focused interventions for cancer survivors. This case study describes the adaptation of family-focused grief therapy (FFGT; Kissane & Bloch, 2002) to meet the needs of families of cancer survivors (FFT-CS). The authors describe a model for a manualized FFT-CS protocol derived from the core FFGT elements of family functioning with additional survivorship themes developed in consultation with Dr. Kissane and cancer survivor interviews. **METHODS:** The participating family included the patient, who had completed active treatment for non-metastatic breast cancer 1 year prior and three family members (patient's husband, sister, and adolescent daughter). Baseline scores on the Family Relationship Index revealed strong cohesion and low to moderate conflict, but less optimal expressiveness. The family's concerns involved challenges with communication about anticipatory grief and shared fear of cancer recurrence. Six sessions of FFT-CS were delivered over 8 weeks with a licensed psychologist. Sessions focused on patterns of family communication, cohesion, and conflict resolution. FFT-CS protocol adaptations included processing of grief related to the cancer experience and exploration of family coping in cancer survivorship. **RESULTS:** Family-focused therapy for cancer survivors was well received and adhered to by the family. Improvements immediately post-treatment on measures

of psychological symptoms and family functioning were observed. The family expressed increased confidence in their ability to communicate and provide mutual support concerning fear of cancer recurrence and uncertainty. **CONCLUSIONS:** Further research of this protocol is warranted to clarify the feasibility and efficacy of FFT-CS.

Research Implications: Further research is warranted to address the efficacy of the adapted FFT-CS model for cancer survivors and families. While findings from this initial case study are promising, future studies of the psychosocial benefits and feasibility of delivering FFT-CS will benefit from a larger sample of participants.

Practice Implications: Case study findings suggest that it is feasible to adapt and implement this established family-focused therapy and that such may be well received and beneficial for families of cancer survivors in regard to management of psychological symptoms and enhanced family functioning.

Acknowledgement of Funding: Support for this study was provided by the UCSF Comprehensive Cancer Center/Mt. Zion Health Fund.

P1-52

Assessing Patient Needs: What Types of Group-based Services Do Outpatient Oncology Patients Prefer?

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BACKGROUND/PURPOSE: Group-based services can improve quality-of-life outcomes for oncology patients. We assessed preferences for supportive and educational programming to better meet patient needs and allocate resources. **METHODS:** Patients from three cancer centers in New York City completed a 15-item survey provided in English, Spanish, and Chinese about their interest in educational topics (wellness, nutrition, legal issues, etc.) and services (support groups, lectures, and exercise programs). Participants were recruited in the treatment and waiting areas by a patient navigator. Logistic regressions were used to assess associations between age, education, and gender on likelihood of attending each type of service. **RESULTS:** Three hundred eleven patients participated. Mean age was 59, and most were female (74%). The most common cancer was breast (40%), followed by genitourinary (15%). In terms of groups, women preferred wellness workshops followed by informative sessions; men preferred informative sessions, followed equally by post-treatment support and wellness workshops. Older age was related to reduced likelihood

of group attendance, $p=0.04$. Overall, 68% of participants reported that they would be likely to attend groups. For lectures, nutrition was of greatest interest for both men (43%) and women (34%) followed by anxiety management (17% and 18%, respectively). Overall, 64% of participants reported that they would be likely to attend a lecture. More women (59%) than men (42%) reported interest in exercise programs, $p=0.02$. A majority of respondents (54%) expressed desire for exercise programs at the cancer centers. **CONCLUSIONS:** This psychosocial needs assessment identified services most preferred by patients and can be used by cancer centers in developing programming to meet patient needs. These results may be useful to suggest ways that the healthcare team can respond most effectively to the psychosocial needs of cancer patients.

Research Implications: The findings reflect gender, age, and educational level differences in terms of patient preferences for support programming; however, the generalizability is limited.

Practice Implications: The psychosocial needs assessment provides a starting point for developing interventions. Therefore, this information should be helpful to clinicians planning new initiatives and refining existing psychoeducational and wellness programs and support groups.

Acknowledgement of Funding: There was no funding requested nor obtained for this program evaluation.

P1-53

Psychosocial Cancer Care in the Indian Setting: A Heuristic Model

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BACKGROUND/PURPOSE: Cancer brings with it tremendous psychological distress. The nature and source of distress is perhaps unique to each culture. This understanding is imperative for planning effective psychosocial care. Thus far, no effort was made to understand distress in the diverse Indian milieu. The proposed conceptual framework is an effort in this direction. **METHODS:** The following have been used: (1) qualitative information derived from an earlier study on prevalence of psychological distress in the Indian setting ($N=2594$, 20 cancer centers); (2) clinical experience; and (3) literature reviews and peer interactions, enabled identification of factors, and the nature and source of distress. **RESULTS:** The data mining resulted in conceptualizing two models.

I *The psychological distress model:* This elucidates five intricately woven and interdependent sources of

distress: (1) myths and misconceptions, (2) disease site and stage, (3) personal (psychological, family, social, occupation, financial, and spiritual), (4) treatment, and (5) family's distress. The interplay and self-perpetuating effects of the factors that exacerbate distress were discerned.

II *The Sitaram step paradigm of psychosocial cancer care:* This proposes a five-step comprehensive approach to psychosocial care: (1) empowerment, (2) individual, (3) marital, (4) family therapy, and (5) support group programs. It defines objectives, techniques, and duration of sessions.

CONCLUSIONS: The proposed models break new ground in conceptualizing distress and suggest comprehensive, tailor-made approaches to psychosocial care unique to the Indian setting.

Research Implications: (1) Validation is under way through pan-India field trails. (2) Collaborative, cross-cultural studies should be initiated. (3) Screening and assessment tools for the Indian setting should be developed.

Practice Implications: This will (1) facilitate better psychosocial care planning and delivery and (2) facilitate national guidelines for psychosocial care in India.

Acknowledgement of Funding: None.

P1-54

An Evaluation of a Positive Psychology Program To Improve the Psychological Well-being of Hong Kong Chinese Cancer Patients

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Hong Kong Cancer Fund

BACKGROUND/PURPOSE: Research evidence demonstrates that positive psychological interventions enhance the well-being of cancer patients (Lyubomirsky *et al.*, 2008; Ruini *et al.*, 2006). Such interventions have also decreased the symptoms of depression (Tugade & Fredrickson, 2004; Sin & Lyubomirsky, 2009). However, little evidence is available about the impact of these interventions on the well-being of Hong Kong Chinese cancer patients. The purpose of this study was to evaluate the effectiveness of a positive psychological program on the psychological well-being of Chinese cancer patients. **METHODS:** Eight cancer patients were recruited from a Hong Kong community psychosocial cancer service provider. Participants attended a positive psychology program consisting of six sessions. The Flourishing Scales (Diener *et al.*, 2009) and 12-item General Health Questionnaire (GHQ-12; Gao *et al.*, 2004) were used to measure participants' perceived levels of well-being and distress at entry and on completion of the program.

Descriptive statistics and paired *t*-tests were employed to analyze the pre-test and post-test data. **RESULTS:** The findings demonstrated a significant increase in the level of well-being among participants (the Flourishing Scale: mean 7.5, $p < 0.05$) and a significant decrease of distress (the GHQ-12: mean -7.5, $p < 0.05$) on completion of the program. **CONCLUSIONS:** The findings suggest that a positive psychological program enhances the well-being of Chinese cancer patients who are in different disease stages and with different types of cancer. However, the small sample size and research design limit the causal relationships that can be drawn from the study.

Research Implications: This preliminary study examined the relationship between positive psychological interventions and the well-being of a group of cancer patients and survivors in Hong Kong. Further research using a random sample and matched controls is required so that causal relationships can be drawn between the intervention and outcome of the program.

Practice Implications: Evidence from this study suggests that positive psychological programs may provide service providers and professionals with strategies to improve the psychological well-being of cancer patients and cancer survivors in a range of clinical settings.

Acknowledgement of Funding: None.

P1-55

Validation of a Patient-reported Outcome Measure on Ego Integrity and Despair among Cancer Patients

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BACKGROUND/PURPOSE: This study aimed to investigate psychometric characteristics of a patient-reported outcome measure (the Northwestern Ego Integrity Scale (NEIS)) assessing ego integrity (the acceptance of one's one and only life cycle as something that had to be, and a sense of coherence and wholeness) and despair (feelings of regret and failure) among cancer patients. **METHODS:** In total, 157 cancer patients participated. Outcome measures were ego integrity and despair (NEIS), psychological distress, anxiety and depression (Hospital Anxiety and Depression Scale), and quality of life (EORTC QLQ-C30 (cancer survivors) or QLQ-PAL15 (advanced cancer patients)). Principal component analysis (PCA) was used to assess construct validity. Cronbach's alpha was used to assess internal consistency of the subscales. Convergent and divergent validity of the questionnaire were tested based on *a priori* defined hypotheses: a higher level of ego integrity was expected to be related to a higher level of quality of life and lower levels of

depression and anxiety, and a higher level of despair was expected to be related to a lower level of quality of life and higher levels of depression and anxiety. **RESULTS:** PCA analyses revealed 2 components, labeled as ego integrity (5 items) and despair (10 items). Both components had good internal consistency (Cronbach's alpha coefficient=0.72 and 0.77, respectively). The ego integrity scale was not significantly associated with quality of life, distress, anxiety, or depression. The despair scale correlated significantly with quality of life ($r = -0.356$), distress ($r = 0.590$), anxiety ($r = 0.632$), and depression ($r = 0.409$). **CONCLUSIONS:** The NEIS is a valid tool to assess ego integrity and despair among cancer patients.

Research Implications: The NEIS can be used to investigate ego integrity and despair in cancer patients.

Practice Implications: For clinical purposes, more research is needed on responsiveness and to define cutoff scores.

Acknowledgement of Funding: This project is funded by The Netherlands Organisation for Health Research and Development (ZonMW) and the Adnessium Foundation.

P1-56

The Effect of Exercise on Caregivers' Psychosocial and Physical Activity Outcomes: A Systematic Review

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BACKGROUND/PURPOSE: Caregiving is known to have detrimental effects on individuals' psychosocial and physical well-being. An important task in health research is then to find effective ways to prepare caregivers *both* psychologically and physically for their demanding role. This systematic review gathered evidence on the effects of exercise interventions on caregivers' psychosocial health and physical activity outcomes. **METHODS:** Electronic databases were searched, and key articles evaluating the effects of exercise on caregivers' psychosocial well-being and physical activity outcomes identified. Selection criteria were experimental design, exercise as intervention, and outcomes measured for caregivers. **RESULTS:** Fourteen studies met the inclusion criteria. Group yoga was the main exercise intervention in the studies, followed by walking. Overall, an exercise intervention had a significant impact on decreasing depression, burden, stress, anger, and anxiety. Other significant

outcomes included increased amount of exercise, self-efficacy, and mental adjustment and increased strength and balance. **CONCLUSIONS:** There is evidence that exercise improves caregivers' psychosocial and physical outcomes.

Research Implications: The majority of studies reviewed had small sample sizes not allowing for sufficient power. Therefore, further high-quality trials with larger samples are needed to evaluate the impact of exercise interventions on caregivers' health and functioning.

Practice Implications: The findings of this review would suggest that healthcare providers should promote the use of exercise interventions among caregivers. However, considering that caregivers across studies reported time constraints issues, independent exercise may be more convenient to fit within their daily routine than group exercise outside the home. Furthermore, tailoring the physical activity to caregivers' needs and capacity might further increase uptake.

Acknowledgement of Funding: None.

P1-57

Indonesian Women's Knowledge of Breast Cancer: A Comparison between Breast Cancer Patients and Healthy Population

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BACKGROUND/PURPOSE: The aim of this study was to assess and compare breast cancer knowledge between women with breast cancer and healthy population. **METHODS:** Seventy consecutive female breast cancer patients at the outpatient surgical oncology clinic, the Hasan Sadikin Hospital in Bandung, and 122 healthy women with comparable demographic characteristics were recruited from the Bandung area. They completed a demographic form and the Breast Cancer Knowledge Test that consists of a general knowledge subscale and curability subscale. **RESULTS:** Only 27% breast cancer patients and 25% healthy women answered >50% breast cancer general knowledge questions correctly, whereas 43% breast cancer patients and 72% healthy women answered >50% breast cancer curability questions correctly. Healthy subjects had on average a higher score on the curability subscale than breast cancer patients ($t=4.705$, $p=0.01$), but no differences were found on the breast cancer knowledge subscale scores. **CONCLUSIONS:** The relatively low breast cancer knowledge scores of both breast cancer patients and healthy women indicate the

urgent need to improve breast cancer information provision and education for both populations.

Research Implications: Our study shows the importance of women's knowledge of breast cancer improvement. This knowledge could be useful to plan interventional strategies to improve women's awareness and knowledge.

Practice Implications: The finding that Indonesian women have relatively low breast cancer knowledge can be used to develop intervention programs for both healthy population and breast cancer patients who registered in the hospital.

Acknowledgement of Funding: The Directorate General of Higher Education of Indonesia (DIKTI).

P1-58

Differential Item Functioning on Depressive Symptoms Based on a History of Cancer

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BACKGROUND/PURPOSE: Major depressive disorder (MDD) among individuals diagnosed with cancer is common, with up to 38% meeting diagnostic criteria for MDD. Some symptoms of MDD overlap with cancer or cancer treatments (e.g., fatigue). This study aims to provide clinicians and researchers with information related to individual DSM-V symptoms which may lead to a diagnosis of MDD in those diagnosed with cancer. **METHODS:** Data from the National Health and Nutrition Examination Survey, years 2005–2012, were examined. Symptoms of MDD were assessed via the Patient Health Questionnaire-9, which contains all nine DSM-V symptoms. All symptom items were dichotomized as they would be in the DSM-V, and self-reported diagnosis of cancer was used as the grouping variable. A two-parameter *item response theory* model was used, assessing *difficulty* (level of depression needed for endorsement) and *discrimination* (an item's ability to differentiate between depressed and non-depressed individuals). *Differential item functioning* was also used to determine if *difficulty* and *discrimination* differed between groups. All analyses were performed in R using the package *lordif*. **RESULTS:** Among those diagnosed with cancer, the sleep difficulty and fatigue items were less helpful when compared to healthy peers in distinguishing between the presence and absence of MDD. Further, the 'feeling like a failure' item was more likely endorsed if those with cancer history experienced a higher level of MDD when compared to healthy peers. **CONCLUSIONS:** Findings suggest that clinicians and researchers working with patients

diagnosed with cancer may want to consider weighting symptoms of MDD differently according to the population they are serving.

Research Implications: The information provided in this poster will be relevant to researchers who examine depression among those who have been diagnosed with cancer; specifically, it will show the importance of weighting individual depressive symptom differences.

Practice Implications: The information provided in this poster will be relevant to clinicians who are assessing those diagnosed with cancer for depression, by providing information on how endorsement of specific depressive symptoms relates to the severity of depressive episode the patient is experiencing.

Acknowledgement of Funding: None.

P1-59

Needs and Experience of the Illness in Children and Teenagers with Cancer through the Use of Art Therapy

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BACKGROUND/PURPOSE: The purpose of the study was to analyze the needs and the experience of disease in children and teenagers with cancer through the use of art. **METHODS:** This is a qualitative study. The needs and experience of the disease in 15 patients (6–17 years) diagnosed with cancer were assessed through projective tests (the human figure drawing and the family drawing test) together with the use of art as an assessment tool. A total of 52 artistic productions were analyzed. The reports of each patient about the meaning of his or her own artistic production were also analyzed with the Atlas.ti software. **RESULTS:** The needs observed were related to having control, protection of the external environment, the need for approval, the need for family unity, and the desire to be with family and friends. The experience of the illness is focused on the rejection to hospitalization and painful medical procedures, side effects of treatment, physical symptoms of the disease, health evaluation outcomes, and wishes for recovery from the disease. Personal characteristics showed corporal sensitivity and features of immaturity, along with the use of denial and repression as defense mechanisms. **CONCLUSIONS:** The family plays an important role in the emotional state of the patient, expressed by his or her desire to family bounding. It became also clear that the defense mechanisms such as denial and repression employed in this group may be a form of protection and management of the hard reality these children and teenagers with cancer live daily.

Research Implications: The use of art as a tool for therapeutic evaluation allows an understanding of the needs and experience of cancer disease. This study showed how children creatively use art in order to express and process their cancer experiences, giving a special interest in how art therapy offers a different evaluation way that should be tested through researches.

Practice Implications: The verbal expression of the experience of cancer on children and teenagers is not easy, the use of a tool such as art therapy allows us to meet the patients' needs through a pleasant method, not aversive for children and teenagers living with this harsh reality. Art therapy may be an evaluation method that uses images to facilitate the communication in the therapeutic setting. It will facilitate a more relevant and comprehensive intervention.

Acknowledgement of Funding: None.

P1-60

Patient Interest in Clinical Trials: Results from a National Sample of Cancer Psychoeducational Program Attendees

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BACKGROUND/PURPOSE: Individuals undergoing cancer treatment may be eligible for clinical trials, yet many are unaware of their eligibility. One goal of the Cancer Support Community's Frankly Speaking about Cancer (FSAC) psychoeducational programs is to empower attendees to take an active role in treatment decision making, which includes clinical trials. These analyses investigate factors associated with patient interest in trials. **METHODS:** Between 2009 and 2013, 8928 FSAC workshop attendees nationwide completed post-workshop evaluations (75% response rate). Of these, 5419 (61.1%) were diagnosed with cancer. Most evaluations assessed interest in trials as a result of the workshop, of which 2931 patients responded. **RESULTS:** Respondents tended to be Caucasian (80.4%), female (81.4%), and averaged 60 years old ($SD = 11.3$); 52.1% had breast cancer; 35.5% were diagnosed within the past year, and 37.3% had metastatic disease; 7.5% had participated in a clinical trial. Overall, 66.2% reported they 'will ask for more information about clinical trials to learn whether it may be a treatment option'. Age was negatively correlated with asking, whereas both workshop satisfaction and post-workshop knowledge were positively correlated with intention to ask about trials ($p \leq 0.05$ for all). No differences were found based on type of cancer, workshop type, time since diagnosis, race, gender, or support group participation. **CONCLUSIONS:** Results suggest

that psychoeducational workshops, which educate patients about clinical trials is associated with increased interest. Increased understanding of factors can inform future efforts to raise awareness of and possible enrollment in trials.

Research Implications: There is ongoing research on how to increase cancer clinical trial participation. These findings contribute to this body of work and identify areas for further research.

Practice Implications: These findings highlight a successful psychoeducational model, which can be incorporated into clinical practice with patients and caregivers.

Acknowledgement of Funding: Workshops were funded by multiple corporate organizations through unrestricted educational grants.

P1-61

Factors Influencing Treatment Decisions among Cancer Patients: Results from National Patient Education Workshops

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BACKGROUND/PURPOSE: Individuals with cancer are often presented with multiple options for treatment. One goal of the Cancer Support Community's Frankly Speaking about Cancer psychoeducational programs is to empower patients in the treatment decision-making process. The current analysis aims to better understand the patient experience. **METHODS:** One thousand eight hundred sixteen attendees from one of seven nationally run Frankly Speaking About Cancer workshops in 2013 completed post-workshop evaluations (82% response rate). Most (64.1%) were cancer patients/survivors, the focus of the current analyses. Over one-third was diagnosed with breast cancer (37.4%). Thirty-six percent were diagnosed within the past year, and 38.8% had metastatic cancer. Respondents were Caucasian (80.3%), women (75.2%), and on average 61.7 years old. Patients responded to questions about factors influencing their treatment decision making. **RESULTS:** Most (87.2%) reported having multiple treatment options, including chemotherapy (59.7%), surgery (60.7%), and/or radiation therapy (40.5%). Factors influential in decision making included physician recommendation (72.3%), the greatest chance for survival (33.1%), the most aggressive treatment (33.1%), side effects (10%), insurance/financial reasons (8.3%), convenience or ease of treatment (5.6%), and/or a clinical trial (4.3%). Influences of factors varied based on stage of disease ($\chi^2 = 25.8$, $p < 0.01$). Furthermore, individuals for whom insurance/financial considerations were significant in decision making differed based

on several demographic and cancer history factors ($\chi^2 = 25.8$, $p < 0.01$). **CONCLUSIONS:** Findings provide insight into the treatment decision-making process for patients on many dimensions and can inform both psychoeducational support programs and patient-provider communication efforts.

Research Implications: There is ongoing research on how to improve the shared treatment decision making among patients and providers. These findings contribute to this body of work and identify areas for further research.

Practice Implications: These findings highlight factors which influence patients' treatment decision making. It is important that clinicians further understand these factors so that patient-provider communication can be further enhanced during the treatment decision-making process.

Acknowledgement of Funding: Workshops were funded by multiple corporate organizations through unrestricted educational grants.

P1-62

Development of a Patient Navigation Intervention for Breast Cancer Survivors

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BACKGROUND/PURPOSE: Limited research exists documenting development of evidence-based patient navigation (PN) programs. This study describes development of a PN intervention designed to improve adherence to survivorship care and endocrine therapy and improve quality of life among underserved hormone receptor-positive breast cancer survivors (BCS). **METHODS:** An intervention based on behavioral and environmental theories, and informed by interviews with BCS ($n = 25$) and breast cancer stakeholders ($n = 15$), was developed using the first four steps of intervention mapping. An advisory group and a patient navigator assisted with intervention development. **RESULTS:** In step 1 of intervention mapping, researchers created a logic model outlining

behavioral and environmental determinants and factors contributing to premature death from breast cancer and decreased quality of life among BCS. In step 2, researchers outlined desired behavioral ($n=3$) and environmental ($n=6$) intervention outcomes, including adherence to endocrine medications, physical exams, and mammography among BCS, and patient navigator provision of explanations of recommended follow-up care, decision support for medications, assistance in developing medication-taking habits and coping skills for medication side effects, assistance with coordination of care, and psychosocial support and resources. Researchers then delineated specific performance objectives that need to be fulfilled to accomplish each intervention outcome, important and changeable determinants known to be associated with achievement of each intervention outcome, and a set of change objectives for the intervention. In steps 3 and 4, researchers selected and developed theory-based techniques to address change objectives. **CONCLUSIONS:** This study describes a novel PN intervention for underserved hormone receptor-positive BCS. **Research Implications:** This study adds to the literature as little research documents the development of PN programs for BCS. Future research will be conducted to pilot test, implement, and evaluate this PN program for BCS.

Practice Implications: This intervention has the potential to improve adherence to survivorship care and endocrine therapy and improve quality of life among underserved hormone receptor-positive BCS.

Acknowledgement of Funding: This research was supported by the National Cancer Institute of the National Institutes of Health under award numbers R21CA161077, U54 CA132384, R21CA161077-01A1S1, and U54 CA132379 and the Bankhead-Coley Cancer Research Program, Florida Department of Health, under award number 2BN05. The effort of Ms. Tonya Pan was funded by the University of California, San Diego Fellowship.

P1-63

Predictors of Cancer Rehabilitation in Head and Neck Cancer Patients: Role of Treatment Duration, Depression, Affective States, Locus of Control, and Social Support

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BACKGROUND/PURPOSE: Cancer is a set of more than 100 diseases that result from dysfunction in DNA. It is a major cause of death not only in developed countries but also in developing countries such as India. Though it is reported that the course of treatment for cancer patients

profoundly affect their quality of life, there is a clear lack of studies exploring the effect of course of treatment with some other psychosocial variables on the quality of life of cancer patients in India. The present study is an attempt in this direction. **METHODS:** In a cross-sectional design, 60 head and neck cancer patients (20 each from 6 months and 1 and 2 years of treatment) attending the Outpatient Department of Sir Sunderlal Hospital, Banaras Hindu University, Varanasi, India, were administered Cancer Rehabilitation Evaluation System-Short Form, Short Form-36 Quality-of-Life Scale, Positive and Negative Affect Schedule, Social Support Questionnaire, Geriatric Depression Scale Short Form, perceived locus of control, and some questions to measure their demographic and smoking and drinking habits. **RESULTS:** Results revealed that there is a significant improvement in some aspects of their quality of life over the course of treatment. The decrease in quality of life is closely related to an increase in alcohol and tobacco use. It is also found that participants reporting positive mood and internal locus of control show greater improvement in quality of life than their counterparts. Further, depression is found to be negatively related to quality of life. **CONCLUSIONS:** To conclude, results of this study indicate that the effect of treatment on cancer rehabilitation is highly dependent on the psychosocial factors and these factors thus need to be integrated into the cancer treatment system.

Research Implications: The study presents a need to study the role of psycho-social factors (particularly those prevailing into developing countries like India) that play a significant role in the effectiveness of any cancer treatment program.

Practice Implications: Cancer rehabilitation might be more effective if it includes psychosocial factors in the treatment program. Also, a regular follow-up on all the factors is required for a long-term impact.

Acknowledgement of Funding: None.

P1-64

Knowledge and Lifestyles Associated with Breast Cancer in a Sample of Lesbians

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BACKGROUND/PURPOSE: There are some studies that point to a higher risk of breast cancer (BC) in lesbian women (LW). This statement may be analyzed with caution since there are some risk factors related with lesbianism that may be under this trend: according to some studies, LW are known to smoke and drink more compared with other women. Also, they are more likely

to be overweight and have less pregnancy and breastfeeding (which are related to a reduced risk of BC). Other factors may be more related with stigma of being lesbians: they are underrepresented in regular BC screening, due to financial reasons (when having no private insurance) or to previous bad experiences of being shunned by the medical staff. The consequence is that LW arrive with a delay to diagnosis, and then prognosis becomes worse. When they have cancer, they cannot find support groups tailored for them. Our research has the aim to ascertain the state of the question in our country in order to design actions tailored to this group of women. Our nonprofit organization has a background of interest to underserved groups towards cancer. We have recently begun contact with LW groups in order to organize some activities to increase knowledge about their profiler and to screen their general knowledge and behaviours to BC.

METHODS: With some literature basis, we designed a query containing main topics related to prevention, early diagnosis, and general attitudes towards BC and its relation with healthy behaviours (knowledge and practice). Our first step is to ascertain the state of the question in our country. We contact two associations and meet with them to analyze every question from their point of view. After some proof, we have the final interview which has 36 questions. A part of the sample is recruited online.

RESULTS: Summarizing the main results at this moment, we have a sample of 165 LW. Mean age is 31.70 ($SD=80.68$). Most has a high academical level (69%). Ninety-two percent reported never having been asked about their sexual condition by the gynecologist, 99% would explain it in case of being asked about it, but if they are not specifically asked, 41% explain they are LW. Only 4% have had BC in the past, and no one was asked about their sexual condition. About BC, 86% feels it is a curable disease depending on the case, 68% it is preventable, 94% that early diagnosis is possible. Sixty-five percent feels BC is cured by positive thinking, and only 2% that it is a punishment for something one has done badly in the past. About lifestyles, 88% stated smoking and 57% excessive alcohol consumption, which are risk factors for BC. Thirty-three percent regularly smoked, and 2% are strong drinkers (more than six times a day). Eighty-two percent practice physical activity, but only 49% regularly. Eighty-five percent stated they follow the Mediterranean diet. Ninety-eight percent stated 'yes' when asked about breast self-examination, but 60% do it and only 27% monthly. Among those who said 'no', the most frequent reason is not having information about how to practice it properly. Ninety-four percent confirmed mammography as a useful tool for early detection of BC, but 64% have never undergone one due to several reasons: being young, fear of harm, or not liking the radiologist to touch their breasts. Less than half (48%) goes to their gynecologist regularly, and 53% prefer the gynecologist

to be a woman due to different reasons such as a female physician knowing their body better or feeling uncomfortable in the presence of a male physician. Putting themselves in the case of having BC in the future, 77% would explain it to relatives and friends, 43% would seek a support group, and most would explain their sexual condition in the group. However, only 14.53% would explain it to doctors; 83.76% say 'no' when asked if lesbians have a higher risk of BC. Analyzing some variables, we find there are significant differences by age, which may be due to the low follow-up of some healthy measures (e.g., those who practice breast examination or regular mammography are older than those who do not, $p < 0.002$; $p < 0.017$).

CONCLUSIONS: This is a preliminary report of this ongoing research. Our sample does not feel as being specially at risk for BC. They are generally informed on healthy lifestyles and preventive and early diagnosis behaviors, but the percentage of those who keep them in practice is lower. A high academic level and youth may be factors that modify these results. Half prefer a woman as a gynecologist and would explain their sexual condition as LW in a few percentages in case of having cancer. A general view of these results will lead us to tailor informative resources for this population.

Research Implications: We think the general results may give us information on this special group of women to see if they really will benefit from special programs for them. Cancer is a disease linked with a taboo, and when it happens to a special group, two taboos are added. These data will give us real information on how to design new resources to increase health behaviors and reduce barriers to medical advice.

Practice Implications: We have the chance to design programs tailored to prevention, early detection, and change of attitudes in LW to avoid stigma.

Acknowledgement of Funding: None.

P1-65

Supporting Optimal Cancer Patient Care with Integrated Staff Care

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BACKGROUND/PURPOSE: Staff care is a cornerstone of effective patient care. Work with cancer patients is highly emotional, and clinicians are often confronted with their own vulnerability and mortality as well as the complexities of caregiving. Distressed staff may make poor choices concerning patients and act out distress inappropriately. They may also be at risk for burnout. Caring for staff fundamentally entails better understanding of self, as well as increased compassion and care for

patients. **METHODS:** In our center, we maintain several long-running staff care programs including a weekly process group. The programs are facilitated by a clinical psychologist experienced in cancer care and allow for deep expression of emotion, grief, and connection. Clinician reflections were gathered, assessing perceptions about participation and outcomes with regard to patients. **RESULTS** Our data show that it is clear that staff greatly benefit from these interventions. This safe space created enables cancer care workers to examine their professional identities, sort out complex feelings, and make informed choices about their patients. **CONCLUSIONS:** Qualitatively, staff participating in the process group and other staff care programs report finding heightened meaning in patient relationships, more positive patient outcomes, and hope in care for patients at the end of life. Expert staff care substantially contributes to the value of the work they do. This is a model that other centers could easily put into place and benefit from greatly.

Research Implications: This topic naturally lends itself to further research. The links between staff well-being and patient care could be further explored, and patient data could be collected to assess further correlations. Additionally, this model of staff care could be piloted and used in other cancer care settings.

Practice Implications: As a result of implementing staff care in our center, it has naturally grown within our facility. In addition to a multi-disciplinary process group, we have now expanded to groups for nurses and social workers by request. The central ideas and programs presented could easily be incorporated into other cancer centers and palliative care teams.

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P1-66

Analysis of Anxiety–Depression and Informed Status of Patients with Malignant Tumor in China

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BACKGROUND/PURPOSE: By analyzing the clinical information of patients with malignant tumor in hospital, we explore anxiety–depression and informed status. **METHODS:** Patients with malignant tumor in hospital from six hospitals of Hebei are investigated by Self-rating Anxiety Scale and Self-rating Depression Scale, and SPSS17.0 statistical software was used for data analysis. Anxiety, depression, and informed status and their influence on each other were analyzed. **RESULTS:** There

are 350 patients being collected in this study (male 178, female 172, median age 55). There are 112 patients with different degrees of depression (severe 8, moderate 30, mild 84) and 69 patients (20.4%) with different degrees of anxiety (severe 2, moderate 16, mild 51). There are 54 patients exerting both depression and anxiety. There are 181 fully informed patients, with depression 52 (28.7%) and anxiety 34 (18.8%); 117 partly informed patients, with depression 47 (40.1%) and anxiety 27 (23.1%); and 52 completely uninformed patients, with depression 23 (44.2%) and anxiety 8 (15.4%). Different informed patients have obvious difference depression states ($p=0.040$). There are no differences between fully and partly informed patients ($p=0.461$), but they are both better than completely uninformed patients (fully informed $p=0.035$, partly informed $p=0.041$). There are no differences of anxiety states. **CONCLUSIONS:** Patients with malignant tumor in this region have higher incidence of depression and anxiety; most are of a mild-to-moderate degree. Uninformed patients have higher depression degree than informed patients.

Research Implications: This can tell researchers that uninformed patients have a higher depression degree than informed patients.

Practice Implications: The result of this research may tell doctors if they should inform patients of his or her state of illness adequately.

Acknowledgement of Funding: None.

P1-67

A Survey about Cognition and Participation of Music Therapy in Patients with Malignant Tumor

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BACKGROUND/PURPOSE: This study aimed to investigate music therapy cognition of inpatients with malignant tumor in the Fourth Hospital of Hebei Medical University and analyze the data. **METHODS:** Questionnaires. We chose 10 relevant clinical departments of the Fourth Hospital of Hebei Medical University; each department randomly selected 20 patients with malignant tumor; the patients filled in a questionnaire of the oncology department music therapy workgroup after informed consent was obtained. The ratio of this survey project was counted. **RESULTS:** There were 200 cancer patients who participated in this survey; receipt rate was 98%,

totaling 196 patients who completed the questionnaire. The patients who had heard of music therapy covered 67.3% of total enrollment, most of whom expressed that they knew little about music therapy and they preferred pop music, folk music, and light music in turn. There were 32.7% of the patients who never heard of music therapy, 31.2% of these patients preferred pop music, and 46.8% of patients had no musical hobby. Patients who were fond of music accounted for 73.2% of total enrollment, 70.8% of whom were willing to experience music therapy in the future. The proportion of patients uninterested in music was 15.3%. The main way to know about music therapy was through medical staff or the media. Of the patients, 52.6% thought music therapy may have some effects, such as improving mood, promoting sleep, and relieving symptoms. Also, 67.9% of the patients were willing to experience music therapy, 54.9% (73/133) of whom were more inclined to participate in a group way. **CONCLUSIONS:** The cognition of music therapy in a Chinese cancer group is characteristic, especially low awareness, but high participation.

Research Implications: This could guide oncology music therapy in China.

Practice Implications: We should pay more attention to the education of music therapy. Most Chinese cancer patients prefer group music therapy.

Acknowledgement of Funding: This research received no specific grant from any funding agency.

P1-68

Quality of Life in Women with Breast Cancer—The Role of Sexual Quality of Life, Coping Mechanism, Depression and Anxiety

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BACKGROUND/PURPOSE: Quality of life (QoL) in patients with breast cancer is an important outcome. Sexuality is a central aspect of being human, and it is an important aspect of QoL, and cancer treatments often cause sexual dysfunction. The *aim* of this study was to examine QoL in women with breast cancer and to explore the role of sexual QoL, coping mechanism, depression, and anxiety in explaining and predicting QoL. **METHODS:** The study involved 240 women with breast cancer, 1 year after treatment. Median age was 42. Questionnaires EORTC QoL C-30, Sexual QoL Questionnaire, BDI, STAI, and CISS were used for this purpose. **RESULTS:** Over 60% of women have some sexual issues, and mostly rated their sexual QoL as unsatisfactory. We

found a positive correlation between QoL and sexual QoL ($p=0.000$) and negative correlations between depression, and anxiety and QoL ($p=0.000$; $p=0.000$) as well as a negative correlation between QoL and avoidance as coping mechanism ($p=0.002$) and positive correlations between QoL and task-oriented coping and emotion-oriented coping ($p=0.003$; $p=0.001$). The regression model indicates that depression, anxiety, sexual QoL, and coping mechanisms were predictive of global QoL ($R=0.684$; $p=0.000$). **CONCLUSIONS:** Findings suggested that by knowing the level of depression, anxiety, sexual QoL, and which coping mechanism a person uses, we can predict QoL in women with breast cancer.

Research Implications: QoL is a multidimensional construct consisting of a lot of variables which can affect global QoL. For the further research of QoL, it will be important to use a longitudinal approach for this construct.

Practice Implications: By knowing which variables can affect QoL, a preventive program can be made to improve outcomes.

Acknowledgement of Funding: None.

P1-69

Psychometric Testing of the Fear of Cancer Recurrence Inventory—Chinese Caregiver Version in Cancer Family Caregivers in Taiwan

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BACKGROUND/PURPOSE: The purposes of this study were to (1) develop the Fear of Cancer Recurrence Inventory Chinese caregiver version (FCRI-c) and (2) examine psychometrics of FCRI-c in head and neck cancer patients' caregivers in Taiwan. **METHODS:** An instrument testing study was conducted in a major medical center in Taiwan. Head and neck cancer patients and their major family caregivers were recruited as dyads from the radiation outpatient department. The psychometric testing of the FCRI-c included the internal consistency reliability (Cronbach's alpha coefficient), test-retest reliability, confirmatory factor analysis (CFA), and theoretically supported construct validity. **RESULTS:** A total of 300 dyads were recruited. The results showed a good internal consistency reliability (Cronbach's $\alpha=0.94$) and good 2-week interval test-retest reliability ($r=0.88$). The CFA revealed an acceptable model-data fit of the FCRI-caregiver ($\chi^2/df=2.05$, RMSEA=0.059, SRMR=0.077, CFI=0.967, NFI=0.939, PNFI=0.879). Satisfied construct validity is

also supported by theoretically linked positive correlation between FCR and depression and anxiety and negative correlation with patients' quality of life, as well as by discriminating FCR according to never versus ever recurrence or metastasis. **CONCLUSIONS:** The FCRI-c is a valid instrument in examining head and neck cancer caregivers' experiences about fear of cancer recurrence. Clinicians can further use this multi-dimensional instrument to assess this important clinical care issue and facilitate caregivers' care needs and quality.

Research Implications: Based on the reliability and validity of FCRI-c, which was well tested, researchers could keep on going to explore which factors induced suffering from psychological distress about FCR and on assessing further how to cope with FCR-related psychological distress to build up the foundation of academic knowledge associated with FCR in future research.

Practice Implications: Clinicians can further use this multi-dimensional instrument of FCRI-c to assess these important clinical care issues, to facilitate cancer survivors' family caregivers' care needs and quality, and to serve as a clinical reference of the caring model for family caregivers of cancer patients.

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P1-70

Psychological Intervention for Caregivers in a Palliative Care Ward—How Can We Support Caregivers in the Short Term?

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BACKGROUND/PURPOSE: In a Japanese palliative care ward, the average number of hospitalization days is 39.5 days in 2011, and the number of wards that have an average number of hospitalization days that is under 30 days tends to increase (Miyashita *et al.*, 2013). It means that staff have to provide patient and caregiver with psychological care in the short term.

And there is not only full-time but also part-time clinical psychologists in Japanese palliative care wards, and the part-time clinical psychologist including the researcher has to provide patients and caregivers with psychological care in short days. In the palliative care ward of Heiwa hospital, most psychological interventions for caregivers are interrupted by patient's death even if the clinical psychologist intended to continue to provide caregivers with psychological intervention. Therefore, clinical psychologists have to have the skills to provide caregivers with psychological intervention in limited days.

The purpose of this research is to investigate caregiver's psychological problem and the contents of psychological

intervention by clinical psychologists in the palliative care ward in the short term.

METHODS: Researcher gathered data of caregivers who stayed at the palliative care ward at the end of patient's life from January to December 2014 and categorized the contents of psychological intervention and caregiver's reaction on patient's deathbed from patients' care records. The average length of stay in the palliative care ward was 17.4 days (January to December 2014). The average number of inpatient in the palliative care ward was $n=271$ (January to December 2014). The average number of leave hospital mortality was $n=232$ (January to December 2014). The subject were caregivers ($n=14$), male ($n=2$) and female ($n=10$). The average age of patients ($n=11$) was mean 63.45 (SD 12.37). The length of stay in the palliative care ward ($n=11$) was mean 30.09 (SD 34.01).

Cancer site of patients: lung ($n=2$), rectum ($n=2$), esophagus ($n=1$), breast ($n=1$), biliary ($n=1$), cholangiocarcinoma ($n=1$), sigmoidal ($n=1$), stomach ($n=1$), glioma ($n=1$)

Relationships with patient: daughter ($n=3$), son ($n=2$), wife ($n=6$), husband ($n=1$), older sister ($n=1$), girl friend ($n=1$)

Consultee: doctor ($n=3$), nurse ($n=8$)

RESULTS: Caregiver's psychological problems: conflict between patient and caregiver ($n=1$), conflict between caregiver and patient's family ($n=1$), caregiver's grief ($n=4$), caregiver's nervousness ($n=1$), caregiver's fatigue and mental burden ($n=3$), caregiver's anxiety ($n=2$), how to tell a child about patient's condition ($n=1$). The contents of psychological intervention: listening ($n=10$), psycho-education ($n=2$), encouragement ($n=3$), sending a message 'You can talk to staff anytime when you want to talk with us' or 'Staff can help your situation' ($n=4$), introduction to other specialists ($n=3$), communication with patient to connect with caregivers ($n=3$). The average number of counseling for caregivers' cases ($n=11$): mean 2.09 (SD 1.58). The style of counseling: private counseling for caregiver without patient ($n=8$), family counseling including patient ($n=4$), family member's counseling without patient ($n=1$). The reason of finishing counseling for caregivers: patient's death ($n=9$), the caregiver did not need continuous counseling anymore ($n=2$). The reaction of caregivers on patient's deathbed: positive reaction (for example, 'Caregiver said that it was good to come to this ward') ($n=10$), negative reaction (for example, 'Caregiver cried a lot and couldn't change their feeling') ($n=1$) **CONCLUSIONS:** There are not only caregiver's psychological stress but also relationship problem with patient and family and the problem of how to tell an autistic child about patient's condition in palliative care ward. To these psychological problem, clinical psychologist used various skills, for example, listening, sending a message, encouragement, introduction to other specialists, communication with patients to connect

with caregivers in the short term. And there is no significant relevance between caregiver's reactions on patient's deathbed and the contents of psychological intervention. The only negative reaction case on patient's deathbed was the case that the relationship between caregiver and family was complicated. Other caregivers' cases showed positive reactions on patient's deathbed.

Research Implications: In this research, most positive reactions on patient's deathbed were influenced by not only clinical psychologist's intervention but also multiple staff's support, and then future research needs the evaluation of clinical psychologist's psychological intervention by nurses after intervention for caregivers.

Practice Implications: In a palliative care ward, clinical psychologists should assess quickly caregivers' problems and how to provide caregivers with psychological intervention in the short term because of patient's condition.

Acknowledgement of Funding: None.

P1-71

Brief Home-based Cognitive Behavioral Therapy on Depression and Anxiety in Mexican Patients with Terminal Cancer: A Single-case Research

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BACKGROUND/PURPOSE: Cognitive behavioral therapy (CBT) could be a good option for treating anxiety and depression in patients with terminal cancer. Nevertheless, the peculiar characteristics of Mexicans with terminal cancer (very short life expectancy) make necessary the implementation and evaluation of strategies suited to the needs of this specific population. The purpose of this study was to assess the effect of a brief home-based CBT on anxiety and depression in terminal cancer patients. **METHODS:** A multiple baseline experimental design non-concurrent between subjects was used with a follow-up of up to 1 month. Nine patients participated in the study. Because of the progression of the disease of patients and their very low level of functionality, a very brief home-based CBT intervention was adapted for these patients. The index of Non-overlap of All Pairs was used. **RESULTS:** The Non-overlap of All Pairs range in the nine

patients was between 10% and 37%, which means that the intervention had a positive impact on anxiety and depression of the nine patients, but with weak effects. CBT encouraged all nine patients to increase their leisure behaviors or to carry out behavioral activities. Also, CBT helped the patients to modify negative thoughts. **CONCLUSIONS:** Brief home-based CBT is a potential option for treating anxiety and depression in this population.

Research Implications: This study helps us to understand how CBT could be a helpful therapy for treating anxiety and depression in very difficult conditions.

Practice Implications: Cognitive behavioral therapy could be a good option for treating anxiety and depression in patients with terminal cancer.

Acknowledgement of Funding: None.

P1-72

Impact of a Cognitive Behavioral Intervention on Beliefs in Subjects with Cancer-related Fatigue Undergoing Radiotherapy—A Randomized Trial

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BACKGROUND/PURPOSE: Previous research suggests that certain cancer patients undergoing radiotherapy present cancer-related fatigue (CRF) compromising the overall functionality guided by dysfunctional beliefs. The beliefs determine the coping mechanism adopted and arise from the interpretation of the situation leading to reassessment with a possible restructuring of the adopted strategy (Leventhal *et al.*, 1997; Moos and Schaefer, 1984). **METHODS:** It is a randomized study (parallel-group trial design). We compared two types of intervention randomly applied to two groups of breast cancer patients, with similar socio-demographic and clinical characteristics ($n = 105$).

Measures: Socio-demographic and clinical questionnaire; Emotion Thermometer assesses emotional distress, depression, anxiety, anger, impact, duration, and need for help; Beliefs Questionnaire

RESULTS: The results obtained before radiotherapy, immediately after the treatments, and 6 months after the end of the treatments were compared using the Test of Repeated Measures and *t*-test for independent samples. Significant differences ($p < 0.05$) were found. The results depended on the type of intervention that each group was subject to, with significant changes over the three assessment moments. **CONCLUSIONS:** A cognitive and functional interpretation of the illness/treatment allows for a better adjustment to the crisis situation experienced.

Research Implications: This study confirms the importance of health beliefs in the quality of life of cancer patients. Accordingly, emphasis on the importance of these beliefs is worked on during the disease process.

Practice Implications: This study confirms the importance of health beliefs in the quality of life of cancer patients. Accordingly, emphasis on the importance of these beliefs is worked on during the disease process.

Acknowledgement of Funding: None.

P1-73

Assessing the Prevalence and Risk Factors of Depression and Anxiety among Cancer Patients in the Radiotherapy Clinic in UCH, Ibadan, Nigeria

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BACKGROUND/PURPOSE: This study was aimed at identifying the prevalence of depression and anxiety in patients attending the Radiotherapy Clinic in UCH, Ibadan, and to identify the variables affecting them. **METHODS:** The study was carried out using the Beck Depression Inventory-11 and the Fear of Progression scales used to identify depression and anxiety among cancer patients and administered by trained professional interviewers. **RESULTS:** The 206 diagnosed cancer patients studied were made up of 146 (79.6%) women and 42 (20.4%) men. Some 76 (36.9%) had moderate to severe anxiety while 29 (14.1%) had moderate to severe depression. The ages ranged between 10 and 85 years (± 16.45). The independent risk factors for anxiety were age, education, and marriage while for depression it was marriage only. On logistic regression, while age, education, cancer type, and current treatment type showed up as significant factors, only current treatment type was a determinant of depression. **CONCLUSIONS:** Appropriate patient psychotherapy (even of the poorly educated) and inclusion of their treatment would appear to be the factors whose improvement in our patient care may reduce the prevalence of anxiety and depression among patients. We recommend their improvement for cancer care in developing countries.

Research Implications: This will guide researchers to research into appropriate patient care management strategies in terms of anxiety and depression.

Practice Implications: Clinicians will develop appropriate psychological treatment management strategies for helping patients with anxiety and depression, thereby enhancing their quality of life.

Acknowledgement of Funding: None.

P1-74

The Effect of Snoezelen Therapy on Anxiety in Adolescents with Cancer

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BACKGROUND/PURPOSE: This pilot study aims to investigate the effects of Snoezelen therapy (ST) on symptoms of anxiety in adolescents with oncological diseases. ST was reported as effective in reducing anxiety in oncological patients in a few studies but not for adolescents during chemotherapy (ChT) or radiologic therapy (RT), regarded as producing different levels of anxiety. **METHODS:** An observational study was conducted to assess the behavioral, somatic, and cognitive changes in adolescents (12–18 years old) hospitalized for a long time in the Institute of Oncology in Bucharest where they receive ChT or RT and in addition ST. Pre-ST and post-ST anxiety was evaluated using the Anxiety Symptom Questionnaire (ASQ, Lehrer & Woolfolck, 1982) and the Hospital Anxiety and Depression Scale. Twenty adolescents undergoing ChT and 20 undergoing RT have received ST twice a week, during 6 months. We hypothesized that there are different levels of anxiety between these two groups of adolescents as well before and after ST. **RESULTS:** The findings of this study indicate a significantly higher level of anxiety in adolescents treated with ChT compared to those treated with RT ($p < 0.05$). After 6 months of ST, the level of anxiety was reduced in both groups. In the ChT group, the decrease in the level of anxiety is due to improvements in behavior and some somatic aspects versus cognitive improvements in the RT group. **CONCLUSIONS:** This pilot study indicates a decrease in different aspects of anxiety in adolescents with cancer treated with ChT versus RT, after they received multi-sensorial therapy in a Snoezelen room. More research is needed to demonstrate that ST could contribute to increasing quality of life in oncology patients.

Research Implications: This is the first study in Romania and one of the few studies in the world regarding the effect of a sensory therapy on anxiety in adolescents with cancer hospitalized for a long time and receiving chemotherapy or radiologic therapy.

Practice Implications: The reduction in anxiety in adolescents with cancer increases treatment compliance. A multidisciplinary team is needed in cases using sensory therapy to increase specific treatment compliance and subsequently quality of life.

Acknowledgement of Funding: None.

P1-75

Compare Adjustment Self-regulation Model of Pain among Women and Men

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BACKGROUND/PURPOSE: Self-regulation is an ability to supervise, control, and manage thoughts, emotions, and the behavior of the individual which is activated in different forms and on different levels to establish balance (homeostasis) and environmental adaptation. This study investigated self-regulation models of adaptation to pain in cancer patients. **METHODS:** Two self-regulation models including emotion regulation and coping strategies along with personality characteristics, namely, extroversion and neuroticism, were studied in 318 cancer patients (190 women, 128 men) who were confined in the therapeutic wards of hospital. Three scales of adaptation which were used in this study include Brief Pain Inventory (BPI), Mental Health Inventory, and Quality-of-Life Questionnaire (QLQ-30). The patients were also asked to fill out an abbreviated version of the Eysenck Personality Questionnaire, Emotion Regulation Questionnaire (ERQ), Cancer Coping Questionnaire (CCQ), and a short form of the Social Support Questionnaire. **RESULTS:** In the investigated model which consisted of personality factors, namely, extroversion and neuroticism, emotion regulation strategies including suppression and cognitive reappraisal, interpersonal and intrapersonal coping strategies, and the variable of social support, the relationships of the aforementioned with each other, and their effects on different adaptation factors, for example, the effects of pain, psychological well-being, and the quality of life, were studied. The self-regulation model of adaptation to pain was separately applied to and evaluated for male and female patients, and the results indicated that, for women, in the absence of cognitive reappraisal factor, the effects of this model are significant on the quality of life and the effect of pain. The results also showed that men and women are different in the kind of emotion regulation and coping strategies they use. **CONCLUSIONS:** These results are probably caused by the differences of men and women in terms of their personality traits like extroversion and neuroticism and their judgment. The results of this study can help to develop a pain management protocol in psychology.

Research Implications: The results would suggest some new themes to be investigated in psycho-oncology such as recognition of the factors which are important in the pain of cancer patients even during the disease and also in the process of surgery.

Practice Implications: The results would suggest an innovative model of intervention in psychotherapy and also counseling methods among cancer patients.

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P1-76

Health-related Quality of Life in Irradiated Head and Neck Cancer Patients: The Impact of Employment, Partnership, and Cancer Type

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BACKGROUND/PURPOSE: This study aimed to investigate the health-related quality of life (HRQoL) among head and neck cancer patients treated with radiotherapy. **METHODS:** The HRQoL was assessed by the Functional Assessment of Cancer Therapy-Head and Neck (FACT-H&N). One hundred and fifty patients with head and neck cancer were enrolled in this cross-sectional survey. Among these patients, 60 had nasopharyngeal cancer (NPC) treated by definite radiotherapy with or without chemotherapy but no surgery, and 90 had oral cavity cancer (OCC) treated by radical surgery plus adjuvant radiotherapy with or without chemotherapy. For analysis, the clinical and socio-demographic variables were cancer type, age, gender, partnership, education, and employment in all patients. In OCC patients, the clinical variables were facial skin sacrificed, mouth angle sacrificed, glossectomy, maxillectomy, and mandibulectomy, with the same socio-demographic variables. The multiple regression, analysis of variance, and *t*-test were used to evaluate the relationships between these variables and HRQoL. **RESULTS:** In all patients, the cancer type (NPC versus OCC) and employment were the significantly independent predictors of HRQoL. The NPC patients had significantly better HRQoL than the OCC patients on three FACT-H&N subscales (social/family well-being, functional well-being, and additional concerns). Unemployed patients had worse HRQoL on four FACT-H&N subscales (physical, social/family, and functional well-being and additional concerns). In OCC patients, partnership and segmental mandibulectomy were the independent predictors of HRQoL. **CONCLUSIONS:** The cancer type and work status have significant impact on HRQoL in irradiated head and neck cancer patients. Partnership has an important role in HRQoL in OCC patients.

Research Implications: The work status and cancer type have independently significant impact on the HRQoL in irradiated head and neck cancer patients. In oral cavity cancer patients, the partnership has an important role in the HRQoL. These findings could help in selecting suitable head and neck cancer patients to test psychosocial interventions for HRQoL.

Practice Implications: In irradiated head and neck cancer patients, the cancer type and work status have independently significant impacts on the HRQoL. Partnership has an important role on the HRQoL in oral cavity cancer patients. These findings could be used to select the head and neck cancer patients with poor HRQoL to receive psychosocial interventions.

Acknowledgement of Funding: None.

P1-77

Resiliency, Emotional Intelligence, and Perceived Competence Role in the Burden and Emotional Distress in Caregivers of Patients with Advanced Cancer

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BACKGROUND/PURPOSE: The care of a patient with cancer carries emotional, family, and economic consequences. Different cognitive and emotional mechanisms influence the adaptation to this situation. This study aimed to identify the role of resiliency and other psychological constructs such as emotional perceived intelligence or perceived personal competence in the burden and emotional discomfort of the caregivers of patients with advanced cancer. **METHODS:** Fifty informal caregivers, mainly adults (over 18 years of age), were chosen by a convenience sample of patients with advanced/terminal cancer at the Instituto de Cancerología, in the City of Medellin-Colombia (IDC). **RESULTS:** The average age was 47 years (48–13); 88% were females with an average of 20 months of care. More than half of the caregivers had high punctuation in resiliency, positive aspects of caring, and emotional distress and low in burden and a moderate level in perceived competence. Most of the caregivers used cognitive re-evaluation and social support as a coping strategy. Inverse negative correlations were observed among emotional distress, emotional state, and burden with perceived competence and the positive aspects of caring ($p \leq 0.05$); likewise, differences among emotional distress, cognitive re-evaluation, and resiliency were observed among the caregivers. The regression analysis showed as levels of burden predictors the competence perceived, resiliency, and the positive aspects of caring. **CONCLUSIONS:** Resiliency, perceived competence, emotional intelligence, and the positive aspects of caring facilitate the adaptation and are protection factors to the emotional distress and burden. Considering these aspects, it would be important to provide the resources to caregivers who lack them.

Research Implications: Personal beliefs on self-control, emotional regulation in front of stress, reliance in personal abilities, and capabilities of caregivers can have determinant effects on the decrease of emotional discomfort and overload and on the use of direct actions in the improvement of caring activities, besides the personal benefits and well-being and benefits for the patient.

Practice Implications: To research on the positive aspects of caring and the psychological aspects that favor coping in caregivers such as resiliency, PC and EI can act as health factors in the caregiving experience within the disease process favoring adaptation.

Acknowledgement of Funding: None.

P1-80

Communication Skills Training for Cancer Physicians in Portugal: Results from a National Pilot Program

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BACKGROUND/PURPOSE: Communication skills training (CST) for oncologists and cancer physicians in Portugal is not yet mandatory in educational programs for medical doctors. To fill in this gap, a pilot program on CST for cancer physicians was carried out at national level under the umbrella of the National Coordinating for Oncological Diseases. The main purpose of this exploratory study was twofold: (a) to understand and characterize learners' communication skills, their difficulties and barriers in communicating with patients and families, and their psychosocial orientation and level of burnout; and (b) to monitor improvement in their communication skills with CST. **METHODS:** Medical doctors working in cancer care over the country were invited to attend a symposium on 'The importance of CST in clinical oncology' and then offered to register in a half-day workshop on CST (12 h). Four workshops in three main cities were carried out during 2009–2010. Participants were assessed prior to the workshop and asked to complete a set of self-assessment questionnaires, which evaluated demographic characteristics (age, specialization, and years of medical practice), the perceived confidence in communication skills (self-confidence in communication skills), the psychosocial orientation (Physician Psychosocial Belief Scale), burnout (Maslach Burnout Inventory), and the attitudes and behaviors in communication with patients and families (MDACC Pre and Post Questionnaires for CST). A single question inquiring on the training the doctors had received in communication skills was also included. We used the SEPOS CST model in a modified extended version, with two facilitators, which consisted of four modules: (1) basic

communication skills, (2) advanced communication skills, (3) how to recognize distress and psychological morbidity, (4) introduction to SPIKES protocol for breaking bad news. **RESULTS:** Twenty-nine doctors attended the workshops, with a median age of 46, and 14.5 years of experience, mainly oncologists (59.3%) and surgeons (18.5%), and 70.4% reported having received no previous or minimal training in communication skills. Physicians reported high satisfaction with the workshop with an average rating of 4.65 in 5. 'Assess or manage denial' was the most difficult communication skill with only 52.8% as mean confidence, followed by 'Help to manage uncertainty' (57.2%), 'Promote openness' (59.8%), 'Assess anxiety and depression' (61.5%), 'Break bad news' (63.3%), and 'Manage own feelings' (63.7%). Participants also have shown intermediate level of *psychosocial orientation* (79.88) and high level of *burnout* in the three subscales: 66.7% having high level of emotional exhaustion, 51.9% having high depersonalization, and 66.7% having a low personal accomplishment. The comparison between pre-workshop and post-workshop results on the MDACC Questionnaires shows that, for the majority of all assessed areas, namely, breaking bad news and communication skills, knowledge, attitudes, and self-efficacy, there were significant improvements ($p < 0.001$) on these areas after the workshop. An exception was for the BBN knowledge 2 sub-questionnaire using true-false items, in which there was no improvement observed ($W(Z) = -1.051$; $p = 0.293$). **CONCLUSIONS:** The results from this study are similar to the ones obtained in our previous SEPOS study: lack of training in CST, an ambivalent attitude towards the importance of addressing patients' psychosocial issues in clinical care, and a high level of burnout in Portuguese cancer physicians. However, the significant improvement observed with the pre-workshop and post-workshop questionnaires shows that this training is interesting and useful for the cancer physicians' population as a basic breakthrough sensitization for CST. The modest success of this pilot program underlines the opportunity to pursue this type of training in supporting and helping cancer physicians in managing complex communication skills with their patients and families. However, the main problem is still that it is not yet mandatory for their medical education or training, nor were credits given to its attendance. In any case, the level of burnout in our sample was very high, suggesting an eventual self-selection of participants based on personal need for additional resources, which may indicate a motivation marker for attending CST. Overall, CST proved to be a useful tool for physicians' training in communication skills.

Research Implications: A key contribution of this study is that it is the first one of its kind in Portugal to survey cancer physicians on a national level, members of the NHS, in terms of their difficulties in communicating with patients and families, and their interest in, satisfaction

with and benefits from a CST program. This study sets the stage for delineating future initiatives concerning CST for physicians.

Practice Implications: Physicians have shown interest and improvement with this type of CST. They also expressed interest in continuing this type of training, which opens the possibility for continuing this program with advanced training. Further studies could be carried out to evaluate the benefits of conducting CST more regularly, to promote consolidation of skills. Each doctor should have the opportunity to regularly train (e.g., at least once every year) and hone these skills and discuss the difficulties they face in their clinical practice in communicating with patients and families.

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P1-81

Effects of a Cognitive Behavioral Therapy Program of Humor on Anxiety in Parents of Children Hospitalized

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BACKGROUND/PURPOSE: Forty-six parents of hospitalized children at the National Institute of Neoplastic Diseases of Lima, of both sexes aged 20 or older, were studied in order to determine the effects of a cognitive behavioral program of therapeutic humor about the anxiety in parents of hospitalized children; the program was conducted in eight sessions. **METHODS:** To measure its effects, pre-assessment and post-assessment using the State-Trait Anxiety Inventory were performed. a quasi-experimental design was used, and a database was created. The SPSS v. 20.0 was used to calculate the average, variance, deviation standard, and standard error, and to test the hypothesis, Student's *t* was used to compare pre-program and post-program application measures. **RESULTS:** The results showed that after the implementation of the program, the anxiety levels perceived by family caregivers decreased significantly ($p \leq 0.05$); therefore, it was demonstrated that the use of this therapeutic technique will reduce the presence of insecurity, nervousness, anxiety, uncertainty, or fear in parents. **CONCLUSIONS:** The use of this humor and cognitive therapeutic techniques will reduce the presence of insecurity, nervousness, anxiety, uncertainty, or fear in parents. There are significant changes in the experimental group compared with control group after the program applied cognitive behavioral therapeutic humor about the anxiety of the parents of hospitalized children. There are changes in mainly anxiety as a state, with less significant changes in trait anxiety.

Research Implications: There has been little research on the effects of humor as a tool to work on anxiety, within a psychological program, in patients with cancer and their families. In the present investigation, the intervention of humor has been structured in a psychological program.

Practice Implications: Using techniques of humor, as the therapeutic clown in a structured manner and within a psychological program, can allow patients and their families to change their beliefs and expectations about the disease, which allows reducing anxiety. It is possible to teach humorous techniques and relaxation techniques to psycho-oncologists' child patients and their parents.

Acknowledgement of Funding: None.

P1-82

Young Asian American Women with Breast Cancer: Exploring Coping Strategies

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BACKGROUND/PURPOSE: In recent years, breast cancer rates among young Asian American women have been increasing. Despite increases in breast cancer among young Asian American women, little is known of how this population copes with their diagnosis and treatment. **METHODS:** This study was a qualitative exploration of how young Asian American women cope with the diagnosis of breast cancer. In-depth interviews with 22 young (under the age of 50) Asian American women diagnosed with early-stage breast cancer were conducted. **RESULTS:** Through qualitative data analysis, five major themes emerged including caring for others, maintaining work and productivity, reaching out to others outside of the family, living courageously, and expressing emotional vulnerability. **CONCLUSIONS:** The participants worked to maintain normalcy including caring for others and being able to work during treatment. In addition, they also found ways to reach out to others to express emotional vulnerability.

Research Implications: Further studies are needed to understand how to enhance positive coping tools among young Asian American women impacted by breast cancer and how this can ultimately impact their healing and recovery.

Practice Implications: Many people with cancer suffer because healthcare professionals lack understanding of the cultural and environmental contexts in which they live. Further research into specific types of coping can be used to educate healthcare professionals on how to relate to diverse cancer patients including young Asian American women with breast cancer.

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P1-83

Task Self-efficacy: Role in Exercise Engagement in Cancer Survivors with and without Depressive Symptoms

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BACKGROUND/PURPOSE: Many people living with cancer experience depression. Research suggests that the therapeutic effect of exercise on depression is similar to pharmacotherapy or psychological intervention, yet cancer survivors are under-exercising compared to recommended doses. Self-efficacy may be a factor to explain exercise engagement. This cross-sectional study investigated whether exercise task self-efficacy (ETSE) was associated with exercise engagement, further examining differences between cancer survivors with and without elevated depressive symptoms. **METHODS:** Ninety-seven cancer survivors (60.8 ± 9.9 years) were mailed self-report questionnaires on ETSE, exercise engagement, and depressive symptoms. A Hospital Anxiety and Depression Scale D cutoff score (≥ 8) was used to assign participants to a symptomatic ($n=34$) or non-symptomatic group ($n=63$). An independent *t*-test was used to examine differences in ETSE between groups. Correlational analyses were used to examine relationships between exercise task self-efficacy and exercise engagement. **RESULTS:** There was a significant difference in the degree of exercise task self-efficacy between cancer survivors with ($M=35.74$, $SD=31.47$) and without ($M=57.30$, $SD=26.71$) depressive symptoms, $t(95) = -3.56$, $p < 0.01$, with a large effect size ($d=0.74$). A positive association was found between ETSE and exercise engagement, $r(95)=0.49$, $p < 0.01$, which was similar for both groups. **CONCLUSIONS:** Exercise task self-efficacy appears to influence exercise engagement independently of mood status, but people with higher levels of depression symptoms tend to have lower self-efficacy. Therefore, future research should examine interventions to enhance exercise task self-efficacy, thereby potentially increasing exercise engagement in cancer survivors.

Research Implications: These findings demonstrated that cancer survivors with depressive symptoms have low ETSE and that ETSE can predict exercise engagement. This suggests a role for enhancing ETSE to influence exercise engagement in cancer survivors. Future research could investigate causality between ETSE and exercise engagement and interventions to enhance ETSE. The

findings of the present study could assist with more definitive research which could aid clinicians interested in behavioral change with regard to exercise engagement and improvement of depressive symptomatology in cancer survivors.

Practice Implications: The findings illustrate that exercise self-efficacy predicts exercise engagement, independently of mood. Therefore, clinicians working with depressed or non-depressed cancer survivors should initially target increasing exercise self-efficacy as opposed to reinforcing the positive health benefits of increased physical activity.

Acknowledgement of Funding: None.

P1-84

Application of the NCCN Distress Thermometer among Cancer Patients in Shanxi Province

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BACKGROUND/PURPOSE: Psychology of cancer originated in the mid-1970s in the 20th century. In Western countries, there are lots of tumor psychology professional journals and monographs and regular international conferences on tumor psychology. Many cancer centers and large general hospitals have a cancer psychology specialist, providing counseling and treatment for a large number of patients each year. These programs for the clinical treatment and prognosis of cancer patients have played a positive role. China is relatively backward in this respect; there are still a lot of cancer patients living in physical and mental pain, which extremely affects their life and work and even leads to suicide to escape. This research investigates the psychological distress condition and its influencing factors among patients with cancer in Shanxi Province, China. **METHODS:** By using Distress Thermometer (DT) recommended by the National Comprehensive Cancer Network (NCCN), the screening for psychological distress was carried out in 6228 cancer patients in Shanxi Province. The psychological distress condition was evaluated by various dimensions, such as age, gender, occupation, region, and other personality types. **RESULTS:** The detection rate of severe psychological distress was 28.2% among cancer patients in Shanxi Province. The influencing factors for psychological distress is mainly shown as economic condition, worry, anxiety, stress, fatigue, pain, sleep, indigestion, constipation, and so on. Among the different types of cancer, the detection rate of severe psychological distress in patients with pancreatic cancer was the highest (50%). The DT result score differs significantly among patient with

different personalities and emotional regulation. The average score of DT of cancer patients in Yangquan, Shanxi, China, was lower than the score in other regions. **CONCLUSIONS:** Distress Thermometer can be used in screening for psychological distress of patients with cancer. It can discover promptly the causes and assess the severity of psychological distress of cancer patients. And according to the result, proper psychological guidance and adjustment can be applied to patients.

Research Implications: The project has great significance for long-term treatment and rehabilitation of cancer patients and will fill in the blank research area in our province. The screening result plays a role of benchmarking, which can be used for comparison with other provinces or countries and further analysis based on the similarities and differences.

Practice Implications: The result of this research arranges related factors from minor to major, from less to more important, which can be used for cancer patient care precautions in order to take appropriate measures and family as well as protection and intervention of family and society. It can play a catalytic role for the province administration in the health sector to provide cancer patients improvement of the living environment, improvement of the mental health, promoting the development of social harmony, and can be used as guidance to prevent cancer and fight cancer.

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P1-85

Effectiveness of Japanese SHARE Model in Improving Taiwanese Medical Students' Perceptions for Cancer Truth Telling

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BACKGROUND/PURPOSE: This study explored the effects of communication skill training (CST) on cancer truth telling of medical students at one medical center in northern Taiwan. **METHODS:** For this experimental study, 141 subjects (medical clerks: fifth-year medical students) were randomly assigned to two groups: experiment ($n=91$) and control ($n=50$). Subjects in experimental group received CST for 6 h, under the assistance of two facilitators and simulated patients. In addition, subjects in control group received training on physical assessment for six hours, under the assistance of two attending physicians. Data were collected on medical students' perceptions of truth telling before training (T0), immediately

after training (T1), and 3 months after training (T2). Outcome differences between groups were analyzed at T0, T1, and T2 by independent t-test. **RESULTS:** There were no group differences on demographic data and perceptions of cancer truth telling before training (at T0) ($p > 0.05$). Subjects who received CST had significantly higher score not only on the total score of cancer truth telling but also on four related subscales (method of disclosure, emotional support, additional information, and setting) at T1 than the control group ($p < 0.001$). However, there were no significant differences on cancer truth telling between groups at T2 ($p > 0.05$). **CONCLUSIONS:** The SHARE model-centered CST had immediate effect on improving Taiwanese medical students' perceptions of truth telling. To sustain a longer effect of CST, it is recommended to provide consolidation services after CST.

Research Implications: Beside understanding the effect of CST on medical students' perceptions of truth telling, one should objectively assess their behavior changes on cancer truth telling by incorporating Roter Interaction Analysis System in the future.

Practice Implications: Medical students need to receive formal training in communication skills in order to have better interaction with cancer patients and their family members in clinical practice.

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P1-86

What Are the Unmet Needs of Young People Who Have a Family Member Die of Cancer?

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BACKGROUND/PURPOSE: Adolescents and young adults (AYAs; 12–25 years) who have a family member die from cancer face significant changes in family dynamics and increases in distress and unmet needs. This paper presents the development of a tool to assess these unmet needs together with preliminary results. **METHODS:** Reviews of the literature and existing measures of unmet needs for AYAs were supplemented by interviews with young people bereaved due to cancer and used to inform the development of an unmet needs measure for this group. This measure, along with the Kessler-10 (psychological distress) and demographic variables, was

administered to 212 AYAs bereaved due to cancer. **RESULTS:** A 57-item measure with eight conceptual domains was developed. High or very high levels of distress were found in 54% of participants (138 female, 74 male; mean age = 16.6 years, $SD = 3.4$ years). The domains 'time out and recreation' and 'support from other young people' were the most highly endorsed unmet needs. Nearly all participants (95%) found the measure easy to understand; one in five found it distressing to complete. **CONCLUSIONS:** The new measure shows promise as a tool for assessing the unmet needs of bereaved AYAs and to facilitate risk stratification and need for psychosocial support.

Research Implications: While qualitative research exists on the impact of bereavement on AYAs, there are currently no developed measures. The development of an unmet needs measure will facilitate future research as it provides a tool that can be used consistently to assess unmet needs.

Practice Implications: The development of the unmet needs measure for bereaved AYAs will enable nurses, social workers, and other healthcare professionals to better understand the unmet needs of AYAs who have had a family member die from cancer. This will help to provide optimal individual support, identify service limitations, and facilitate planning for service provision.

Acknowledgement of Funding: None.

P1-87

Sexuality and Cancer Care—Evaluation of a Multidisciplinary Approach around a Model: Allogeneic Hematopoietic Stem Cell Transplant Patients

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CLCC

BACKGROUND/PURPOSE: The impact of cancer on the emotional and sexual life of patients as well as the consequences of surgery and medical treatments on body image, libido, desire, sexual functioning have been widely documented as with regard to psychological issues as concerning quality of life or fertility. While several studies have evaluated the complications after specific cancer treatments, few have addressed the influence on the patients' sexuality. At present, there is no instrument of standardized measure available to evaluate the sexual functioning of cancer patients. Patients undergoing allogeneic hematopoietic stem cell transplantation (AHSCT) are strictly monitored particularly because of treatment related complications. However, there is no specific well structured approach of their sexuality. More and more patients emphasize the lack of sexual consulting in their medical

support and require screening for sexual dysfunction. The aim of this research was to improve sexuality and quality of life during and after AHSCT. **METHODS:** A prospective cohort of patients collected the different components of sexuality, quality of life and satisfaction of the patients through a self-questionnaire administered at consecutive time points of their treatment course/plan (T0 pre-transplant, T1 after 100 days, T2 1 year after transplant and T3 2 years after transplant). The study started from January 1, 2010, to January 1, 2015 (recruitment stopped January 1, 2013), for all patients undergoing an allogeneic hematopoietic stem cell transplantation: 350 patients were included in the cohort. In this way, half of all patients transplanted between 2010 and 2013 did not benefit from a specific care concerning their sexuality. They composed the control group which will allow evaluation of the impact of a method of action if offered comparatively to the study group. The study was realized in one cancer center in order to proof the efficacy of the proposed intervention upon a homogeneous population in a controlled situation. All transplanted patients will be eligible for the study. We studied the impact of a multidisciplinary approach which will be offered systematically to patients including a handout of information about sexuality and cancer, a consulting with a gynaecologist and/or andrologist and the possibility to get access to a sexologist, psychologist, social assistant, cosmetologist and hair-dresser. A coordinator was disposable to answer patients' questions, to guide them in their demands and to organize all of that specific management. **RESULTS:** The main objective was to assess the impact of a multidisciplinary long-term care of sexual functioning after allogeneic hematopoietic stem cell transplantation on patients' satisfaction. The secondary objectives are to evaluate the impact of an intervention concerning sexual dysfunction in the short and long term on patients' quality of life. Because of the absence of current systematic support for the sexuality of patients, the control group showed a low patient satisfaction with regard to support for their sexuality (10% of patients completely satisfied to 2 years). The analysis of the questionnaires of more than 150 patients of the study group allowed us to highlight a gain of satisfaction of +65% using a two-tailed statistical test ($\alpha=5\%$ risk). Eighty-one percent of the informed patients asked to receive support. **CONCLUSIONS:** The main objective of this research was to assess the interest for patients during and after AHSCT towards a multidisciplinary management of their sexuality. Secondary objectives are an assessment of the impact short-term and long-term multidisciplinary support proposed: on the satisfaction of patients with regard to support for their sexuality; on sexuality and quality of life of patients. The proposed program was significantly clinically relevant.

Research Implications: Improving sexuality and quality of life during and after AHSCT is very important for

patients. Finally, the deal would be that this model will be applicable to all cancer patients.

Practice Implications: Finally, the deal would be that this model will be applicable to all cancer patients.

Acknowledgement of Funding: None.

P1-88

Experience and Difficulties from Working with Cancer Patients

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BACKGROUND/PURPOSE: Support from colleagues is the key facilitator for cancer patients to return to work after treatment affecting quality of work. This study aims to evaluate people's experience and difficulties to work with cancer patients. **METHODS:** Survey was conducted during breast cancer awareness education at 20 companies in Seoul, Korea from XX to XX. People's attitudes towards cancer and cancer patients and working experience with cancer patients were asked. Additional socio-demographic variable such as age, gender, income, education, working experience and position was asked. Descriptive statistics and multivariate logistic was performed using STATA. **RESULTS:** Among 713 people who attended education, 73.2% ($n=518$) people agree to participated in study. Of total, 30.2% said they would avoid marrying people whose family members have cancer and 30% said cancer patients would be difficult to get a promotion. Of total, 131 (18.5%) people had worked with cancer patients and about 60% of them reported that they do not know how to support to cancer patients regardless their willingness. More than half (55.7%) reported difficulties to ask cancer patients overwork and 38.2% said they did not know how to response when cancer patients express emotional distress. Colleagues who work indirectly with cancer patients reported more difficulties with work arrangement and communication compared to people who work directly. **CONCLUSIONS:** People experience difficulties to work with cancer patients with limited information and communication.

Research Implications: Further investigation is necessary at various work place and setting.

Practice Implications: Work-place based education is necessary to help colleagues to support and work with cancer patients.

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P1-89

Validation of the Work Role Functioning Questionnaire 2.0 in Cancer Patients

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BACKGROUND/PURPOSE: The Work Role Functioning Questionnaire 2.0 (WRFQ) is a questionnaire that measures health-related work functioning. The aim of this study is to validate the WRFQ 2.0 in working cancer patients. **METHODS:** The WRFQ 2.0 measures perceived difficulties in meeting work demands with 27 items (on a 5-point scale, range 0–100) and has four subscales. A cross-sectional study was conducted in cancer patients returning to work. The reliability (internal consistency), structural validity (confirmatory factor analysis (CFA)), and construct validity (hypotheses testing) of the WRFQ 2.0 were evaluated. It was hypothesized that cancer patients with lower self-rated health (SF-1, excellent-good versus poor-fair) and higher fatigue (CIS-8, tertiles) would have had higher WRFQ 2.0 scores. **RESULTS:** A total of $N=255$ working cancer patients completed the survey (mean age 50.8, $SD=7.9$ years) mainly diagnosed with breast cancer (44%), followed by colon cancer (13%). A CFA showed a fair fit for the WRFQ's four factor structure with a $\chi^2=829.07$ ($p\leq 0.001$) and $RMSEA=0.084$ (90%CI: 0.077–0.091). Cronbach's alphas were between 0.82 and 0.93 for the subscales and 0.95 for the total scale. The WRFQ 2.0 was able to distinguish between groups with high/low levels of self-rated health (79.1 vs 71.4, $p<0.001$) and fatigue (71.0 vs 77.6 vs 83.4, $p<0.001$). **CONCLUSIONS:** The WRFQ 2.0 is a reliable and valid instrument to measure health-related work functioning in cancer patients, and is able to differentiate between several groups, indicating its discriminative ability. Further research is needed to evaluate the ability of the WRFQ 2.0 to predict the course of work functioning and to examine responsiveness.

Research Implications: The WRFQ 2.0 is a reliable and valid tool to measure health-related work functioning in cancer patients and can be used to study how working cancer patients are functioning at work after they return to work.

Practice Implications: It is important to enhance knowledge about how cancer patients are functioning at work after they return to work. This will enable the optimization

of the guidance when they are back at work and to help them stay at work over time.

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P1-90

Which Factor Is Related to Psychiatric Diagnosis in the Bereaved Seeking Medical Counseling at a Cancer Center?

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BACKGROUND/PURPOSE: The death of a person is a stressful event in life. This stress is related to the physical and psychological well-being of the bereaved. With the aim of alleviating psychological distress in the bereaved, our hospital started an outpatient service for bereaved families (Bereavement Clinic). However, which factor is related to the psychiatric diagnosis is not investigated. The purpose of this study was to explore factors related to psychiatric diagnosis. **METHODS:** We retrospectively reviewed all patients who consulted 'Bereavement Clinic' between April 2007 and January 2015. This study was approved by Institutional Review Board of Saitama International Medical Center, Saitama Medical University. **RESULTS:** During the study period, 199 patients consulted 'Bereavement Clinic'. The ages ranged from 17 to 84 years (mean: 52 ± 14). Mean age of the patient's death is 56 years. The mean days from the death to the initial consultation is 479 days. The most common psychiatric disorder among the bereaved was uncomplicated bereavement ($n=90$, 45%), followed by major depression ($n=44$, 22%). Females ($n=160$, 80%), and the bereaved who lost their spouse ($n=115$, 58%), were the most common users of the service. 'Age of the patient's death' and 'relationship to the patient' is significantly related to the diagnosis. **CONCLUSIONS:** This study demonstrated the factors which related to the psychiatric diagnosis. Considering bereaved families' background is important in making psychiatric diagnosis.

Research Implications: Considering bereaved families' background is important in making psychiatric diagnosis.

Practice Implications: Considering bereaved families' background is important in making psychiatric diagnosis.

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P1-91

Less Is More? Validation and Use of the MHI-5 in an Oncology Setting

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BACKGROUND/PURPOSE: The prevalence of distress among oncology patients is well documented. Early identification and intervention regarding patients' mental health needs are associated with improved physical and psychological outcomes. The Mental Health Inventory 5 (MHI-5; Veit & Ware, 1983) is a five-item measure of psychological well-being shown to predict common mental health problems. Its brevity lowers patient burden and makes the MHI-5 a potential candidate for screening among oncology patients. However, it has not been validated with this population. The current study sought to address this gap. **METHODS:** Oncology ($n=116$) and psycho-oncology ($n=59$) patients attending the outpatient clinic in a large Irish hospital (151 female, 23 male, 1 other; 18–70+ years) completed self-report measures of anxiety (Hospital Anxiety and Depression Scale (HADS)-A), depression (HADS-D), and psychological distress (MHI-5). **RESULTS:** The MHI-5 demonstrated convergent validity, correlating highly with HADS-A (-0.791) and HADS-D (-0.711) at a significance level of 0.000. Discriminant validity was supported for both anxiety and depression, with the MHI-5 successfully discriminating between the clinically anxious and non-anxious ($U=349.5$; $Z=-7.81$) and between the clinically depressed and non-depressed ($U=172$; $Z=-4.73$) patients, both significant at 0.000. Factor analysis revealed a one-factor structure for the MHI-5 focusing on depression, replicating previous research. **CONCLUSIONS:** Findings indicate that the MHI-5 is a brief and valid measure of psychological well-being, suitable for use with oncology patients. Performing equally well as the commonly used HADS, the MHI-5 provides a valid, more time-efficient measure for assessing patient psychological well-being in oncology. It may be most useful for the screening of mental health needs when psychological distress has previously been identified.

Research Implications: Results suggest that the MHI-5 performs as well as the HADS (Snaith & Zigmond, 1997), one of the most frequently used diagnostic-focused measures for assessing the psychological well-being of oncology patients (Ziegler *et al.*, 2011). As studies investigating the use of the MHI-5 in oncology settings are scarce, from a research perspective, current findings provide evidence to support the use of the MHI-5 in research in oncology as a briefer alternative to the HADS

that has ethical implications in terms of reduced patient burden and easy administration and scoring (McCabe *et al.*, 1996).

Practice Implications: Findings illustrate that the MHI-5 is a valid tool for use in clinical practice in oncology for detecting common mental health difficulties, that is, depression and anxiety (Means-Christensen *et al.*, 2005; Rumpf *et al.*, 2001; Strand *et al.*, 2003), particularly among patients with whom a query around distress has already been raised. A fundamental practice implication is the reduced burden that the MHI-5 incurs for patients, in comparison to a longer measure such as the HADS. Clinicians may utilize the MHI-5 to clarify the nature of the mental health difficulties, after regular distress screening has been completed. While the MHI-5 does not provide a mental health diagnosis, it can help to inform the direction of further assessment, and subsequent treatment path, and would be useful for guiding clinicians in practice. Using the MHI-5 will benefit both patient and clinician due to reduced completion and administration time and ease of scoring, thus providing a single-score overview of the extent of a patient's current mental health status and need.

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P1-92

Cutting through the Fog: Nurses' Perceptions of Cancer-related Cognitive Impairment

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BACKGROUND/PURPOSE: Cognitive impairment after cancer and chemotherapy is common and distressing. Impairments are generally subtle, affecting learning and memory, processing speed, and executive function. Impact on quality of life and daily function can be profound. Little is known about health professionals' perceptions of this problem. This study aimed to explore oncology nurses' awareness and knowledge of cancer-related cognitive impairment (CRCI). **METHODS:** Semi-structured interviews were conducted with oncology nurses working in Australian hospitals. Seventeen nurses were interviewed, including 4 purposively sampled breast cancer nurses. Transcribed interviews were analysed based on interpretative phenomenological analysis. **RESULTS:** Participants were female, median age 50 years (29–61). Most (88%) worked in acute hospitals and 53% saw patients during active treatment. Six themes were identified: i) role of nurses, ii) 'knowing the person', iii) tension in acute healthcare system, iv) incorporating evidence, v) awareness and knowledge of CRCI, and vi) patient care. Participants described using patient-centred

approaches to care and education; e.g., tailoring information to need, and offering reassurance and empathy when CRCI was raised. Nurse observations of CRCI were consistent with prior research: participants felt CRCI was real and common, but expressed uncertainty about its cause, duration, impact, and management. Participants indicated they lacked skills to assess CRCI. Despite patient reporting CRCI as a major problem, nurses perceived it as low impact. This, together with their uncertainty about assessment, management and their limited time, impacted discussion about CRCI with patients, reducing the quality of education offered to patients. Challenges within the healthcare system were acknowledged to impact delivery of care and patient education, particularly late effects. Need for training and resources in CRCI was emphasised. **CONCLUSIONS:** Oncology nurses reported awareness of CRCI but limited understanding and knowledge of assessment or management. Nurses would benefit from training about CRCI and evidence-based management recommendations.

Research Implications: Patients receiving treatment for cancer may not be informed about the potential for cognitive changes due to either the cancer itself or anti-cancer treatments. It is important to increase awareness among oncology nurses of the potential for CRCI. Further work is needed to determine optimal approaches to screening for CRCI and appropriate referral of patients for support or to clinical trials investigating preventative or remedial interventions.

Practice Implications: Patients may derive some benefit from being informed about the possibility of CRCI. Increasing awareness of oncology nurses of CRCI in their patients may assist them in referral of patients experiencing these changes to allied health professionals for additional support.

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P1-93

Factors Related to When Parents with Cancer Tell Their Children about Their Diagnosis

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BACKGROUND/PURPOSE: Parental cancer imposes a unique psychological burden on young children and adolescents. The time parents tell children about a cancer diagnosis predicts the latter's post-traumatic stress symptom severity. This study investigates factors related to the timing of diagnosis disclosure as well as possible supportive measures. Parental cancer imposes a unique psychological burden on young children and adolescents. The time parents tell children about a cancer diagnosis

predicts the latter's post-traumatic stress symptom severity. This study investigates factors related to the timing of diagnosis disclosure as well as possible supportive measures. **METHODS:** Cancer patients with children below 18 years were recruited from four cancer care hospitals in Japan. Eighty-three patients (3 male, 80 female; mean age=43.59 years; *SD*=4.54) completed a questionnaire about demographic information, disease-related information, education level, employment, familial function, and the timing of when they told their children about their cancer diagnosis. **RESULTS:** Patients' employment status was related to disclosure timing ($\chi^2=8.46$, $p<0.05$). Residual analysis found that more employed than unemployed patients told their children before being admitted to the hospital ($p<0.05$). Further, more unemployed patients disclosed their diagnosis after admission to the hospital ($p<0.05$). **CONCLUSIONS:** Unemployed patients are more likely than employed patients to postpone disclosing their cancer diagnosis to their children. It can be assumed that most employed patients are likely to tell their children about their diagnosis before hospitalization because they need their children's support in various ways. Educating unemployed patients about the importance of telling their children about cancer diagnoses for their children's psychological health may be necessary.

Research Implications: This study revealed the factor that is related to the timing of diagnosis disclosure from cancer patients to their children. In future studies, it may be necessary to create a model that explains the relationship among patient demographics, timing of diagnosis disclosure, and children's quality of life.

Practice Implications: This study suggests that unemployed patients may have more difficulty than employed patients in terms of telling their children about their cancer diagnosis. It may be necessary to inform patients with children about the possible consequences of not telling children about the cancer diagnosis.

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P1-94

Distress Management Policy Making: Role of Stigma and Prejudice in Interprofessional Care

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BACKGROUND/PURPOSE: While efforts have been focused on the validation of brief and effective tools aimed at screening psychological distress in cancer care, little attention has been given to factors related to

healthcare professionals that can affect the administration and interpretation of the screening tools and the proposal of psychological consultation. We investigated these factors by means of Grounded Theory (GT) approach. **METHODS:** One hundred forty-six nurses from surgery, medical oncology and day hospital departments filled out an open-ended questionnaire aimed to investigate nurses' knowledge of theoretical basis of distress perception, detection and management and nurses' style in promoting the psychology service (PS). **RESULTS:** Results showed a good knowledge of theoretical concepts related to emotional distress. A significant positive correlation was demonstrated between experience and self-efficacy in managing patients' psychological distress ($p < 0.01$) and between self-efficacy and the perceived importance of psychological aspects in cancer care ($p < 0.01$). While PS was proposed 'often' by 60% of nurses, the proposal depends on the working departments ($p < 0.01$). Furthermore, PS proposals presented a prejudice in 32% of cases, generally transmitted through lexicon. Nurses presenting prejudices demonstrated to have a view of PS as something not integrated in a multidisciplinary vision of the Institution ($p < 0.05$). **CONCLUSIONS:** While nurses seemed to be well informed about psychological distress issues in cancer care they showed prejudices in proposing the activation of a psychological consultation. Further research is needed to understand the underlying factors affecting differently hospital departments in considering psychological service and to improve a real effective interprofessional multidisciplinary care.

Research Implications: Research psychologists should propose more research studies addressing policy issues in the multidisciplinary perspective of interprofessional cancer care. That of prejudice/stigma of healthcare professionals on psychological issues is a relevant area that needs further investigation.

Practice Implications: Clinical psychologists and other professionals involved in cancer related mental health care must be conscious of issues related to prejudice and stigma within healthcare organizations.

Acknowledgement of Funding: None.

P1-95

What Do Australian Oncologists Think about Cognition and Cancer?

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BACKGROUND/PURPOSE: With survivorship increasingly recognised as a distinct phase of cancer care, uncertainty has emerged within the oncology community regarding the roles and responsibilities of those caring

for cancer survivors. Consequently, many cancer survivors are ill-informed of the potential challenges associated with the survivorship phase. Cognitive changes experienced by cancer survivors have received growing attention as a survivorship issue. Though often subtle in nature, cancer-related cognitive impairment (CRCI) can have a profound impact on a cancer survivor's quality of life. Nonetheless, cancer survivors report receiving limited information from treating oncologists regarding this phenomenon. **OBJECTIVE:** We explored oncologists' understanding of CRCI experienced by cancer survivors. This exploration aimed to illuminate on the perceptions of oncology specialists regarding CRCI and how their views influence patient care. **METHODS:** Fourteen medical oncologists and four radiation oncologists currently practising in Australia participated in this study. Data collection involved individual, semi-structured interviews via telephone. Data were audio-recorded, transcribed verbatim and analysed using a thematic approach. **RESULTS:** Four key themes emerged: (1) beliefs about the impact of priming on cancer survivors' perceived cognitive function; (2) uncertainty of how to best manage CRCI; (3) perceptions of who is more likely to raise concerns regarding CRCI; (4) oncology specialists' perceived role in the management of cancer survivor's cognitive concerns. **CONCLUSIONS:** Cancer-related cognitive impairment and its impact on the cancer survivor's journey have been under-addressed by oncology specialists, and they are uncertain as to potential management strategies.

Research Implications: With cancer survival rates increasing, there is a need for specific interventions and management guidelines addressing CRCI and their effects on cancer survivors. Future exploration should focus on the survivor as central to their care and on holistic approaches to CRCI management involving all members of the multidisciplinary health team.

Practice Implications: Oncologists should inform patients about the potential for CRCI. As evidence-based interventions become available, patients will require referral when CRCI is evident.

Acknowledgement of Funding: None.

P1-96

Psychosocial Effects of Bereavement Support Groups for Young Adults Following the Death of a Parent Due To Cancer

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BACKGROUND/PURPOSE: Background: In this study, we explore the effect of group support for young adults (16–28 years) following the death of a parent due to cancer. Young adult children (16–28 years) of a parent, who died at two palliative services, are invited 2–8 months after the death of the parent to participate in a group with professional group leaders. The need for specifically designed supportive interventions is often mentioned for this vulnerable group, but few interventions have hitherto been scientifically evaluated. **METHODS:** A battery of self-report questionnaires, assessing the different aspects of psychosocial issues, was completed on three occasions: before attending the group, right after, and 6 months later. Currently, seventy-five young adults have consecutively been included in the study. In this presentation, we analyzed the results for those 29 participants who have completed all the three measurement points so far. **RESULTS:** The findings show that the participants' life satisfactions were far from a Swedish norm group; specifically, they had problems with their self-image, had difficulty concentrating, and were absent from school/work to a greater extent. The participants were appreciative of the group support sessions. **CONCLUSIONS:** The results show that the support groups are clinically relevant. Participants showed a positive change with respect to feelings of loneliness and being able to share their feelings and thoughts. Life satisfaction had also increased but not to the same level as with a norm group.

Research Implications: This is one of few evaluations of group support for young adults. The evaluation is in line with Stroebe integrative risk factor framework for prediction of bereavement outcomes (2006)

Practice Implications: The study gives important knowledge about the mental health situation of bereaved young adults before and after taking part in a support group. It also presents how to design such support.

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P1-97

Caregiving Effectiveness in Elderly Breast Cancer Patients Undergoing Radiotherapy Treatment: Do Patients and Caregiver Perceptions of Psychological Distress Match?

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BACKGROUND/PURPOSE: We assist to a progressive increase in the survivorship of older cancer patients (OCP) who need personalized medical approach. OCPs' process of care is often characterized by the necessity of a dedicated caregiving person who can help in dealing with care-related

practical and emotional issues. We wanted to thoroughly understand OCPs' psychological experience during a fast-like radiotherapy treatment and how patients' and caregivers' perceptions of distress match. **METHODS:** Breast cancer patients over 70 undergoing radiotherapy treatment and their caregivers were asked to fill out the Hospital Anxiety and Depression Scale (HADS), the Emotional Thermometers (ET) and the EORTC-QLQ30 together with other socio-demographical variables before the beginning of treatment (T0), after 3 weeks (T1) and at the end of it (T2). Caregivers were asked to fill out the questionnaires on the basis of their own perception of patients' psychological status. **RESULTS:** Patients' and caregivers' evaluation of psychological variables did not correlate. At the beginning and at the end of treatment caregivers tend to overestimate patients' psychological distress on all dimensions. Patients' psychological status improves during treatment and at the end of it highly correlates with the perceived social support. HADS patients' score correlates with similar ET dimensions. **CONCLUSIONS:** During their clinical pathway older cancer patients showed to experience an improvement in psychological well-being: the treatment does not seem to have a negative impact on their quality of life. Interestingly, we have found that patients and caregivers perception about this journey does not converge, since relatives tend to overestimate patient's cancer-related distress.

Research Implications: More research is warranted to thoroughly understand older patients' cancer experience and to set up effective ways to empower elderly in being protagonists of their cancer journey even if in need of, sometimes, intensive help from informal caregivers.

Practice Implications: These data are particularly relevant since often informal caregivers are called to support clinical decisions when older patients are considered not to be able to provide information about their physical and psychological status: the emergent divergence is, thus, highly important.

Acknowledgement of Funding: None.

P1-98

Predictors of Distress in Lung Cancer Patients: A Systematic Review

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BACKGROUND/PURPOSE: High levels of distress have been identified in a range of cancer patient groups, particularly so during treatment. Some studies have indicated that lung cancer patients report higher levels of distress comparatively. Alongside psychosocial predictors, biological predictors of psychological distress, such as patient's performance status, are cited as the most salient factors for increased psychological distress. This study aimed to systematically

review published literature on the known predictors of, and risk factors for, distress in lung cancer patients. **METHODS:** A systematic literature search was conducted using electronic search engines (CENTRAL, Medline, PsycINFO, CANCERLIT, CINAHL and Web of Knowledge) using key words relating to 'distress', 'prediction' and 'lung cancer'. Only published, English-language literature was included. Twelve studies met inclusion criteria. Standardised quality assessment was conducted in conjunction with data extraction. **RESULTS:** All included studies used quantitative self-report designs, and included patients with both small cell and non-small cell lung cancer at varying stages of disease. This literature identified a number of significant predictors of distress including: social support, lack of information regarding treatment and diagnosis, as well as patient age as common predictors of distress. Distress scores were typically lower where there was higher family physician involvement and the provision of psychological intervention. The most salient predictor was pre-treatment, baseline, levels of anxiety and depression. **CONCLUSIONS:** This literature highlights the importance of monitoring psychological susceptibility to distress in the early period following lung cancer diagnosis, especially in patient groups that lack social support networks. Psychological interventions that can lower distress and/or improved access to family physicians may also be beneficial.

Research Implications: Research in this field principally focuses attention on the prevalence of, and measurement tools for, distress in oncology settings. Whilst helpful work, this overlooks the importance of studies exploring predictors of distress; this information is crucial to knowing how to reduce distress following screening. The findings emerging from this study should be used to inform work into the development of distress-reduction interventions for this patient group.

Practice Implications: Patients require a multifaceted approach to cancer care that does not principally focus on biological predictors of distress; as expected the findings of this review highlight the importance too of individual psychological and social variables as key predictors of distress, further emphasising the need for holistic, patient centred care. Given the saliency of baseline distress levels in prediction of later distress, early screening should be implemented where possible, in addition to gaining knowledge about, and supporting the development where lack, of appropriate social support.

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P1-99

Predictors of Uptake for Psychological Interventions amongst Cancer Patients: A Meta-analysis

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BACKGROUND/PURPOSE: Much clinical and research effort is focused on the goal of meeting the psychosocial needs of cancer patients and survivors, yet evidence from surveys suggests cancer patients' desire for help from psychosocial professionals is low. There is little existing research into patients' uptake of psychological interventions, or whether engagement differs according to patient or intervention characteristics. We aimed to identify predictors of higher uptake amongst a predetermined group of trial, therapy and patient characteristics. **METHODS:** Literature searches were conducted in MEDLINE, PsycINFO, Scopus and Embase. Forty-five individual studies were identified that reported uptake rates for cancer patients ($n=12,052$) who were offered individual psychological interventions to reduce distress, depression or anxiety. Using meta-regression we examined whether uptake rates differed according to the following characteristics: study design, therapist's professional background and therapeutic orientation, whether participants were selected for higher distress, timing of offer, number of sessions, and mode of treatment (telephone or face to face). **RESULTS:** Interventions administered by nurses, those offered routinely (without prior screening for presence of distress), offered early in the illness trajectory, and given by telephone were each associated with higher rates of uptake of psychological treatment ($Q \geq 3.98$, $p \leq 0.0460$). **CONCLUSIONS:** These findings have implications for improving engagement in psychological interventions amongst cancer patients. The lack of association between higher distress and uptake suggests a better understanding of barriers to engagement in psychological care is needed.

Research Implications: Future research evaluating interventions should consistently report uptake rates—and other factors such as the timing of offer, and reasons cited for declining—which may relate to engagement, so that these issues can be more consistently studied. The fact that more distressed patients are not more likely to engage with interventions is concerning, and needs more exploration.

Practice Implications: Clinically, it appears that interventions offered early are more likely to be successful in engaging patients, as are interventions that involve nurses in the provision of care and those that overcome potential barriers such as access.

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P1-100

Cancer-related Experiences in Individuals with an Intellectual Disability: Results from a Grounded Theory Study

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BACKGROUND/PURPOSE: The number of individuals with an intellectual disability (ID) being diagnosed with cancer is increasing, but the specific cancer-related experiences of this population are seldom researched. Undoubtedly, it will be as distressing as it is for those without ID; however, additional needs may be present. This research explored the cancer-related experiences of individuals with an ID, from both self and proxy reports. This served to identify unmet needs in this population and generate theory for future research. **METHODS:** Six index participants (individuals with an ID and cancer) and 12 linked participants (four family members, five healthcare professionals and three social care professionals) were interviewed. These interviews were transcribed verbatim and analysed. In accordance with objectivist grounded theory methodology, analysis took place concurrently with data collection. **RESULTS:** Understanding of key concepts and procedures was limited, and index participants were often not involved in discussions and decisions, leading to increased anxiety and disengagement from diagnosis and treatment. Participants experienced many common difficulties faced by non-ID cancer samples; however, the incidence of difficulty and unmet needs in this sample were substantially higher than those in typical non-ID cancer samples. **CONCLUSIONS:** Family members reported feeling more emotionally impacted by the experience than the index participant themselves and suggested that participants' ID diagnosis may have acted as a protective factor against negative emotional consequences. The psychological vulnerability of this population is often not recognised by healthcare professionals. Where additional support was offered, participants engaged more meaningfully in their cancer experience and this should, therefore, be encouraged.

Research Implications: The exploratory nature of this research has allowed valuable insight into the cancer-related experiences of this population; highlighting important implications for future research, including the need for work to validate these findings. This could usefully include cross-cultural replication in other ethnic, cultural and healthcare contexts, and interventional research which develops methods to reduce the disparity of experience, improving the overall experience for the patient and caregivers alike. Involvement of people with ID in research design would ensure relevance and appropriateness to this important demographic group.

Practice Implications: It is often the case, especially for those with a mild ID, that healthcare professionals are unaware of the patient's ID diagnosis, and this may lead to important needs being overlooked. Better awareness of the patient's ID diagnosis, and closer working between

primary, secondary care oncology and ID clinical care teams would improve the patient's experience and understanding. Finally, early diagnosis has been a prominent issue within this participant group; additional work with this population to improve understanding is essential.

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P1-101

Dyadic Coping of Patients with Hematologic Malignancies and Their Partners and Its Relation to Quality of Life

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BACKGROUND/PURPOSE: Dyadic coping (DC) describes the mutually related coping in partnerships when facing severe threats like cancer. DC contains positive and negative subforms. Data regarding the association of DC and Quality of Life (QoL) in samples of hemato-oncological cancer patients are still lacking. **METHODS:** Therefore, patients and their partners (660 individuals representing 330 dyads) were included in a German multicenter study (Leipzig, Ulm, Regensburg). In a prospective design, patients with a hemato-oncological ICD-10 diagnosis (C81-C96; D46; age range: 18–75 years) and their partners completed a questionnaire. DC was assessed with the Dyadic Coping Inventory (DCI) and QoL with the SF-12 Health Survey. Cancer related medical data were collected in patient medical records. Sociodemographic and partnership related characteristics were assessed within the questionnaire. **RESULTS:** The data collection of the study was completed in January 2015. Therefore, the results of the multivariate analyses cannot be reported at this time, but during the conference. Three hundred thirty patients (37% female, mean age: 57 years old, 26% acute leukemia, 22% chronic leukemia, mean time since diagnosis: 46 months) and 330 partners (63% female, mean age 56 years) were included in the study. The mean relationship duration of the dyads was 26 years. The results of the variance analyses of QoL (subscales: mental and physical quality of life) and the DC (including its subscales) will be presented at the conference. Within the regression analyses, QoL will be considered as

dependent variable and DC, sociodemographic characteristics (age, sex, relationship duration) and disease-related characteristics (diagnosis and time since diagnosis) will be independent variables. Separate stepwise regression analyses will be performed for the patients and the partners. Major objective of these analyses will be the description of the contributed variance of DC together with the other mentioned variables regarding somatic and mental QoL. **CONCLUSIONS:** The findings have the potential to demonstrate the specific relation between QoL and DC. Further, specific associations between somatic/mental QoL and subforms of DC can be identified. Additionally, role (patient-partner)-gender (male-female) interactions have to be considered.

Research Implications: DC in couples who are faced with cancer has the potential to improve QoL. Therefore, it is necessary to investigate interactions of illness-related coping of the patient and the partner in order to conduct patient-centered psychosocial research for cancer patients.

Practice Implications: The systematic consideration of dyadic coping could contribute to an early detection of dysfunctional dyadic coping. The results could have impact on the development and adaptation of psychosocial interventions targeting the improvement of Quality of Life in a dyadic perspective.

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P1-102

Educational Program: Patients, Relatives and Health Professional Working Together on How To Face Breast Cancer Better

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BACKGROUND/PURPOSE: There is a common plea to implement humanization in oncological care but few shared programs about how to reach this goal. The program is based on the hypothesis that in order to improve humanization, patients, relatives and health professionals have to work together into a specific structured setting. **METHODS:** Three encounters, once a month, 2 h each, with maximum 15 patients, 15 relatives, 2 doctors (even more), 2 nurses and 1 psycho-oncologist. The patients are recruited at the end of medical therapies. Any medical or psychological selection criterion is applied. Each encounter is divided into two parts: stimulus lesson and final working through group. The lesson is held by a representative of the three different classes of teachers: patients, relatives and health professionals. The psycho-oncologist facilitates the discussion, shows the role interplay and stresses contributions. **RESULTS:** Change of

the role of patient from passive to active, feelings of being useful for others even for doctors. Reinforcement of the role of the caregivers through public recognition of their importance. Promotion, in doctors and nurses, of a bigger awareness of the psychological needs and resources of patients and relatives. **CONCLUSIONS:** It is possible to implement humanization in oncological care through the foundation of conditions of dialogue into a public setting, beyond the doctor-patient relationship. Each participant is a teacher on his personal field of experience. Sharing experiences and reflect on cancer related issues, at the end of therapies, (out of emergency) facilitate a common culture, intended as synonymous of humanization.

Research Implications: Breast cancer does not finish at the end of medical therapies. The woman needs to work through her illness experience and to learn how to become a 'patient' over time in her personal way, which means to learn to transform cancer into 'normality'. In order to reach this result, the woman needs to not be left alone in the elaboration of cancer and to speak about it not only as a patient but as a citizen, member and thinker of a culture.

Practice Implications: If woman learns how normalize her condition which means not to be afraid of cancer lived as a persecutor all the time, it is possible to enhance medical compliance during the follow-up trajectory and to reduce some side effect which have psychological component

Acknowledgement of Funding: None.

P1-103

Examining a Cognitive-existential Intervention to Address Fear of Recurrence in Men and Women with Cancer: A Feasibility Study

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BACKGROUND/PURPOSE: Fear of cancer recurrence (FCR) is the most frequently cited unmet need among cancer survivors.¹ FCR is a form of health anxiety associated with impaired functioning and lower quality of life in cancer patients.² A manualized cognitive-existential (CE) group intervention for women with FCR was recently developed and pilot-tested, and showed a moderate effect size in reducing FCR, cancer-specific distress, and maladaptive coping.³ However, it appears that no *individual* intervention for FCR exists for both men and women. Therefore, the group intervention was adapted to an individual format. **METHODS:** This pilot study was conducted to determine the feasibility, acceptability, and satisfaction of the individual intervention. The intervention

was pilot-tested on four ($n=4$) cancer survivors (2 men/2 women). Sessions were 60–90 min long, and included cognitive restructuring, structured exercises, and relaxation techniques. Participants completed questionnaire packages with FCR and cancer-specific distress measures, during a 4-week baseline period and throughout the 6-week intervention. Participants completed feedback questionnaires inquiring about their opinions on each session. **RESULTS:** Questionnaire data will be transformed onto line graphs, and data points will be visually inspected to observe changes across each session. General trends in the baseline and intervention stages will be compared. Study results will be available at the time of the conference. **CONCLUSIONS:** Results from this pilot study will display the feasibility of adapting an FCR group intervention to an individual approach. To our knowledge, this is the first FCR individual psychotherapy intervention for male and female cancer survivors.

Research Implications: Results from this pilot study will display the feasibility of successfully adapting a group intervention to an individual approach. Following the pilot study, this intervention will be further tested in a randomized controlled clinical trial with male and female cancer patients ($n=20$). Development of future research will be further discussed.

Practice Implications: It is hoped that the individual intervention will show promising results in improving participants' emotional mastery, well-being, and management of FCR. This individual intervention will provide access to care for survivors in underrepresented cancer populations, where comprising a group may not be feasible, or for individuals less comfortable in group therapy settings.

Acknowledgement of Funding: None.

P1-104

Meeting Newly Diagnosed Breast Cancer Patients' Information Needs: An Evaluation of Pre-operative Education (POC) Program

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BACKGROUND/PURPOSE: A project of pre-operative education program was designed to enhance better provision of disease information and communication to newly diagnosed breast cancer patients. The objective of this study was to evaluate the effectiveness and satisfaction of newly diagnosed breast cancer patients after attending the POC program. Its aims were to examine the adequacy of information giving, to examine if the program can facilitate informed decision, and to examine the satisfaction of the service supported by breast care nurses (BCNs) and

survivors. **METHODS:** The target sample included breast cancer patients who are (1) newly diagnosed, (2) Chinese speaking (Cantonese), and (3) mentally sound. In the POC program, all newly diagnosed breast cancer patients were invited to attend within the week after bad news was broken. In this 3-h program, BCNs provided a talk relating specifically to the disease, surgery options, and post-operative care followed by a sharing session with breast cancer survivors. Psychosocial support is provided during the session. A self-completed survey was dispensed to the eligible patients immediately after the session. **RESULTS:** During April 2011 to Dec 2014, >500 patients attended the POC program. Results indicated that the majority of patients were satisfied with the program. Patients indicated after the POC program that they were able to understand the disease and treatment options and were able to make treatment decision. **CONCLUSIONS:** The result demonstrated that a good communication and adequate knowledge transfer can have significant benefits to patients' health, psychological well-being, and satisfaction. BCNs can play an important role in patient counseling and education.

Research Implications: Breast care nurses play an important role in patient counseling and education, and pre-operative education allows patients to understand the disease and treatment options and to make treatment decision.

Practice Implications: Newly diagnosed breast cancer patients are confronted with a critical diagnosis that requires them to make decisions regarding their treatment plan. Many patients may feel frustrated. Adequate information giving and psychological support help them to cope with the disease, understand the treatment options, and make treatment decisions.

Acknowledgement of Funding: None.

P1-105

Burnout among Chinese Psychosocial Health Professionals

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BACKGROUND/PURPOSE: The aim of this cross-sectional study was to estimate the burnout rates among the Chinese psychosocial health professionals and identify the predictors of it, based on the Effort-Reward Imbalance (ERI) model and Job Demands-Resources (JD-R) model. **METHODS:** Psychosocial health professionals ($n=64$) were recruited from Chinese Psychosocial Oncology Society (CPOS). Participants completed an anonymous online questionnaire, which included measures of demographic and work characteristics, Maslach Burnout Inventory-Human

Services Survey (MBI-HSS), The Short Version ERI Questionnaire (ERI-S), the Job Demands and Job Resources Scales. **RESULTS:** In total 36.8% of the CPOS members were found to experience burnout. In JD-R model, Multiple logistic regression analysis revealed that each increased point for emotional demands was associated with an increase in the odds of burnout by 44.1%. Conversely, each increased point for decision authority was associated with a decrease in the odds of burnout by 58.3%. In ERI model, higher effort and lower reward were both significantly associated with greater emotional exhaustion (EE) and depersonalization (DP). Overall, the ERI model accounted for 37.3% of the variance in EE. **CONCLUSIONS:** Chinese psychosocial health professionals experience considerable burnout. The two models suggest that managerial strategies targeted at specific job demands/resources and effort-reward can prevent burnout among Chinese psychosocial health professionals.

Research Implications: This study uses multiple-models to identify the predictors of the burnout.

Practice Implications: This study determines the prevalence and predictors of burnout among the Chinese psychosocial health professionals.

Acknowledgement of Funding: None.

P1-106

Information and Emotional Support Utilization among Cancer Caregivers: Results from a National Sample of Education Program Attendees

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BACKGROUND/PURPOSE: Cancer caregivers have significant informational needs and often experience emotional and practical challenges. Resource utilization among caregivers is not well understood, particularly at the national level. **METHODS:** Caregivers of cancer patients who attended Cancer Support Community's Frankly Speaking About Cancer psychoeducational workshops nationwide from 2009 to 2013 responded to questions about information seeking and emotional support utilization. There were 8928 attendees attending one of 10 workshops who participated in a post-workshop evaluation (75% response rate). Of the respondents, 2189 (24.7%) were caregivers; the remainder were cancer patients (61.1%) or other attendees (14.3%). The present analyses focus exclusively on caregivers. **RESULTS:** Nearly half (47.4%) became caregivers within the past year. Most utilize doctors/nurses (77.5%) and the Internet (51.7%) for informational support. Other informational sources include friends and family (27.8%), support groups (39%),

workshops (34.9%), and patient support organizations (27.4%). Most caregivers (68.0%) receive emotional support from family and friends, and for most (65.4%), this is the first place they turn. Additionally, caregivers utilize individual counseling (12.3%), spirituality (26%), patient support organizations (19.5%). Over one third report the use of face-to-face support groups (35.3%), and 25.3% are currently in a group. Seventeen percent reported that they had not sought emotional support, and few seek emotional support online (4.9%), and 62.3% reported that this was their first psychoeducational workshop. **CONCLUSIONS:** Increased understanding of informational and emotional support service utilization can better inform provision of services and programs addressing the emotional and informational needs of caregivers.

Research Implications: There is ongoing research on how to better support caregivers. These findings contribute to this body of work and identify areas for further research and potential areas for intervention development.

Practice Implications: These findings highlight key areas that are sources for information and support for caregivers. It is important that clinicians further understand where caregivers turn for information and support so that current support services could be further tailored.

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P1-107

Developing and Implementing an Interdisciplinary Team-based Care Approach for Patients with a Suspected or Confirmed Thyroid Cancer (ITCA-ThyCa): Preliminary Results

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BACKGROUND/PURPOSE: No studies currently evaluate an interdisciplinary team based care approach (ITCA-ThyCa) including a dedicated nurse, as promoted by organizations worldwide, in patients with a suspected or confirmed thyroid cancer. The goal of this clinical research program is to evaluate the impact of such care. **METHODS:** The clinical approach for the dedicated nurse comprised of: (1) Screening for Distress (ESAS; Canadian Problem Checklist; PHQ-9 and GAD-7) at four time points (baseline pre-surgery, 2 weeks post-surgery, pre-radioactive iodine treatment, and during endocrinology follow-up); (2) Nursing meetings

mapped on medical treatment course + previous research; (3) Targeted interventions on clinical symptoms (ESAS > 4; PHQ-9 and GAD-7 > 10); and (4) Interdisciplinary communication and treatment planning. Our program evaluation is ongoing and based on the Centers for Disease Control and Prevention (2014) Framework and Canadian Partnership Against Cancer (2012) guidelines. **RESULTS:** Thirty-two patients were eligible to participate in the program thus far, of which 27 (100%) were contacted and agreed to take part to receive more information and emotional support; another 5 will be contacted shortly (recruitment rate: approximately 7 patients per month). Patients were mostly female (70%); 52 years old ($SD=19.9$; range=18–89) and early stage (69%). All patients were treated with a hemithyroidectomy or total thyroidectomy with or without radioactive iodine.

Clinically important issues on pre-treatment ESAS (score ≥ 4) consisted of: tiredness (63%), anxiety (40%), well-being (28%), and pain (20%). The nurse met with patients on average 4 times (range 1–23; 72% between 1 and 5), and initiated a total of 68 referrals and 149 interdisciplinary exchanges ($x=7$; 90% between 1 and 7). Clinical cases will be presented to illustrate the interdisciplinary approach and nursing work done in the context of our program, concretely highlighting how patients benefited from the approach.

CONCLUSIONS: Overall, the data collected preliminarily indicates that thyroid cancer patients have significant needs commanding attention in the context of an interdisciplinary approach such as ITCA-ThyCa.

Research Implications: This study indicates the need for a mechanistic study of tiredness, anxiety, and pain in newly diagnosed thyroid cancer patients; as well as how they contribute to overall quality of life. This study is underway.

Practice Implications: While thyroid cancer is generally associated with a favourable prognosis, there is a discrepancy with how important its impact is on patients. This study underlines the need for a more holistic treatment of thyroid cancer patients covering both their physical and psychosocial needs. One may want to clinically focus on tiredness, anxiety, and pain in this population.

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P1-108

Caregiver Burden: Examining the Components of Female Caregiving

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BACKGROUND/PURPOSE: Female gender is considered a risk factor for depression, anxiety, and psychological

distress among cancer caregivers. Women report greater physiological burden as compared to their male caregiver counterparts, yet little is known about the interaction of gender and income on caregiver burden. This study describes the experiences of burden among female caregivers through a qualitative examination of the changes in roles, relationships, and employment necessitated by becoming a caregiver. **METHODS:** Family caregivers of hematological cancer patients were recruited as part of a longitudinal study assessing patient-caregiver communication. Pairs enrolled in the study are followed for 2 years and interviewed at 6-month intervals using a semi-structured qualitative interview. Patients and caregivers give consent and are interviewed separately. The semi-structured interview is divided into four sections: diagnosis and employment, insurance and benefits, social relationships, and patient-caregiver communication. We report on 89 pairs enrolled to date. **RESULTS:** Of the 89 pairs enrolled, 75% of caregivers are women, while 60% of patients are men. Female caregivers discussed significant changes in employment, family roles, and their patient-caregiver relationship. Women discussed the ramifications of having to re-enter the workforce or increase the number of hours worked and difficulties with having to care simultaneously for multiple dependents (either children and/or aging relatives). Responsibility for the physical as well as the emotional health of the patient was discussed; in particular, women report feeling responsible for remaining encouraging and protecting the patient's self-esteem. Women also reported difficulty in identifying formal and/or informal caregiver support groups that met their needs. Men discussed the availability of accrued sick leave from their employment as a benefit and feelings of helplessness in their ability to address the cancer diagnosis and treatment. **CONCLUSIONS:** Female caregivers report significant burden that differs from that reported by male caregivers. Difficulties in re-entering the workforce and caring for multiple dependents may be more likely to affect female as compared to male caregivers.

Research Implications: Greater focus on the ways gender and employment affect income and health insurance are needed to more clearly understand contexts of female caregiving.

Practice Implications: Available caregiver resources may be inadequate as female caregivers in our study are requesting counseling and support groups.

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P1-110

Structured Family Meetings and Their Effects on Caregiver Distress/Decision-making Capacity at End of Life

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BACKGROUND/PURPOSE: The purpose of this project was to investigate whether structured family meetings in oncology care settings decrease caregivers' experience of distress and enhance their ability to effectively make decisions regarding patient care at the end of life. **METHODS:** PubMed (Medline) and CINAHL were searched using keywords 'family meetings' OR 'family conference' AND 'oncology' OR 'cancer'. A total of 43 articles were narrowed to five by excluding articles that did not specifically pertain to oncology, had an alternate focus unrelated to the impact of family meetings on distress levels and caregiver satisfaction, or were not clinical trials. **RESULTS:** Following family meetings, caregivers felt less distressed, felt that previously unmet needs (regarding prognosis, discharge, plans for care) were addressed during meetings, and felt more equipped to make decisions about patient care at the end of life. **CONCLUSIONS:** Studies reviewed suggest family meetings reduce feelings of distress (including depression, anxiety, and worry) among caregivers of oncology patients. Furthermore, particular communication techniques can be used by clinicians to increase the effectiveness of meetings, leading to caregivers feeling better equipped to make decisions regarding patient care.

Research Implications: Future research in this area should focus on the creation of a validated clinical tool for structuring family meetings and establishing a framework for staffing meetings.

Practice Implications: Family meetings should be multidisciplinary and include palliative care specialists. Clinicians should designate ample time for caregivers to express distress and ask questions. Healthcare providers should promote inter-professional collaboration and conflict resolution among participating clinicians prior to meetings in order to avoid increasing caregivers' distress.

Acknowledgement of Funding: None.

P1-111

The Frequency and Character of Psychopathological Disorders in Acute Leukemia in the Uzbek Population

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BACKGROUND/PURPOSE: The purpose and objectives of the study. To learn the frequency and character of psychopathological disorders in patients with acute leukemia at different stages of tumor process and identify their relationship with clinical features during the disease. **METHODS:** A total of 104 patients with acute leukemia

(AL) were examined, who were from 2005 to 2007 in hematology department, aged 14–74 years, among them 49 men and 55 women. In this group of patients with acute leukemia myeloblastic was diagnosed in 79 (76%) and acute lymphoblastic (ALL) in 25 (24%). All patients were divided into three groups depending on the stage of the disease: the first group of patients were treated with combination chemotherapy for remission induction phase (at diagnosis), the second group of patients relapsed or had refractory ascertained forms of acute leukemia, and the third group patients were in clinical remission. The investigation was conducted by means of clinical and hematological, clinical and psychopathological research methods. Clinic-psychopathological method of investigation includes questioning, collecting objective (from relatives), subjective (from the patient) history and observation. For the quantitative determination of the level of anxiety, the scale of Sheehan was used, and for the level of depression, the Depression Scale Beck was used; also, to determine the social significance of the disease, the questionnaire of Serdyukov was applied. The obtained data were processed with the help of the statistical method of Student and Fisher. **RESULTS:** Psychiatric disorders were observed in 88 patients (84.6%). According to the results of our study revealed the following psychopathological syndromes: asthenic-depressive, anxious-depressive, anxious-phobic, obsessive-phobic, depressive-hypochondriac, hysterical-depressive syndromes. According to a study in the first group, which accounted for 54 patients, asthenic-depressive syndrome has been identified in 15 (28%) patients, anxiety and depression in 19 (35%), anxiety-phobic in 6 (11%), obsessive-phobic in 6 (11%), hysterical depression in 3 (5.5%), and depressive-hypochondriac in 1 (2%); four patients (7.5%) of psychiatric syndromes have not been identified. Most cases (48%) were severe reactions, 33% medium-gravity reaction, and 9% mild reaction. In the second group, which accounted for 29 patients, 8 patients have been diagnosed with asthenic-depressive syndrome (27.5%), 7 with anxiety and depression (24%), 4 as anxiety-phobic (14%), 5 as obsessive-phobic (17%), 1 as depressive-hypochondriac (3.5%), and 1 as hysterical depressive in (3.5%). Severe reactions were 31%, moderate 69%. Psychopathological disorders have been identified in 3 patients (10.5%). In the third group, which accounted for 21 patients, 6 patients were diagnosed with anxiety and depression (28.5%), 2 as hysterical-depressive (9.5%), and 4 as depressive-hypochondriac (19%); 9 patients did not reveal disorders (43%). Most cases are mild reaction made (42%) or moderate (58%). **CONCLUSIONS:** The study of mental disorders in patients with acute leukemia represents a major change in the physical, psychological, and social spheres of life, which requires the development and implementation of individual rehabilitation programs, which should cover all aspects of the life of the patient.

Research Implications: Recent studies show that while hematological malignancies, in particular, acute leukemia are often complicated by the development of psychopathological disorders, the occurrence of which makes difficult to conduct therapy. This clinical research is currently major development field at our department

Practice Implications: Based on the results of this research we are planning to submit a project to the Ministry of Health of Uzbekistan, which allows us to start psychotherapeutic treatment of patients with acute leukemia. We are planning to introduce a new position of psychotherapist at oncological hospitals in Uzbekistan.

We hope that participation in this congress will help us to improve the psychotherapeutic and psychologic support of patients with leukemia in Uzbekistan.

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P1-112

Characterization of Demographics and Psychiatric Symptoms in 500 Patients Enrolled in the M.D. Anderson Cancer Center Psychiatry Patient Registry Protocol

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BACKGROUND/PURPOSE: The Department of Psychiatry Patient Registry Protocol is a clinical database including validated objective measures to track patients' psychiatric symptoms in the context of cancer diagnosis and treatment. **METHODS:** Only adult participants who provided informed consent and completed all questionnaires were included ($N=500$). For this report, assessment tools include the PHQ-9, GAD-7, and Substance Use Screening (SUS). Data are shown for a single visit only with patients categorized as Initial consults (36%) or Follow-ups (64%). **RESULTS:** Overall, patients were predominantly female (64%), Caucasian (74%) and 53.2 ± 12.6 (mean \pm SD) years of age. For the PHQ-9, average total score was 11.0 ± 5.8 , with distinct groups scoring as Mild (29%), Moderate (30%), Moderately Severe (17%), and Severe (9%). For the GAD-7, average total score was 9.5 ± 5.9 , with distinct groups scoring as Mild (27%), Moderate (25%), and Severe (24%). Of interest, there was a significant positive correlation between PHQ-9 scores and GAD-7 scores ($R=0.69$, $p < 0.0001$). For the SUS, patients self-reported low levels current

cigarette (9%), alcohol (33%), or illicit drug use (6%), though past cigarette (45%), alcohol (68%) and illicit drug use (19%) were significantly higher (all p 's < 0.0001). **CONCLUSIONS:** The data indicate that on average this cohort of psycho-oncology patients exhibit moderate depressive and anxiety symptoms and low/moderate levels of current smoking and alcohol use. Our next steps include evaluating the impact of specific medications on the course of psychiatric symptoms across multiple visits, and evaluating psychiatric outcomes on the basis of cancer diagnosis and treatment.

Research Implications: This electronic database allows us to track psychiatric symptoms as stand-alone data points or in relation to a wide variety of disease/treatment variables.

Practice Implications: This database allows us to collect objective clinical data to improve the quality of psychosocial care for all cancer patients and their families and caregivers.

Acknowledgement of Funding: This work was supported by The Hackett Family.

P1-113

Predictors of Self-reported Cognitive Problems Following Hematopoietic Stem Cell Transplantation

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BACKGROUND/PURPOSE: Although cancer patients often exhibit self-reported cognitive problems following hematopoietic stem cell transplantation (HCT), these symptoms are often inconsistently associated with objectively measured neuropsychological performance. The purpose of this study is to identify factors that predict self-reported cognitive problems among patients treated with HCT. **METHODS:** Adults scheduled for HCT were recruited from a tertiary cancer center for participation in this study. Prior to HCT, participants completed a neuropsychological test battery and self-administered symptom questionnaires, including two questionnaires of self-reported cognitive problems, the Cognitive Failures Questionnaire (CFQ) and the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 Cognitive Functioning Subscale. Clinical characteristics, such as graft-versus-host disease (GVHD) severity, were also collected. Measures were repeated at 100 days and 6 months post-transplant. Multivariate multi-level models were specified for each outcome of self-reported cognitive problems. Variable selection was conducted via initial univariable modeling

using a cutoff of $p < 0.25$. **RESULTS:** Fifty-eight participants who provided data at baseline and at least one follow-up visit were included in the analysis. Neuropsychological performance significantly predicted self-reported cognitive problems on univariate analyses, but not in the multivariate models. Rather, depressive symptoms were a significant and independent predictor of greater self-reported cognitive problems as measured by both the CFQ and EORTC-CF, even when controlling for neuropsychological performance and other covariates. Greater severity of chronic GVHD also predicted lower scores on the CFQ. These effects were stable over time and remained consistent in a sensitivity analysis using the 41 participants who provided data at all three time points. **CONCLUSIONS:** Depressive symptoms are a major independent predictor of self-reported cognitive problems after HCT.

Research Implications: These research findings offer future directions for the advancement of the science of psychosocial oncology. The consistency with which depressive symptoms and self-reported cognitive problems are associated suggests the possibility of a shared underlying mechanism that could be investigated with translational research approaches. Moreover, the interesting finding that greater severity of chronic GVHD predicts lower self-reported cognitive problems warrants qualitative study into the situational factors (e.g., involvement in active work) that may influence one's perceptions of their own cognitive functioning. Lastly, as the small sample size in this study may have limited the statistical power to detect the effect of neuropsychological performance on self-reported cognitive problems, examination in a larger sample size to confirm these findings would be warranted.

Practice Implications: In line with research conducted in other clinical populations, the findings of this study suggest that self-reported cognitive problems may not be an effective screen for neuropsychological deficits. Rather, self-reported cognitive problems may be a signal for depressive symptoms, and so these patients may find particular benefit from interventions that reduce psychosocial distress.

Acknowledgement of Funding: Canadian Institutes of Health Research Lawrence S. Bloomberg Faculty of Nursing, University of Toronto.

P1-114

Development of Standardized Evidence-based Therapeutic Practices within a Large Healthcare Institution: Step I

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BACKGROUND/PURPOSE: There is growing amount of support in literature for the standardization of delivering

oncology care through clinical pathways. By establishing best practices and pathways for treatment, organizations are able to standardize the care in large institutions across multiple campuses and optimize their system patient outcomes. Constructing evidence-based guidelines/pathways within Psychosocial Oncology to mirror and be included in the clinical pathways would enhance integration of service, standardize treatment across sites and providers, provide clear direction for patient care following distress screening, and raise oncologist's awareness of the symptom management available to patients within specific institutions. Our network of hospitals is now the largest within a CoC network (8 hospitals) and consistency between sites is a point of emphasis for our institution. Before establishing these pathways, the establishment of foundational knowledge of evidence-based clinical interventions within our department across the hospital network is paramount. The purpose of this project is to develop an educational series that improves the efficacy of our constantly expanding psychosocial oncology team's foundational knowledge of evidence-based interventions for psychosocial symptom management. This is the first step in Psychosocial Oncology pathway construction for our institution. This series would be a collaborative venture among our pediatric/adult psychosocial oncology team, but would also include colleagues from clinical care management and community based providers that care for oncology patients in our area. **METHODS:** Participants were 14 licensed clinical social workers and counselors from Levine Cancer Institute (LCI), 5 clinical social workers from Levine Childrens Hospital (LCH), 3 sickle cell social workers from LCI/LCH, 5–10 clinical care management social workers from inpatient floors at Carolinas Healthcare System (CHS), and various community mental health partners that care for our oncology patients (hospice/behavioral health, etc.). Provide a bi-annual educational series (six CEUs each) within focus on evidence-based intervention training for use in oncology clinical setting. Assess obtained knowledge through pretest/posttest with established evaluative tool within CHS. Conduct chart audits on clinical documentation to determine the utilization of interventions by psychosocial oncology team prior to educational series and 1 month post-series. **RESULTS:** None established to date. Pre-test data will be available at time of Congress. **CONCLUSIONS:** None established to date.

Research Implications: By establishing standardized foundational knowledge on evidence-based interventions within psychosocial oncology, we can begin to establish clinical pathways and measure the value/efficacy of our work in managing identified symptoms from distress screening. Developing this level of infrastructure within the psychosocial oncology team will allow for us to build on our best practices and conduct clinical research relevant to specific symptoms managed within our department.

Practice Implications: Providing evidence-based education and developing clear pathways would allow for institutions to ensure that patients are receiving consistent care across their network regardless of which provider/practice the patient establishes care.

Acknowledgement of Funding: None.

P1-115

Study of Sexuality among Gynecologic Cancer Patients: Systematic Review Details Assessments Used

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BACKGROUND/PURPOSE: A PRISMA (2009)-guided systematic review was undertaken to determine the self-report assessment strategies used in studies of sexual functioning (SF) for cancer patients. **METHODS:** Quantitative published studies (all languages) of women with cancer that used self-report SF measures were sought for the interval 2008–2014, inclusive, indexed in PubMed or Scopus. Search terms were ‘neoplasms OR cancer AND sexual function NOT HPV NOT HIV’. Subsequently, terms were added (e.g., SF scales and cancer sites). Experts in SF in cancer patients used a coding template and reliability checked. **RESULTS:** Search identified 1487 articles, 171 meeting inclusion criteria, and $N=67$ specific to gyn cancer. Studies came from Europe (40%), North America (30%), and other regions (30%). One third included heterogeneous samples, 33% cervical patients only, and the remainder other gyn sites. Research designs were cross sectional (75%) versus repeated measures (25%), with the aim to comparing SF outcomes by cancer treatment received. Nine were RCTs, but only 4 (6%) were SF interventions. Literature advances were indexed by the use of the Female Sexual Function Index (35%) or gyn cancer specific measures (21%) versus single items from quality of life measures (26%) or others. Regardless of the measures used, 65% of studies did not identify the specific SF problems of patients (e.g., vaginal pain). **CONCLUSIONS:** The review suggests some improvements in assessment but description of specific problems associated with SF scores is needed. The literature remains observational and unchanged from the prior decades of research describing SF outcomes from cancer treatments.

Research Implications: A template is needed which details patient, measure, and research design information needed to provide some basis for standardization for future research.

Practice Implications: There is a great need for not only attention to the sexual needs of patients but focused trials on treatment strategies.

Acknowledgement of Funding: None.

P1-116

Factors Associated with (Non-)participation in a Return-to-Work Program for Cancer Survivors with Job Loss

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BACKGROUND/PURPOSE: Cancer survivors may experience job loss and, in that case, a challenging return-to-work process. Therefore, a supportive return-to-work program was developed and offered to cancer survivors with job loss in the Netherlands. Only 28% of the invited cancer survivors were interested to participate. The purpose of the current study was to identify factors associated with (non-)participation in the program. **METHODS:** Participants in this cross-sectional study were recruited based on their registration at the Social Security Agency. Sociodemographics, health-related and work-related variables were gathered by means of a questionnaire. Descriptive analyses were used to report on motives for declining to participate in the return-to-work program. Multiple logistic regression analysis was applied to discriminate between (non-)participants. **RESULTS:** Of the 2800 invited cancer survivors, 783 were interested, of which 175 were eligible to participate in the program. Another 646 survivors responded that they were not interested or able to participate, because of e.g., physical problems (50.8%), mental problems (36.3%), or negative work expectations (13.3%). Of these, 116 survivors completed a similar questionnaire, as those eligible received. Both questionnaires were combined in one sample ($N=291$), of which 31% was male, the mean age was 49.1 years and 40.5% was breast cancer survivor. Factors associated with (non-)participation in the return-to-work program will be known and available for presentation at the conference. **CONCLUSIONS:** Cancer survivors are generally willing to participate in the return-to-work program, but they may decline for health-related and/or work-related reasons.

Research Implications: Return-to-work programs are often complicated interventions with long stages of development and execution. Also, they consume a lot of

time and financial resources in the process. Knowledge on factors associated with (non-)participation in return-to-work programs for cancer survivors can provide insight into how to tailor these programs. Herewith, they might reach the target group they were designed for, and appeal to the survivors in ways that they would actually (be able to) participate.

Practice Implications: Return-to-work programs are often complicated interventions with long stages of development and execution. Also, they consume a lot of time and financial resources in the process. Knowledge on factors associated with (non-)participation in return-to-work programs for cancer survivors can provide insight into how to tailor these programs. Herewith, they might reach the target group they were designed for, and appeal to the survivors in ways that they would actually (be able to) participate.

Acknowledgement of Funding: This study was funded by the Dutch Research Center for Insurance Medicine.

P1-117

Pivotal Role of Family in Cancer Care: Mixed-method Study of ‘Truth Sharing’ with Cancer Patients, Their Relatives and Oncologists in a Tertiary Cancer Centre

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BACKGROUND/PURPOSE: Families are a unique source of support for a large majority of cancer patients. However, most advanced communication skills training for oncologists are patient centred and do not cover interactions with family members. The objective of this study is to investigate the role of family members in communication regarding cancer. **METHODS:** This is a mixed-method research on truth sharing incorporating in-depth interviews of patients, relatives and cancer clinicians and additional questionnaires for doctors. All interviews were transcribed and analysed using the principles of grounded theory with the help of NVIVO software. Ten cancer patients, 10 relatives and 21 doctors were separately interviewed. The patients and relatives had a proportional gender and other demographic representation. The doctors were from a variety of oncology subspecialties and had varied levels of experience. The setting is a state-of-the-art non-profit cancer centre in Kolkata, India, with a large catchment area, treating more than 10 000 new cancer patients every year. **RESULTS:** All patients, relatives, and doctors preferred involvement of the family at most

or all stages of cancer treatment from discussions about diagnosis, treatment decisions, both curative and palliative, and end-of-life care. Nearly all (19/20) patients and relatives wanted an ‘open and honest’ discussion with their doctors. Doctors felt involving the families helped in both physical and emotional aspects of cancer care. All patients, relatives and doctors preferred involvement of the family at most or all stages of cancer treatment from discussions about diagnosis, treatment decisions, both curative and palliative, and end-of-life care. **CONCLUSIONS:** Family members are an integral part of patient–doctor communications in the cancer setting. This has significant implications for future communication skills training of cancer clinicians. Courses should incorporate modules on better communication with the patient family.

Research Implications: Future research in communication skills should include training the oncology workforce with better skills to engage the families. The research should emphasise on quantification of the skills acquired and also evaluate if this makes a difference in the quality of patient care.

Practice Implications: Clinicians should learn how to communicate with family members of patients with cancer. This includes involving families at the time of diagnosis if the patients so desire, during active treatment and also during palliative care.

Acknowledgement of Funding: The principal investigator, Dr. Datta, was funded by the University College London via the International Teaching Excellence Bursary scheme to visit and interact with the faculty of the Department of Gynaecological Oncology. He was supported to attend the Advanced Communication Skills course in UCH, London, and also interact with two of his co-investigators.

P1-118

Are You Ready? Practical Considerations When Incorporating Web-based Electronic Data Capture Systems of Patient-reported Outcomes in Clinical Research

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BACKGROUND/PURPOSE: Web-based electronic data capture systems of patient-reported outcomes (PROs) continue to gain recognition in clinical care and research. Successful integration of these systems in clinical research requires several practical considerations regarding instrument selection, technical capabilities, and study coordination. This review discusses the considerations for managing

challenges faced when implementing a Web-based electronic-PRO (ePRO) collection system in a longitudinal study of cancer caregivers. **METHODS:** English-speaking or Spanish-speaking cancer caregivers were asked to complete online questionnaires at three time-points within the patient's treatment trajectory. Demographic data and caregiver outcomes, such as health behaviors and psychological health, were collected onsite and offsite through a Web-based ePRO system. Instruments included standard fixed-item and computerized-adaptive testing (CAT) methodologies. Issues surrounding implementation of the online system were tracked to assess feasibility of system integration. **RESULTS:** The baseline response rate for this interim analysis was 95.3%, with 81 of 88 subjects achieving initial survey completion. Transition of fixed-item measures to Web formats was prospectively assessed for Web compatibility while functionality of the ePRO system on different platforms was continuously evaluated to improve usability. A transdisciplinary support team was established for technical issues affecting remote access and data collection. Standard operating procedures were routinely updated to reflect improvements in study coordination, such as subject communication. **CONCLUSIONS:** Challenges of integrating ePRO systems into clinical research require advanced consideration of measurement, technology, and resources. Increased PRO research, as well as patient-centered care, will enable these considerations to become more systematic. Additional studies using ePRO systems are needed to evaluate their application.

Research Implications: Integration of Web-based ePRO systems reflects transdisciplinary efforts to conduct scientific research more efficiently and effectively. However, practical guidance is limited in this area and rapid advancements in technology have led to unclear implementation standards in research studies. Greater attention to the general implementations of these technologies is needed to ensure appropriate execution in psychosocial research.

Practice Implications: Policy changes and increased concern for delivering quality, patient-centered care encourage the inclusion of ePRO systems in electronic health records (EHRs) within clinical care. Electronic data capture systems and EHRs are combining to produce more efficient, accurate, and desirable methods of providing patient-centered care.

Acknowledgement of Funding: This study was funded by the Intramural Research Program of the National Institutes of Health Clinical Center. NCT01981538.

P1-119

Schizophrenia and Lung Cancer Disparities: Eligibility for Screening and Access to Smoking Cessation

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BACKGROUND/PURPOSE: Individuals with schizophrenia have high rates of smoking and lung cancer (LC) mortality. Many are eligible for LC screening, which can detect LC at earlier stages, however, individuals with schizophrenia traditionally have had decreased access to cancer screening. We examined smoking behavior and communication with psychiatrists in this high-risk population. **METHODS:** In 2014, we surveyed 112 patients (74% response rate) with treatment-resistant schizophrenia requiring monthly medication monitoring in a community mental health clinic. Descriptive statistics characterized smoking behaviors and communication with psychiatrists. **RESULTS:** Nearly 80% of respondents were current or former smokers. More than 1/3 of older patients were eligible for LC screening (vs. 13% of older US population). The majority of participants underestimated how much smoking increased their risk of LC. Seventy-five percent of smokers had their first cigarette within 30 min of waking, an indicator of nicotine dependence and independent risk factor for LC. Yet, nearly half of smokers reported preparing to quit, and 41% had at least one quit attempt in the past year. Only 60% reported that their psychiatrist asked them about smoking. It was unlikely for psychiatrists to recommend nicotine replacement or bupropion (37%) or refer to counseling (20%). **CONCLUSIONS:** One in three older schizophrenia patients is at high risk for lung cancer; many underestimate their risk. Despite motivation to quit, current rates of psychiatrists asking about and assisting with smoking cessation are low. Psychiatry visits are a missed opportunity to address smoking and promote access to LC screening in a high risk population.

Research Implications: Given inequities in lung cancer outcomes, research is needed on innovative models of care to promote smoking cessation and access to lung cancer screening for individuals with schizophrenia.

Practice Implications: As the primary health providers for people with schizophrenia, mental health clinicians can address smoking and educate patients about cancer risk. Training is needed for psychiatrists in brief interventions for smoking cessation. Engaging mental health clinicians in cancer prevention for this vulnerable population may decrease disparities in cancer outcomes.

Acknowledgement of Funding: Dupont-Warren Fellowship, Harvard Medical School.

P1-120

Four-week Prevalence of Mental Disorders in Women and Men with Cancer

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BACKGROUND/PURPOSE: Studies in the general population have consistently shown gender differences in mental disorders prevalence rates. Only few studies of categorical mental disorders exist in cancer populations so far, which have addressed that topic. We therefore aimed to analyze gender differences in the 4-week prevalence of mental disorders in a representative sample of cancer patients in Germany. **METHODS:** We interviewed a representative sample of patients with different tumour entities ($N=2141$, 51% women) in outpatient, inpatient and rehabilitation settings using the standardized computer-assisted Composite International Diagnostic Interview for mental disorders adapted for cancer patients (CIDI-O). **RESULTS:** The overall 4-week prevalence for any mental disorder was 40.4% in women and 23.3% in men (OR=0.45). Women had a consistently higher prevalence in the following mental disorders compared to men: adjustment disorders (16.9% vs. 9.4%; OR=0.48), anxiety disorders (15.9% vs. 7.1%; OR=0.40), mood disorders (8.2% vs. 4.8%; OR=0.40) and somatoform disorders (6.6% vs. 3.4%; OR=0.59) ($p < 0.05$). No significant differences were found for nicotine abuse (4.6% vs. 4.4%; OR=0.95), alcohol abuse or dependence (0.1% vs. 0.5%; OR=0.87) and for disorders resulting from a general medical condition (2.9% vs. 1.7%; OR=0.58). **CONCLUSIONS:** Our findings are in accordance with studies in the general population, although the causes of these gender differences in prevalence rates are not well understood so far. Possible theories include response bias, biological, social, and demographic influences as well as internalizing vs. externalizing liability structure of psychopathology.

Research Implications: Research needs to address the origins of gender differences in prevalence rates of mental disorders.

Practice Implications: Our epidemiological data are relevant for evidence-based psycho-oncological service care planning with a particular focus on gender-related issues.

Acknowledgement of Funding: The study was funded by the German Cancer Aid.

P1-121

Evaluating Reasons for Breast Cancer Disparities

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BACKGROUND/PURPOSE: Cancer registry data suggest that Duval County (greater Jacksonville, FL) has the highest

breast cancer mortality rate for African American (AA) women in the southeastern USA. Recent research revealed that race, residence, and insurance were associated with significantly poorer breast cancer outcomes in this area. Therefore, we conducted a series of focus groups with AA breast cancer survivors from the urban core of Jacksonville, FL, to directly address the disparities observed in our quantitative data. **METHODS:** A series of focus groups were conducted to obtain qualitative data topics that included: breast cancer beliefs; delays to diagnosis and treatment; disparities; and health behaviors. **RESULTS:** A total of 56 AA breast cancer survivors living in the urban core, with either Medicaid or who were uninsured, participated in the focus groups. Mean age was 62 years, with an average of 3.4 years since diagnosis. Only 21% of women were employed. Participants reported their mean time to see a doctor initially for their breast cancer was 39 days, and mean time to first treatment was 178 days. Participants responded that fear, financial limitations, and personal beliefs played the biggest roles in delays to diagnosis and treatment. Participants responded that poor health behaviors, genetics, lack of education, and personal beliefs accounted for both causing breast cancer, and the disparities observed in breast cancer mortality, and felt that environmental factors from living in the urban core also contribute. **CONCLUSIONS:** Our findings highlight several areas for potential intervention to reduce disparities in breast cancer.

Research Implications: Although our quantitative data suggests specific factors can predict disparities, it is important to understand the reasons for these disparities, to better design appropriate interventions.

Practice Implications: Differences in outcomes are observed for race, insurance, and residence. Clinicians can consider several different socio-demographic factors that play a role in these disparities in clinical presentations.

Acknowledgement of Funding: This project was funded by the Mayo Clinic Office of Health Disparities Research

P1-122

Correlations of High Edmonton Symptom Assessment Scale Scores to Demographic and Other Variables

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BACKGROUND/PURPOSE: The Edmonton Symptom Assessment Scale (ESAS) is a valuable screening tool used in cancer care. From our recently launched electronic database, we evaluated outcomes of the ESAS concentrating on mood symptoms, fatigue, and sleep.

METHODS: Only adult patients seen in the outpatient psychiatry clinic who provided informed consent were included ($N=500$). Demographic information included gender, age, race/ethnicity (Blacks and Hispanics were grouped as underrepresented minorities versus Caucasian), and marital status (single, divorced, and widowed grouped as 'Alone' and married or partnered grouped as 'Together'). For this project, the primary assessment tool was the ESAS and its relation to the Distress Management Thermometer (DMT). **RESULTS:** For the ESAS, most items received low range scores (~ 3.5 out of 10) except fatigue and sleep (>5 each). Underrepresented minorities had higher ESAS scores than Caucasians on most items (e.g., pain 3.8 ± 2.9 vs. 2.9 ± 2.7 , $p=0.003$ and depressed 4.8 ± 3.4 vs. 4.1 ± 2.9 , $p=0.03$) (mean \pm SD). Also, those in the Alone marital status group had higher ESAS scores than Together on several items (e.g., anxious 5.1 ± 3.1 vs. 4.5 ± 3.0 , $p=0.03$). Of interest, endorsement (yes versus no) of individual problem areas on the DMT checklist predicted magnitude of ESAS scores (e.g., fatigue 5.9 ± 2.3 vs. 2.5 ± 2.3 , $p < 0.0001$ and sleep 6.4 ± 2.3 vs. 2.7 ± 2.4 , $p < 0.0001$). **CONCLUSIONS:** The data indicate that this cohort of psycho-oncology patients exhibit moderate problems measured by the ESAS. Also, the data show that individual yes/no items of the DMT are strong predictors of outcomes for overall scores on the ESAS.

Research Implications: Data from individual items of the ESAS can be used to define problem areas for cancer patients.

Practice Implications: The ESAS is useful in addressing psychiatric symptoms in cancer patients.

Acknowledgement of Funding: This work was supported by The Hackett Family.

P1-123

Parental Decision Making for the Human Papillomavirus Vaccine for Their Sons: A Longitudinal Examination of Qualitative Responses

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BACKGROUND/PURPOSE: The Canadian government has approved the human papillomavirus (HPV) vaccine to protect males and females against HPV-related cancers. We sought to examine reasons given by parents about their decision to vaccinate their 9- to 16-year-old sons with the HPV vaccine across two time points.

METHODS: Using a longitudinal design (Time 1 and Time 2=8 months) and an online survey, parents responded to an open-ended question: '[W]hat would influence [influenced] your decision to have your son vaccinated or not against HPV?' Parents were classified according to six stages of the Precaution Adoption Process Model and reasons were coded using a qualitative coding scheme. **RESULTS:** At time two, parents ($n=1309$) were predominantly unaware that the HPV vaccine could be given to males (15.4%), unengaged (31.7%), and undecided (25.3%). These parents reported needing more information, wanting a doctor's recommendation and concern regarding the cost. Parents who decided not to vaccinate their sons (14.7%) reported that their decision was due to risks, insufficient research and a lack of confidence in vaccines. Parents who decided to vaccinate their sons (9.9%) or who had vaccinated their sons (3.1%), reported their decision was based on protecting their son's health and having received a doctor's recommendation. The reasons given across the two time points were consistent. **CONCLUSIONS:** Different factors influence parents' vaccine decision making depending on their stage of adoption. Ensuring that parents are well informed about male vaccination, reducing vaccine cost, communicating vaccine safety, and improving patient-provider communication may increase HPV vaccine coverage in Canada and decrease the incidence of HPV-related cancers.

Research Implications: Understanding the factors that influence parents to vaccinate their adolescent son is of great importance in increasing male HPV vaccine uptake and preventing cancer morbidity and mortality. Examining the psychological, behavioural, and social factors that influence parents of sons at each of these stages provides a contextually nuanced perspective. The results can inform strategic public health interventions aimed at supporting parents in making this important health decision on their son's behalf.

Practice Implications: Future interventions to increase HPV vaccine uptake among young males can be more effectively tailored to target parents who are at different stages of the vaccine decision-making process. Overall, assuring that parents are well informed about the importance of male vaccination, accurately communicating about safety issues, addressing the cost of the vaccine, and improving patient-provider communication may augment vaccine coverage in the Canadian population. By increasing HPV vaccine uptake, the result will reduce HPV-related disease burden. This will translate into saving lives, money and ultimately reducing cancer morbidity worldwide.

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P1-124

Patient Engagement: How Are We doing?

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BACKGROUND/PURPOSE: The number of cancer survivors in Ireland is predicted to double in the next 25 years. Our National Cancer Control Programme (NCCP) has identified survivor health and care needs as an urgent priority for development and established a National Survivorship Programme. In recent years, the NCCP has been increasing patient participation in a number of areas of the cancer services including patient engagement through consultation, working groups and research. In reviewing the progress of the NCCP we asked ourselves is this enough and what are the outcomes of increased participation for patients and healthcare staff. **METHODS:** The objective of this study is to review patient engagement in the National Cancer Control Programme and in the wider cancer service and to determine the level of engagement and the satisfaction of patients with levels of engagement. A review of current international practice was undertaken. A national survey was conducted with the eight cancer centres and satellites. Patient representatives and a purposive selection of patients and healthcare workers are in the process of being contacted and interviewed for the second phase of project. **RESULTS:** Patient engagement falls into a number of categories including close collaboration with patient advocacy organisations, participation of patients and service users on working groups, patient forums, and steering committees. This involves consulting patients for policy, service developments, proposed initiatives, evaluations and collaborative research projects. We have quantified this involvement in Ireland to obtain a national picture. The data on the patient's perspective is currently being obtained through semi-structured interview. Healthcare personnel are also being interviewed regarding their level of satisfaction with patient participation and the identification of factors that enable or present a barrier to meaningful participation. **CONCLUSIONS:** We utilised a model of patient engagement to examine the levels of engagement in an Irish context and make evidence-based recommendations on increasing patient engagement.

Research Implications: A responsive healthcare system is associated with a sustained level of patient satisfaction. It also reflects the extent to which the patient's needs are being met. In addition satisfied cancer patients are more likely to cooperate with treatment which in turn is associated with better clinical outcomes.

Practice Implications: Policy regarding patient engagement is underdeveloped, and yet evidence suggests this is an important area to address. By reviewing current

practice and providing the patient perspective on current initiatives we hope to further enhance the ability of the health service to meet this patient need.

Acknowledgement of Funding: None.

P1-125

Predicting Optimal Cancer Rehabilitation and Supportive Care (POLARIS): Meta-analyses of Individual Patient Data of Randomized Controlled Trials Evaluating the Effects and Moderators of Physical Activity and Psychosocial Interventions on Health-related Quality of Life in Cancer Survivors

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BACKGROUND/PURPOSE: The objective is to conduct individual patient data (IPD) meta-analyses to evaluate the effects of physical activity (PA) and psychosocial interventions (PSI) on the health-related quality of life (HRQoL) of cancer survivors, and to identify demographic, clinical, and intervention-related characteristics that moderate the effects of PA and PSI. **METHODS:** Principal investigators were invited to share their data of randomized controlled trials (RCT) conducted among adult cancer survivors that evaluated the effects of PA and/or PSI on HRQoL compared with a wait-list, usual care or attention control group. Multilevel linear regression analyses on pooled data will be conducted with HRQoL measured post-intervention as outcome. Moderating effects will be analyzed by including the potential moderator and its interaction term with the intervention as independent variables to the regression models. Potential moderators are demographic (age, gender, marital status, employment, education), clinical (diagnosis, time since diagnosis, BMI), and intervention-related characteristics (timing, delivery mode, frequency). **RESULTS:** We have identified 137 eligible RCTs. We expect that 54 RCTs ($n=9187$) will be included in a data warehouse where they will be harmonized and pooled for the analyses. The analyses will be conducted in March 2015 and we will be able to present the first results of the effects and moderators of PA and PSI on HRQoL at the congress. **CONCLUSIONS:** Insights in potential moderators can help determine which patients should receive a particular treatment. This is an important first step towards personalized cancer rehabilitation and supportive care.

Research Implications: This study will help to identify subgroups of patient that benefit from existing PA and PSI interventions and under which circumstances, and subgroups that are underserved, providing directions of future studies on PA and PSI to also improve HRQoL for those patients.

Practice Implications: Information on moderators is an essential step to further target PA and PSI to the individual survivor's characteristics. This study will identify which patients benefit most from existing interventions.

Acknowledgement of Funding: The POLARIS study is supported by the 'Bas Mulder Award' granted to L.M. Buffart by the Alpe d'HuZes Fund, part of the Dutch Cancer Society.

P1-126

Identifying Barriers to Improving Access to Social Work Support during the Time of Initial Diagnosis

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BACKGROUND/PURPOSE: Large cancer centers are challenged by the 2008 Institute of Medicine and the Commission on Cancer mandates prompting the development of standards of practice to ensure that psychosocial distress of cancer patients be identified by screening tools and professional intervention be available. These initiatives have emerged as research indicates that reducing distress in patients provides better treatment outcomes. A pilot focused on increasing psychosocial support at the time of initial diagnosis was developed. **METHODS:** An interdisciplinary approach was initiated in a 90-day pilot program with myeloma and amyloidosis populations. For amyloidosis patients, appointments with social work were scheduled concurrently with the initial oncology appointment. Myeloma patients were to be seen by social work following the second appointment with their oncologist. The goal was to increase psychosocial access by 90% in both populations. Completed psychosocial assessments were compared to physician appointments during this period. **RESULTS:** The amyloidosis arm of the pilot resulted in 80% of patients receiving a psychosocial assessment following initial diagnosis. However, referrals for myeloma patients were unsuccessful. The referral process was altered after 60 days. This change improved the referral process, but compliance emerged as a barrier to access. **CONCLUSIONS:** Successful initiatives to increase psychosocial access for cancer patients must consider strong alignment with stakeholders, awareness of competing

initiatives so as not to overburden busy oncology teams, detailed education with teams regarding implementation, clear process improvement goals, and identification of practice modifications that may simplify adaptations needed for success.

Research Implications: This pilot has implications for program planning rather than research.

Practice Implications: This pilot program identifies barriers to increasing psychosocial support. Some of the barriers were difficulties that practitioners encountered as they attempted to adapt to the extra steps and increased time the referral process demanded. Some barriers related to lack of buy-in by the medical team and lack of stakeholders. Anticipating and planning for these barriers will hopefully allow programs at other sites to be more successful.

Acknowledgement of Funding: None.

P1-127

Screening of Psycho-oncology Aspects: Validation of a Checklist

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BACKGROUND/PURPOSE: Develop and validate a Checklist of psycho-oncologic issues (LC-Psycho-onco) for oncologic patients in treatment. **METHODS:** Included 200 patients at the National Cancer Institute (INCAN). The sample collection was for availability during the period of October 2013 to January 2014. Inclusion criteria: (1) Patients undergoing cancer treatment, (2) Any type and stage cancer diagnostic and (3) Karnofsky index equal or greater than 50. Exclusion criteria: (1) Patients who present severe psychiatric disorders and/or any psychoactive substance addiction, and (2) major vascular complications, such as severe cognitive impairments and hearing and vision problems. We conducted Pearson's correlation for association with the various components of the LC-Psycho-onco and EORTC QLQ-30, with a confidence level of 95%. **RESULTS:** An oblique factor analysis presented a three-factor model (cognitive state, Coping concerns and treatment) and two indicators (anxiety/depression and family relationship) that explain the 43.81% of the variance. The internal consistency of the global scale showed a satisfactory index ($\alpha=0.811$). The Cronbach's alphas for each subscale were worth 0.753 and 0.507, which explain 43.81% of the variance. The validity through the correlation with concurrent measures showed significant results (Pearson's $r=0.51$ to 0.68 , $p<0.05$). **CONCLUSIONS:** The LC-Psycho-onco showed adequate psychometric properties. Being a brief and easy instrument

it is useful for both clinical practice and investigation. It provides a guide for planning psychological interventions. The final version of the LC-Psycho-onco is complemented by an identification card demographic and clinical aspects, a section of physical symptoms, diagnostic impression, psycho-oncology reevaluation and possible intervention.

Research Implications: The Checklist LC-Psycho-onco is a reliable and valid to identify psychological effects tool. To be brief and easy to apply useful in research with cancer population. Given the need to design and implement appropriate screening procedures underway, this study aimed to develop and evaluate a Checklist of psychosocial issues in cancer patients undergoing treatment, to allow timely refer them to the psycho-oncology care.

Practice Implications: Its use provides guidance in planning a comprehensive assessment and designing a treatment. It was noted that 8% of participants partially comprises receiving treatment so the application of LC-Psycho-onco can assist in managing information throughout the care process. It is suggested that patients are assessed on admission and periodically during the care process. For example, the beginning and end of treatment, in the period of monitoring and referral to a palliative care unit

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P1-128

Psychcare Database: Development and Implementation

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BACKGROUND/PURPOSE: The IOM has recommended improving the quality of psychosocial care of all cancer patients and families, including more education on coping with illness and expanded clinical research. In this poster, we describe our experience in developing our database, Psychcare, including design and use to capture clinical, demographic, and social history data for real-time patient care and future research. **METHODS:** A database committee, including psychiatric clinicians and an IT consultant, was formed to design Psychcare, a SQL Server database. Data are collected in an easy to use tablet interface including questionnaires (PHQ-9, GAD-7, ESAS, NCCN Distress Thermometer, and Substance Use Questionnaire), psychosocial history, and demographic information in an easy to use tablet interface. After IRB and Governance approval was obtained and a testing period was completed

Psychcare was deployed. Data are being obtained from consented patients at each visit unless a patient refuses to participate or arrives late to an appointment. **RESULTS:** From 07/02/2014 through 12/31/2014, data were collected from 587 of 627 (94%) patients. The majority of patients have provided data on multiple visits (2.5 ± 1.6 : mean \pm SD) which will allow us to track psychiatric symptoms. The average time to complete forms is 20 min. The system has been well received by patients and clinicians. **CONCLUSIONS:** Psychcare is a tool that will allow us to implement IOM's recommendation by having standardized measures of care to use as clinical benchmarks and for research to improve effectiveness of psychosocial in our psychiatric oncology clinic at MDACC.

Research Implications: When the data from the standardized instruments are analyzed, it will allow us to get a better understanding of our psychiatric oncology population and then refine and develop better care for this population.

Practice Implications: Utilization of clinical instruments to identify and measure signs and symptoms facilitate the clinical care of the patient over a period of time to monitor progress to treatment.

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P1-129

Psychometric Properties of the Beck Depression Inventory II (BDI-II) for Mexican patients with cancer

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BACKGROUND/PURPOSE: Determine the psychometric properties of the Beck Depression Scale BDI-II in a sample of cancer patients. **METHODS:** There were 337 patients from the National Cancer Institute of Mexico, of which 180 were women (53.4%) were male and 157 male (46.6%); the average age was 46.8 ± 14.4 years. Participants also answered the BDI-II, the Depression Sub scale of the Hospital Anxiety and Depression Scale HADS-D. Participants were selected based on the following inclusion criteria: (1) Patients undergoing cancer treatment (any treatment); (2) Cancer Diagnosis; (3) Any stage of the cancer process; (4) Read and write Spanish; (5) ECOG index equal to or less than 2. Exclusion criteria: (1) Patients who present severe psychiatric conditions; (2) severe dyspnea; (3) cognitive impairments; (4) severe visual problems. The sample of participants was obtained from the Services Medical Oncology, Surgery, Radiotherapy and Psycho-oncology, who attended outpatient services and hospitalization during the period August 2013

to April 2014. The criteria used for factor analysis were (1) factor > 0.40 loads; (2) factors with at least three items; and (3) internal consistency coefficient for each factor alpha Cronbach > 0.60. The relationship between the BDI-II and HADS-D was analyzed using the Pearson correlation coefficient. **RESULTS:** A factor analysis adjusting two factors provided an instrument with 21 similar to the original items. Cronbach's alpha of cognitive-affective subscale (9 items) was 0.83 and the somatic subscale-motivational (12 items) was 0.77; meanwhile, the Cronbach's alpha of the 21 reactive BDI-II was 0.85. The concurrent validity assessed by way of correlations with HADS-D showed significant associations (Pearson $r=67-54$, $p < 0.05$). Both factors explained 42.23% of variance. **CONCLUSIONS:** The BDI-II in patients with cancer in Mexican population showed adequate psychometric properties. The relevance of the results is that it is a population that can even require timely mental health care throughout their treatment. Psychometric analyzes performed in this study indicate that in oncology population the BDI-II measures a dimension of depression that is composed of two factors, which replicates the results reported in the previous literature on cognitive-affective factor and another somatic motivational.

Research Implications: The BDI-II is useful to determine the extent of depressive symptoms to be a short, easy to apply and reliable tool for research, especially when the goal is to identify cognitive, affective, somatic and motivational components; without forgetting that the group of cancer patients have own physical symptoms of cancer and its treatment can lead to a lack of recognition of depressive symptoms by the medical team

Practice Implications: Identifying clinically significant levels of depression with the BDI II is crucial in order to identify groups of patients with more psychological effects; and use this information to develop prevention, early detection and assistance

Acknowledgement of Funding: None.

P1-130

Screening for Suicide Risk in Pediatric Oncology Patients? Pediatric Patients Speak Up

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BACKGROUND/PURPOSE: Youth suicide is an international public health crisis; according to WHO estimates, it is the second leading cause of death in young people worldwide. Recent studies have shown oncology patients are at elevated risk for suicide. In one recent pediatric

oncology sample, more than 8% of patients endorsed suicidal ideation during distress screening. The medical setting is an important venue to screen pediatric oncology patients for suicide risk. We asked pediatric medical inpatients for their opinions about suicide screening in the hospital in order to address concerns about the acceptability of screening among youth. **METHODS:** As part of a larger instrument development study, self-report data were collected from 196 patients, aged 10–21, who were admitted to a medical inpatient unit at an urban pediatric hospital. Patients were administered a battery of questionnaires including the primary questions of interest, 'Have you ever been asked about suicide before?' and 'Do you think nurses should ask kids about suicidal thoughts while they are in the hospital? Why or why not?' Qualitative data were analyzed using thematic analysis. **RESULTS:** Only 38% of patients reported they had previously been asked about suicide. The majority of patients (83%) supported nurses screening for suicide risk. The main themes patients provided in support of screening included prevention, emotional benefit to the patient, and provider responsibility to screen. **CONCLUSIONS:** Opinions data can inform implementation practices, and potentially ease clinician discomfort with screening youth for suicide risk.

Research Implications: Future psychosocial pediatric oncology research should incorporate assessments of suicidal ideation and behavior to better understand suicide risk in this unique medical population.

Practice Implications: The above findings should encourage clinicians to consider screening pediatric oncology patients for suicide risk as part of standard psychosocial care.

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P1-131

Daytime Physical Activity and Emotional Distress in Advanced NSCLC Patients

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BACKGROUND/PURPOSE: Individuals with advanced non-small cell lung cancer (NSCLC) who report depression also report greater impairment from fatigue. This study investigated the relationship of depression with objective assessments of activity, wrist actigraphy. We

hypothesized that individuals with advanced NSCLC who have higher levels of depression would have less daytime activity. **METHODS:** Patients with stage IV NSCLC ($N=41$) receiving care at the Massachusetts General Hospital Thoracic Oncology Clinic were enrolled in this observational study. Participants were asked to wear a wristwatch-sized accelerometer device (ACTIWATCH 2®) for three consecutive 24-h periods (72 h) and complete self-report questionnaires measuring depression (Patient Health Questionnaire-9) and quality of life (QOL; Functional Assessment of Cancer Therapy (FACT)-Lung). Pearson correlations were conducted to assess relationships between depression, actigraph-recorded activity, and QOL. **RESULTS:** While daytime motor activity was associated with overall QOL (FACT-Lung and FACT-General), it was not significantly associated with emotional well-being on the FACT or depression on the Patient Health Questionnaire-9. However, emotional well-being and depression were associated with immobility, or sedentariness, as measured by wrist actigraphy. Specifically, patients who reported greater depression showed a significantly higher percentage of daytime immobility over the 3 days ($r=0.582$, $p<0.001$). Patients who reported better emotional well-being reported significantly less daytime motor immobility ($r=-0.309$, $p=0.049$). **CONCLUSIONS:** Daytime immobility or sedentariness, not level of activity, was associated with depression in individuals with stage IV NSCLC. Functional impairment from depression in individuals with advanced cancer may be due to immobility. Wrist actigraphy may serve as an objective measure of immobility as it relates to depression.

Research Implications: Wrist actigraphy may be a feasible and valid assessment of functional impairment and overall sedentary behavior in patients with cancer. Future research could examine causal relationships between immobility, as measured by actigraphy, and depression, in an effort to tease apart whether the immobility is due to depression or vice versa. Wrist actigraphy may be an important screening tool for patients with advanced-stage cancers in order to obtain accurate assessments about functional status and participation in daily activities.

Practice Implications: Inactivity, as measured by wrist actigraphy, may be an indicator of fatigue as it relates to depression in patients with advanced cancer. This may be instrumental in identifying depressive symptoms in patients who are otherwise hesitant to report depressive symptomatology to their healthcare providers. Patients who are largely sedentary as a result of depression could be referred for psychosocial services.

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P1-132

Emotional/Psychological Characteristics of Women with Triple-negative Breast Cancer (TNBC): Results from Living Beyond Breast Cancer's (LBBC) National Breast Cancer Assessment of Education and Support Needs

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BACKGROUND/PURPOSE: In 2013, Living Beyond Breast Cancer began a comprehensive needs assessment of women with triple-negative breast cancer (TNBC). **METHODS:** In an 80-question online survey, respondents self-reported breast cancer subtype and rated emotions experienced at diagnosis, during, and after treatment on a scale of 'none', 'low', 'moderate', and 'high'. Responses from 656 women with TNBC (25.1%) were compared to 1954 non-TNBC women (74.9%). Differences between TNBC and non-TNBC women were assessed at each time point using logistic regression. Using generalized logistic modeling, differences in score changes were categorized by cancer subtype as decreased, same, or increased. **RESULTS:** At all time points in an unadjusted analysis, TNBC women vs. non-TNBC women reported more fear, anxiety, and worry; this finding was only statistically significant for fear and anxiety at diagnosis (high fear: 67% vs. 62%, $p=0.046$; high anxiety: 68% vs. 64%, $p=0.046$). Between treatment and post-treatment, TNBC women were significantly less likely to report a decrease in negative emotion (fear: 58% vs. 66%; anxiety: 54% vs. 65%; worry: 53% vs. 63%, $p<0.001$ for all). Women with TNBC stage ≥ 2 showed greater increases in negative emotion ($p<0.001$). **CONCLUSIONS:** TNBC women, especially those diagnosed at stage II or higher, experience greater fear, anxiety, and worry than non-TNBC women from diagnosis through post-treatment. These data support the development of interventions specific to the emotional needs of TNBC patients.

Research Implications: This research provides insight into the emotional needs of TNBC patients.

Practice Implications: Better understanding of differences between TNBC and other patients allows healthcare providers to address unique needs of TNBC women, enhance patient experience, and potentially improve outcomes.

Acknowledgement of Funding: Living Beyond Breast Cancer received funding for the needs assessment from Celgene and Genentech.

P1-133

The Potential of Exercise as an Intervention for the Cognitive Effects of Androgen Deprivation Therapy in Men with Prostate Cancer

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BACKGROUND/PURPOSE: Growing evidence suggests that androgen deprivation therapy (ADT) for men with prostate cancer (PC) has a negative effect on cognitive functioning. Conversely, studies have shown that physical activity is associated with improved cognitive performance. This pilot study seeks to test if there is a positive relationship between exercise and cognitive performance for men on ADT. **METHODS:** This on-going study will recruit 100 men who have been on ADT for 6 months. Men will complete a neuropsychological assessment and the Godin-Shephard Leisure-Time Activity Questionnaire. Eligibility includes: a diagnosis of PC, a course of ADT for 6 months, the ability to engage in exercise in judgment of their treating physician, and ≥ 65 years of age. The neuropsychological battery assesses: verbal function, verbal learning and memory, spatial function, psychomotor function, attention, and executive function. Since this is a preliminary analysis, all p values < 0.20 are reported. **RESULTS:** To date, 17 subjects with a mean age of 73 ± 5 years have completed the study assessments. Although this is a preliminary analysis, exercise is positively related to many areas of cognitive functioning: verbal learning and memory ($r=0.62$, $p=0.02$), spatial memory ($r=0.45$, $p=0.12$), visuospatial ability ($r=0.48$, $p=0.13$), processing speed ($r=0.39$, $p=0.19$), attention and concentration ($r=0.51$, $p=0.07$), and executive function ($r=0.67$, $p=0.01$). **CONCLUSIONS:** Preliminary results indicate the exercise is positively related to better cognitive performance in men with prostate cancer on ADT. If these results are confirmed with final study results, these data would suggest exercise may be an effective buffer to cognitive decline for men on ADT.

Research Implications: Future research should explore testing exercise as a possible intervention to buffer against the cognitive effects of hormone therapy.

Practice Implications: Clinicians should be aware of the benefits of exercise, specifically for mild cognitive impairment (MCI), which may be particularly helpful in men with ADT.

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P1-134

Treatment of Steroid-induced Mood Disorder in Co-morbid Developmentally Delayed Youth with Cancer

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BACKGROUND/PURPOSE: Young children with developmental delays are particularly vulnerable to substance-induced mood disorders from required oncologic treatments. While there is emerging support for pharmacologic interventions of children with developmental delays and disabilities experiencing agitation in the literature, many pediatric oncologists have concerns about treating this population with psychotropics while on treatment. The study of pharmacologic intervention in this population with substance-induced mood disorder is even more limited and thus prime for evaluation of efficacy and safety. **METHODS:** We conducted a retrospective review of pediatric patients at a large pediatric oncology center with developmental delay who were treated by a child psychiatrist for substance-induced mood disorder. Patients were evaluated for associated characteristics, psychotropic use patterns and efficacy, adverse drug reactions, and length of treatment at 0-, 3-, and 6-month periods. **RESULTS:** Thirty three patients were identified over an 18-month period. All patients had an existing psychosocial provider. Over 87% of patients received psychotropics. Fifty-three percent of patients were 6 years old or younger. Multiple psychotropics agents were utilized but risperidone (41%) was most prevalent. There were no major adverse drug reactions. Family (56%) and/or personal (72%) history of psychiatric illness were strong associations of psychotropic benefit. **CONCLUSIONS:** This study showed results consistent with the literature that shows risperidone and other agents can be safe and effective agents in reducing serious mood symptoms in developmentally delayed children. Moreover, these results are reassuring in a more physically ill population and should help guide further study and treatment.

Research Implications: Patients with developmental delay have significant predisposition to emotional and behavioral difficulties with necessary oncologic treatments. Pharmacotherapy is currently very limited in this treatment subset with this being the largest analysis to date. Efficacy and safety of these findings should be further explored in the setting of behavioral, emotional, and treatment outcomes.

Practice Implications: The developmentally delayed patient population is particularly vulnerable to oncologic treatment side-effects and can result in substance-induced mood disorders. Providers can identify multiple characteristics associated with need for psychiatric intervention and

psychotropics that can be safe and effective in patients already receiving psychosocial intervention.

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P1-135

Reducing Patient Distress Post-discharge: Psychosocial Care and the Barriers that Impede Patient Access

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BACKGROUND/PURPOSE: The Commission on Cancer has mandated that cancer centers screen for distress at 'pivotal medical visits'. This presentation will outline a pilot project that focused on assessing the psychosocial needs of cancer patients following hospital discharge when patient and family distress might be elevated. Office visits following unplanned hospitalizations were regarded as pivotal visits. This presentation will examine outcomes from the pilot and discuss institutional barriers identified. **METHODS:** Over a 2-month period, patients ($N=48$) diagnosed with gastrointestinal and liver malignancies scheduled for outpatient follow-up with an oncologist were scheduled to see a social worker in conjunction with the post-discharge visit. During the social work visit, a psychosocial assessment was completed and the provision of interventions tracked. **RESULTS:** Data showed that only 10% of the patients who met criteria for the pilot were scheduled to see a social worker when their oncology follow-up visit was scheduled after discharge. Data obtained from completed social work visits showed that 88% of patients seen by a social worker received one or more psychosocial interventions. **CONCLUSIONS:** Data revealed that most patients seen by a social worker during their post-discharge visit presented with psychosocial needs. However, there were constraints and barriers including process, competing quality initiatives, and provider adaptation to change that clearly interfered with program implementation.

Research Implications: The findings of this study support the need for a long-term study that further examines the need for psychosocial support following discharge. The study should also evaluate barriers to integrating psychosocial support into routine hospital follow-up appointments.

Practice Implications: Process constraints as well as clinician and stakeholder buy-in have the ability to negate quality improvement programs intended to address the psychosocial needs of cancer patients. Understanding and addressing program barriers are essential to implementation and patient access.

Acknowledgement of Funding: None.

P1-136

Psychosocial Intimacy Support Interventions for Prostate Cancer Survivors and Their Partners

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BACKGROUND/PURPOSE: Sexual dysfunction following prostate cancer (PC) treatment often results in sexual avoidance and a loss of sexual intimacy, which can lead to relationship distress. This review aims to evaluate six intervention studies intended to address relational and sexual intimacy following PC treatment and discuss methodological concerns which may help produce more effective interventions. **METHODS:** Electronic databases used to conduct literature searches included Medline, PsycINFO, and Web of Science. Studies were included if they were RCTs using samples of men diagnosed with PC of any stage, had a psychosocial intervention, and addressed at least one sexual and relational outcome. **RESULTS:** As a whole, the literature has produced disappointing results. While significant findings were reported, many of the primary hypotheses were not achieved. The six studies illuminate that men who have undergone treatment for PC may benefit more from education about treatment options for ED and the reduction avoidance of sexual situations, whereas their partners may profit more from interventions focused on relational issues. Important methodological weaknesses included: selection of general outcome measures as opposed to measures specific to sexuality or intimacy outcomes, lack of assessing distress or bother of the patient/couples as study entry criteria, heterogeneity of study populations, and lack of innovative intervention content as the current studies tested standard educational interventions, sex therapies techniques, and couples therapy strategies with only marginal success. **CONCLUSIONS:** Interventions based on innovative theoretical approaches as well as study designs that address the methodological weaknesses in this area are needed to push this literature forward.

Research Implications: Taken as a group, these studies have produced mixed results. While there are clearly significant findings reported, many of the primary hypotheses were not achieved and at times mediator or moderator analyses were needed to demonstrate effectiveness. We outline methodological limitations, that when considered, may maximize intervention effectiveness.

Practice Implications: Since no one study stood out, using the lessons learned from these studies, and assessing their strength and limitations, can provide valuable guidance for the next generation of interventions. We outline what we believe to be important methodological and intervention considerations that when addressed, may help

to produce more effective interventions for these men and their partners.

Acknowledgement of Funding: None.

P1-137

Barriers in Access to and Use of Psychosocial Services among Latina and Non-Latina White Breast Cancer Survivors

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BACKGROUND/PURPOSE: This study examined the barriers and attitudes towards psychosocial services (i.e. social work) among Latina and White breast cancer survivors. **METHODS:** Survivors who received treatment in an NCI-designated comprehensive cancer center in the USA completed a mailed questionnaire about psychosocial service use. Descriptive and non-parametric statistics were used to explore differences in use of, interest in, and attitudes about psychosocial services. **RESULTS:** A total of 33% of survivors needed psychosocial services after their diagnosis, 66% had contact with a psychosocial services professional after their diagnosis (57% Latinas, 71% Whites), and 61% reported receiving psychosocial services (53% Latinas, 67% Whites). More than half of the sample reported preferring to return to their normal routine, (62%), felt that they could take care of their emotional problems themselves (65%), preferred to seek support from their family or friends (57%), and preferred to focus on their cancer treatment (50%). Latinas were more likely to seek counseling from a spiritual leader than Whites (37% versus 25%), to report that there are no counselors who speak their language (10% versus 0%) or that understand their values or background (22% versus 8%), and to report that mental health services are too expensive (46% versus 32%). **CONCLUSIONS:** Our findings revealed that one third of the sample perceived that they needed psychosocial services. Latina survivors reported specific preferences, needs, and barriers. Ethnically diverse patients often have different attitudes needs and preferences for psychosocial services. It is crucial to study and address potential differences in the psychosocial services availability, acceptability and help-seeking behaviors of ethnically diverse cancer patients and survivors.

Research Implications: Further research should explore potential differences in the psychosocial services availability, acceptability and help-seeking behaviors of ethnically diverse cancer patients and survivors.

Practice Implications: Clinicians should be more aware of the needs and help-seeking behaviors of ethnically

diverse cancer patients and survivors and the particular barriers that may hinder the use of psychosocial services.

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P1-138

A Systematic Review of Breast and Cervical Cancer Prevention Interventions for Latinas

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BACKGROUND/PURPOSE: Latinas suffer poorer outcomes than non-Hispanic Whites (NHWs) in all areas of breast and cervical cancer care from delayed screening and follow-up to later diagnoses and reduced survival rates. Breast cancer is the leading cancer diagnosis and cancer-related cause of death among Latinas, and they have greater incidence of and death from cervical cancer compared to NHWs. As a result, prevention interventions involving educational and/or patient navigation components aimed at reducing these disparities have been developed across the country. This review analyzes the evidence base of these prevention-oriented breast and cervical cancer screening interventions for Latinas. **METHODS:** A systematic review of databases (PubMed, Medline, the Cochrane Library, PsycINFO, Web of Science) from August to December, 2014 yielded publications between 2009 and 2014 involving an educational and/or patient navigation screening intervention for breast or cervical cancer, and focused on Latinas. **RESULTS:** The 26 quantitative studies meeting inclusion criteria reported improvements for intervention participants. Increased screening, keeping appointments, reduced time to initiation of treatment, and increased knowledge were significant outcomes for breast cancer prevention programs ($n=13$). Cervical cancer prevention interventions ($n=5$) increased screening knowledge, intention to screen, and screening behavior among participants. Multi-cancer prevention interventions ($n=8$) improved knowledge of cancers and screening behavior. **CONCLUSIONS:** These findings demonstrate that educational and patient navigation prevention interventions may help reduce disparate outcomes for Latinas. These interventions model strategies aimed at reducing cancer incidence among Latinas while connecting those in need of services.

Research Implications: This review highlights current literature in breast and cervical cancer interventions. These inform analytical methods used in similar studies and applicable to the current research project. Structuring similar analyses allow for greater comparison among research while advocating for additional research to understand disparities for Latinas.

Practice Implications: The dissemination of these findings provide a resource of available intervention programs that translate breast and cervical cancer prevention policy into practice. Awareness of current programs and cancer control methods inform practice interventions and substantiate the development of prevention programming for Latinas not currently served by these interventions.

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P1-139

How May We Design Short-term Support Group Therapies for Busy Caregivers? How Does Culture Play a Part? A Mixed-methods Study Assessing the Efficacy of a Psychoeducational Support Group Intervention in Singapore

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BACKGROUND/PURPOSE: Psychosocial interventions for caregivers and patients with cancer typically run between 6 weeks and 1 year. In Singapore's context, a shorter intervention might be more appealing, as the delivery of such services is still constrained by manpower, time, and the public's awareness and attitude towards psychological services. This study aimed to assess the efficacy of a 4-week support group intervention combining psychoeducational and support components. **METHODS:** A parallel mixed-methods approach was used. Seventy-five family caregivers participating in the intervention completed measures of quality of life, competence, autonomy, relatedness, perceived stress, anxiety, and depression, at baseline (T1), immediate post-intervention (T2), and 1 (T3) and 2 months (T4) post-intervention. Additionally, a subset ($N=19$) of these participants took part in semi-structured interviews at T1 and T2. A control group of waitlisted caregivers completed the same measures at baseline (T1) and at 4 weeks (T2). **RESULTS:** Analysis of variance showed baseline levels of participant outcomes were maintained at T2 ($N=51$) and T3 ($N=30$). However, there were significant reductions in competence from T1 to T4, $p=0.007$ ($Mn=19.11 (\pm 5.15)$ vs. $17.10 (\pm 4.64)$). Regressions provided no support that changes in competence were due to changes in income and financial concerns, or the type of care and treatment type. Thematic analyses of qualitative findings suggest that through the intervention,

participants learnt skills and reappraisals of their caregiving and gained self-assurance and a sense of the normative caregiving standard. Suggestions for improvement included decreasing the didactic component, using an online component, and increasing the amount of time for interaction among caregivers. **CONCLUSIONS:** Although no changes were found on measures of caregiver stress, anxiety, depression, and quality of life, the qualitative outcomes suggest alternative methods of assessing intervention outcomes. The intervention may act as a buffer against reductions in competence.

Research Implications: Qualitative findings suggested that the intervention functioned as a knowledge community, helping caregivers to evaluate new lifestyle and well-being standards to live by, as well as providing a safe space where they could more authentically express their anxieties about caregiving. These suggest the need for approaches that take note of the cultural context in which caregiving is situated, and how interventions may be designed to alleviate not only traditional symptoms of mental distress but also the lifestyle disruptions caused by chronic illness. Future research may also examine how interventions that target capacity building and skills may be designed to maintain these levels of competence after the intervention has formally ended.

Practice Implications: Caregivers noted the lack of time for more interpersonal engagement as an issue that both caregivers and healthcare professionals encountered. Given the pace of treatment and consultation schedules, this intervention study found that the support provided through the intervention was deemed important and useful to many of the caregivers who completed the study. The majority of caregivers who dropped out of the study did so due to time constraints and changes to their schedules. Future services that target caregivers may consider separating psychoeducational and support components into Web-based face-to-face delivery.

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P1-140

Fear of Progression, Psychological Distress, and Somatic Symptoms as Determinants of Psychosocial Treatment Need in Cancer Patients in Acute Care

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BACKGROUND/PURPOSE: The effect of fear of progression on perceived need for psychosocial support is not well studied. **METHODS:** Three hundred forty-one cancer patients undergoing acute inpatient care participated. Patients completed measures of fear of progression (FoP-Q), depression (PHQ-2), anxiety (GAD-2), and somatic symptoms (PHQ-15). A structured clinical interview (SCID-I) was used to identify DSM-IV anxiety disorders and hypochondriasis. Perceived need for treatment during the past 4 weeks was assessed using a single question. Logistic regression was applied to identify significant predictors. **RESULTS:** Of the patients, 27.3% stated that they did not have a need for psychosocial treatment as they did not experience any relevant problems due to their illness; 38.3% indicated that they did not have a need as they had managed to cope with the problems on their own; 5.5% expressed a psychosocial treatment need but perceived some barriers that hindered the utilization of support. Finally, 28.9% stated that they had utilized professional support due to their need. Sociodemographic characteristics did not predict perceived need for treatment. Of the patients with clinical levels of fear of progression, 52.4% indicated that they had a need for support. However, fear of progression was not a significant predictor in the multivariate analysis. Anxiety (OR 1.41, CI 1.13–1.77; $p=0.003$) and somatic symptoms (OR 1.11, CI 1.05–1.18, $p<0.001$) emerged as significant determinants of psychosocial treatment need. **CONCLUSIONS:** Fear of progression does not seem to be uniquely associated with perceived need for psychosocial treatment in cancer inpatients.

Research Implications: The effect of fear of progression/fear of recurrence on perceived need for psychosocial support needs to be studied during the cancer trajectories.

Practice Implications: Cancer inpatients with high anxiety and high somatic symptom burden are very likely to experience a need for psychosocial support.

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P1-141

Communication, Leadership, and Collaboration Challenges for Nurses

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BACKGROUND/PURPOSE: Nurse communication is a critical component of psychosocial care, ensuring that patient/family needs are assessed and that team communication and collaboration are central to the holistic care planning process. Recently, standards of practice for

palliative nursing in the USA were identified and include nurse communication, leadership, and collaboration. The goal of the current study was to explore nurse-perceived communication difficulties with these standards. **METHODS:** A one-time survey was distributed to nurses attending one of five End-of-Life Nursing Education Consortium programs. These programs are delivered in a 2-day train-the-trainer format, providing participants with comprehensive curriculum about end-of-life care, including communication. Nurses were asked to rate the difficulty of communication competencies, identify leadership tasks, and rate the degree of likeliness for performing team roles. **RESULTS:** A total of 193 nurses completed the survey. Telling others (colleagues) about concern over errors in care was the most difficult communication task reported, while sharing information during interdisciplinary team meetings was the least difficult. Nurses most often provided the leadership for interdisciplinary teams and set the agenda for team meetings. Compared to patients and family, nurses reported more difficulty handling conflict with team members. Reminding team members about patient goals was the most common team skill practiced, and implementing team structures and team-building process was the least common. **CONCLUSIONS:** Team communication and leadership are challenging communication areas and potential barriers to the delivery of psychosocial care. These findings identify a need for more clarification regarding team process and structures and further research to understand its impact on nurses.

Research Implications: The data from this study informs content for nurse communication training, situating team communication and collaboration as essential as patient-professional communication. Patient-centered communication and care that addresses the whole patient and supports families requires skillful communication, leadership and collaboration. These topics are included in an ongoing nurse communication training funded by the National Cancer Institute.

Practice Implications: Focusing on communication, leadership, and collaboration skills for nurses may improve or maintain the quality of psychosocial care provided by interdisciplinary teams. Nursing education should include team communication and ways to implement processes to support collaboration and team-building.

Acknowledgement of Funding: None.

P1-142

Exploring the Conceptualization of Depression in Older Cancer Patients: A Qualitative Study

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BACKGROUND/PURPOSE: Self-report measures are an effective, quick way to identify depressive symptoms. However, there is little validation information on these questionnaires in older cancer patients and the clinical usefulness of existing questionnaires in this population is questionable. The present data represents Phase 1 of a 3 phase research project that will result in a novel self-report measure designed to assess depression in older cancer patients. **METHODS:** To date, eight experts were interviewed (geriatric psychiatrists, psycho-oncologists) to explore the nature of depression in older cancer patients. Patient interviews ($n=12-15$) will be collected and analyzed by the time of presentation. Using a 2-stage open-coding process and a Thematic Content Analysis (TCA) framework, we identified critical themes, passages, and phrases. Expert interviews were coded until thematic saturation was reached. **RESULTS:** Key symptom clusters emerged that represent constructs not included in existing DSM criteria including irritability, loneliness and social withdrawal, loss of meaning/purpose, and functional limitations beyond illness. There was remarkable consensus across experts regarding the unreliability of depressed mood and somatic symptoms in making a depression diagnosis. **CONCLUSIONS:** This TCA indicated consensus on several key constructs that have not traditionally been included in making a diagnosis of depression in older adults with cancer. These indicators likely represent the next logical step in re-conceptualizing depression in older cancer patients, as they are potentially the most salient and distinguishing features between depressed and non-depressed. Phase 2 and 3 of this research project will utilize the data from this TCA to generate and pilot a self-report instrument.

Research Implications: It appears that some of the criteria currently included in the DSM are imperfect indicators of depression when applied to older adults or individuals with a serious medical illness such as cancer. Replacing some of the existing DSM criteria (particularly, the 'somatic' items) with alternative, more sensitive criteria may improve diagnostic accuracy, but further research is needed to adequately assess this possibility.

Practice Implications: There are a number of justifications for enhancing diagnostic accuracy in identifying older cancer patients with depression. The over-diagnosis of depression likely results in excessive demands on often-limited mental health resources. By providing services to patients who do not necessarily need intervention, the likelihood of patients who genuinely need help failing to receive it will inevitably increase. Likewise, patients may even react negatively to the suggestion that they are 'depressed' or in need of mental health intervention, perhaps straining physician-patient relationships (e.g., if patients feel that they are not accurately understood). There is little doubt that the failure to identify patients with severe depression is even more problematic than the

problems caused by over-diagnosis. At its extreme, the risk of suicide, premature termination or refusal of treatment, or the failure to maintain optimal physical health are all potential consequences of severe depression in elderly cancer patients.

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P1-143

Effect of Group Psychotherapy on the Quality of Life in Patients with Colorectal Cancer

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BACKGROUND/PURPOSE: The primary aim of this study was to explore efficacy and effectiveness of group psychological adjustment of patients with colorectal cancer. **METHODS:** Eighty patients with colorectal cancer participated in this trial. Forty-six patients accepted group psychotherapy (8 consecutive, weekly sessions of 90 min), and 34 patients served as control subjects (educational). All participants were assessed at four time points: baseline, center group (week 4 following enrollment), post-group (8 following enrollment), and follow-up (FU) (3 months later); three screening scales (NCCN Distress Thermometer DT, ESASr-Chinese, and Chinese Psychological Distress Scale CPDS) were sent to patients. **RESULTS:** At baseline, 80 patients completed questionnaires were returned. Baseline scores for all measures did not differ. Total scores of CPDS, anxiety/depression/tiredness of CPDS, DT, and ESASR were decreased after group psychotherapy intervention ($p < 0.01$ or $p < 0.05$). **CONCLUSIONS:** Group psychotherapy can improved the quality of Life in Patients with Colorectal Cancer better than educational material.

Research Implications: Chinese patients with advanced colorectal cancer to provide reliable model of psychological treatment

Practice Implications: Improve the quality of life of patients with advanced colorectal cancer

Acknowledgement of Funding: None.

P1-144

Formative Research to Promote Community-based Cancer Prevention and Education in Ibadan, Nigeria

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BACKGROUND/PURPOSE: In Nigeria, the prevalence of various types of cancers, especially breast, cervical and prostate have risen sharply over the last few years and have led to significant increases in cancer morbidity and mortality. **METHODS:** Working in collaboration with churches and mosques in Ibadan, Nigeria, a series of focus groups (FGs) were conducted (11 groups; 80 participants) in 2013 with Nigerian adult men, adult women, and youth (2 all-male, 1 all-female, 2 mixed gender), in English and Yoruba. FG questions were adapted from questions in the Health Information National Trend Surveys (HINTS: <http://hints.cancer.gov/>), a biennial national (US) cross-sectional survey used to learn how people find, understand, and apply health information. Participants were also asked about social-contextual factors that facilitate or hinder cancer related beliefs and attitudes about personal risk and community actions to foster cancer prevention, as well as input regarding effective strategies/ mediums for disseminating cancer prevention educational materials. **RESULTS:** Thematic analyses of our qualitative data indicated that awareness of cancers was nearly universal, with most participants reporting knowledge of someone diagnosed with cancer within the past year. Conflicting information exists regarding how smoking, alcohol consumption, diet/nutrition, physical activity, sexual behavior, family history/genetics or environmental exposures contribute to cancer risks. Several personal and systemic barriers to cancer prevention were reported, including lack of educational opportunities about cancer risk and prevention, lack of infrastructure for exercise, new dietary patterns, and lack of or limited access to health services, and environmental pollution. **CONCLUSIONS:** Effective promotion of health literacy in this population has the potential to encourage individual behavior change and community action to reduce long-term cancer risk among diverse population groups.

Research Implications: A variety of potentially effective modalities for organizing cancer prevention and education campaigns in low resource settings like Ibadan were identified.

Practice Implications: Information presented is fodder for community outreach and cancer education in low and middle income countries.

Acknowledgement of Funding: Einstein Global Health Program.

P1-145

Psychosocial Support for Siblings in the School Setting

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BACKGROUND/PURPOSE: This poster describes the impact of the ‘Sibling School Support Program’, offered by the Division of Pediatric Psychosocial Oncology at the Dana Farber/Boston Children’s Hospital Cancer **METHODS:** Clinicians provided age appropriate presentations to the sibling’s class or entire grade in the form of puppet shows or PowerPoint slideshows. Siblings customized their presentation prior to the school visit during meetings with a psychosocial clinician. Teachers were given ‘Tips for Sibs’ to help identify common psychosocial concerns that can appear in the classroom setting. **RESULTS:** Feeling not understood by classmates regarding the impact of cancer on them and their family. Concerns about bringing illness home (i.e., not contagious). Recurring themes of worry, difficulty concentrating, academic concerns, wanting to support the family, changes in home were also observed. **CONCLUSIONS:** In an environment where students can maintain a degree of normalcy, but where academic difficulties, peer relationships, and emotional shifts are present, the Sibling School Support Program can be a critical piece of sibling care. The program also provides tailored information to teachers and guidance counselors about how to support the siblings and what to look for regarding possible shifts in functioning.

Research Implications: (1) Further assess the type and degree of difficulties siblings may experience in the school setting. (2) Does this type of intervention ameliorate difficulties siblings may experience?

Practice Implications: In providing comprehensive psychosocial support to siblings and families, clinicians should consider involvement within the school environment.

Acknowledgement of Funding: None.

P1-147

One Goal, Different Approaches: How Charities across the Globe Help the Lung Cancer Community

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Lung Cancer Alliance

BACKGROUND/PURPOSE: Worldwide, 1.8 million cases of lung cancer are diagnosed annually. The disease toll is great, as are the needs of those affected. This survey sought to identify and understand the variety of services offered by charities with a focus on lung cancer. **METHODS:** A 15-question survey was sent to 30 charity members of the Global Lung Cancer Coalition in Slovenia, Bulgaria, Egypt, Portugal, Spain, the USA, Italy, the UK, Ireland, Germany, Argentina, Switzerland, Sweden, Denmark, Australia and Canada. Respondents were offered a list of 20 services and asked to indicate those offered.

RESULTS: Twenty-four charities responded (80%). All provided advocacy and lung cancer information, 96% engaged in raising awareness. Seventy-nine percent offered psychosocial support; the same percentage worked on prevention and public smoking bans. Sixty-seven percent conducted educational workshops and offered referral services. All offered at least 5 of the 20 services, and 33% offered 10+. **CONCLUSIONS:** Lung cancer can be devastating but charities all over the world provide vital services to help their communities know their risk and understand and cope with the disease.

Research Implications: People with lung cancer in the USA have greater unmet needs than those with other types of cancer. A comprehensive study to understand how the needs of the global community compare is indicated.

Practice Implications: Charities provide valuable services which need to be recognized and utilized by psychosocial professionals.

Acknowledgement of Funding: None.

P1-148

Can the Types of Surgery in Breast Cancer Patients Affect Psychological Flexibility, Body Image Acceptance and Eating Behaviours?

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BACKGROUND/PURPOSE: Literature did not show relevant results about the effect of different types of surgery on psychological flexibility and body image acceptance and eating behaviours. The aim of this study is to evaluate the differences between these factors in patients who undergo mastectomy or lumpectomy or patients that have not performed interventions. **METHODS:** Patients were asked to complete questionnaires on clinical state (RSCL, PWBQ, Distress Thermometer), eating behaviour (TFEQ-Q-51), psychological flexibility (AAQ-2, Bull's-eye) and the body image acceptance (BIAAQ). The patients were divided into two groups: (1) patients without surgery and patients with breast-conserving surgery (lumpectomy) and (2) patients with mastectomy. **RESULTS:** Fifty consecutive patients have completed the protocol. Data analyzed by t-test showed significant differences in the scores of TFEQ (t 2.68; $p < 0.05$; group 1: M 57.15; SD 5.09 groups 2: M 61.29; SD 4.20), in particular in the 'hunger' scale (t 2.61; $p < 0.05$; group 1: M 3.5; SD 2.12; groups 2: M 5.43; SD 2.77) and 'disinhibition' scale (t 2.59; $p < 0.05$; group 1: M 6.94; SD 2.5; groups 2: M 9; SD

2.51). Both groups showed a high acceptance of body image (BIAAQ group 1: M 62, 93; SD 13, 15; BIAAQ groups 2: M 56.35; SD 13.11) and psychological flexibility (AAQ-groups 1: M 43.49, SD 11.52; AAQ groups 2: M 48.15; SD 9.68). **CONCLUSIONS:** Data showed a different behaviour related to the 'hunger' and 'disinhibition' scales of TFEQ.

Research Implications: Further investigation would be needed, maybe including a bigger number of patients who undergo mastectomy with breast reconstruction after surgery.

Practice Implications: This study may be useful for implementing the evaluation of patients following surgery.

Acknowledgement of Funding: None.

P1-149

Addressing Psychosocial Needs of Canadian Men with Prostate Cancer and Their Partners: Development of a Peer Navigation Support Program

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BACKGROUND/PURPOSE: A peer navigation program for Canadian Men with prostate cancer and their partners is in progress as part of the global True NTH initiative*. The purpose of this pilot is to develop an evidence-based volunteer peer navigation program to reduce the psychosocial burden of prostate cancer and to identify the barriers and facilitators for integrating it into the Canadian healthcare system. This intervention will be accessible in-person, online or by phone to customize peer-to-peer support as per individual needs. **METHODS:** A comprehensive review of published literature augmented by an environmental scan of existing navigation programs across Canada and elsewhere, as well as semi-structured interviews of stakeholders (healthcare professionals, partners and family caregivers, survivors) were undertaken to develop and implement the intervention. **RESULTS:** Among the 33 identified patient navigation programs, only three are peer-led and none are specific to prostate cancer patients, suggesting the existence of a gap in survivorship care. This inventory of resources including synthesis of literature was analyzed for effectiveness of peer navigation for cancer patients; a prostate cancer specific peer navigator training toolkit is under development. **CONCLUSIONS:** This intervention is distinctive as it pertains to prostate cancer patients and matched peers to provide information and emotional support and to help them navigate the system throughout their cancer journey. **Research Implications:** This research (1) delineates the knowledge gap underpinning patient navigation and

(2) proposes a conceptual framework to measure the effectiveness of such programs.

Practice Implications: This pilot will help to identify key psychosocial needs of prostate cancer patients and their family caregivers and will situate the intervention most effectively and efficiently at select points of the cancer trajectory from diagnosis through survivorship to address these needs.

Acknowledgement of Funding: Funded by Prostate Cancer Canada through Movember Foundation. (<http://au.movember.com/programs/prostate-cancer>)

P1-150

Self-care Strategies of Family Caregivers of Lung Cancer Patients Following Participation in a Palliative Care Educational Intervention

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BACKGROUND/PURPOSE: As attention has turned to understanding the concerns of family caregivers, there has been growing recognition that informal caregivers may neglect their own self-care due to the burdens of caring for a family member with cancer. This qualitative study explored family caregivers' perspectives regarding their experiences in caring for a person with lung cancer, following participation in an educational intervention that encouraged the development of self-care plans using a quality-of-life model. **METHODS:** An interpretive phenomenological analysis was conducted with a purposive sample of 10 family caregivers following their participation in a tailored, interdisciplinary, palliative care educational intervention. Participants were encouraged to develop a personalized self-care plan with attention to their physical, psychological, social and spiritual needs. All participants were over 18 years of age and English-speaking. **RESULTS:** Participants identified a range of self-care activities. Family caregivers reported that they found participation in the educational sessions to be useful and voiced appreciation for the encouragement to develop self-care strategies, though few were actually able to regularly engage in their identified self-care plans. Emerging themes clustered around limited energy, lack of resources to actualize their plans, preoccupation with their role as caregivers and a prioritization of the needs of the patient over their own concerns. **CONCLUSIONS:** Although the educational intervention was well received, participants remained challenged to regularly engage in self-care activities. Importantly, participants reported finding a sense of meaning and purpose in their caregiving role that offset their inability to concentrate on their own self-care. **Research Implications:** Findings from this study provide content useful in the development of future supportive

services and programs and may inform future research into the effectiveness of more nuanced family support programs.

Practice Implications: Information from the perspectives of family caregivers on the meaning of their caregiving experiences following participation in a palliative care educational intervention has implications for how we might better prepare and support families for this important role. Identifying mechanisms to support family caregivers in developing individualized, realistic and actionable self-care strategies are urgently needed if they are to sustainably provide the level of care needed by seriously ill patients without further compromising their own level of well-being.

Acknowledgement of Funding: None.

P1-151

Family Medicine Is Preparing to be on Duty for Psycho-oncology in Turkey

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BACKGROUND/PURPOSE: Psycho-oncology issues are usually interested by the professionals such as social workers, psychologists, and psychiatrists but not by family physicians. As psycho-oncology covers all stages of the issue 'cancer' from the very beginning like genetic counselling or screening to the end of life, family physicians should be ready to meet the unexpected psychosocial needs of the patients and the families at different levels. However, family medicine residents usually don't describe themselves as competent and responsible as they need to be. This research tries to qualitatively explore the reasons of this to be able to make new policies to strengthen family physicians in psycho-oncology issues. **METHODS:** Senior family medicine residents (n : 10) were organised for deep interviews to be able to get an answer to two main questions: (1) Regarding their responsibilities and service, do family physicians need to participate in the activities of psycho-oncology worldwide? (2) What kind of policies could have been effective to promote this? To establish a structured interview and details of those questions, the national and international sources were screened by the Internet at first. **RESULTS:** The family medicine residents were all agree that psychosocial oncology issues were in the center of their work if there is a cancer patient or someone at risk for cancer. Although family support and making a road map for all were included in their work definition as a part of family practice guidelines, they did not feel safe and equipped for this. None of

them had to attend a specific class about psycho-oncology as an obligation of their training. **CONCLUSIONS:** Usually being the first or the second person who was expected to give bad news to the patients and/or families, and being the closest follower of the course of the illness, the need of a nationwide standard educational activity program for all primary care team is suggested.

Research Implications: The distance and the possibilities of family physicians to the psycho-oncology issues should be searched internationally and some common standard recommendations should be released.

Practice Implications: Family physicians should be more equipped to handle the cancer patient and his/her family.

Acknowledgement of Funding: None.

P1-152

Support Groups for People with Lung Cancer: The Role of the Non-profit Organization

Maureen Rigney
Lung Cancer Alliance

BACKGROUND/PURPOSE: The need for psychosocial services is great within the lung cancer community. While over 220,000 people will be diagnosed in 2015, fewer than 100 lung cancer-specific support groups exist in the USA. To address this, Lung Cancer Alliance has implemented comprehensive strategies. **METHODS:** To increase the number of lung cancer groups, we: Support existing groups; Engage facilitators; Maintain website listing; Bestow Facilitator's Award; Distribute troubleshooting guide; Employ dedicated support group manager; Launch new groups (LCA DC group, Two pilots in areas of high need); Three professionally led groups in Tennessee, Mississippi and Georgia; Peer-led initiative in the Carolinas. **RESULTS:** Preliminary data will be presented. By the end of the pilots, 9–15 additional groups will be launched as we provide struggling groups the tools needed to improve. **CONCLUSIONS:** Through integrated and targeted efforts, even a small non-profit can have a major impact on the psychosocial support available to its community. The research gathered, ability to replicate successes and learn from challenges will add to our understanding of what makes a successful lung cancer group.

Research Implications: Our pilot data on group efficacy and attendee satisfaction and the comparison of professionally led and survivor-led groups may lead to more comprehensive research on lung cancer groups.

Practice Implications: Clinicians will appreciate the role partnership with advocacy organizations can play in meeting the needs of the lung cancer community.

Acknowledgement of Funding: Bristol Myers Squibb Foundation.

P1-154

U.S. Military Health System Costs Associated with Psychotropic Medications for Beneficiaries with Breast, Prostate, Lung, or Head and Neck Cancer, FY2007–FY2014

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BACKGROUND/PURPOSE: This study examines type and costs of psychotropic medications prescribed to prostate, breast, lung, and head and neck cancer patients within the MHS from fiscal years (FY) 2007–2014. **METHODS:** Claims data for FY2007–2014 were obtained from the Military Health System's Master Data Repository. Cancer diagnoses were identified using the Academy of Healthcare Research and Quality Clinical Classification Software. MHS beneficiaries ages 18 to 64, residing within the USA, were included if they had accessed the healthcare system each year. FY population sizes for the selected cancer sites ranged from 47,636 to 53,967 beneficiaries. Trend analyses examined filled prescriptions for psychotropic medications by therapeutic class and associated costs while controlling for gender, age group and care setting (military/civilian). **RESULTS:** Costs for antidepressants in civilian settings decreased 16–64% by cancer type; for military settings, costs decreased 41% for head and neck cancer and increased 5–134% for other cancer types. Costs for anxiolytics/sedatives/hypnotics in civilian settings decreased 24–60% by cancer type; for military settings, costs increased 60% for prostate cancer but decreased 45–90% for the other cancer types. Costs for antimanic agents in civilian settings increased 60% for prostate and head and neck cancer but decreased 46% for breast cancer; for military settings, costs decreased 15–60% for prostate and breast cancer but increased 73% for lung cancer. **CONCLUSIONS:** Shifts in costs are likely related to a combination of variations in patient counts over time and by cancer, as well as to changes in prescribing patterns and generic vs. brand name drug use.

Research Implications: The information provided here should serve as a baseline of psychotropic medication costs prior to the April 2014 ASCO guidelines on screening, assessment, and care of anxiety and depressive symptoms.

Practice Implications: Variations in prescribing patterns by care setting and conversions to generic drugs have significant impact on psychotropic medication use for cancer patients. Clinicians need to monitor which psychotropic medications are being prescribed, and whether the indications are consistent with findings from psychological assessments.

Acknowledgement of Funding: None.

P1-155

In Good Times and in Bad: What Strengthens a Parental Relationship during a Child's Cancer Trajectory?

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BACKGROUND/PURPOSE: There are numerous stressors on parents when a child has cancer. How they cope can impact their relationship as a couple and as a family, including the care of the child undergoing treatment and other healthy siblings. Despite evidence of the efficacy of dyadic coping therapy, limited studies and services have addressed the effects of a child's cancer on the marital relationship. The present study aims to identify events during the cancer trajectory when parents felt their relationship was most strengthened. **METHODS:** A cross-sectional, multi-center, mixed-methods study was conducted utilizing a convenience sample. Partnered parents ($N=163$) of pediatric patients completed a self-administered questionnaire concerning stressors experienced in their relationship since the cancer diagnosis. Children, currently undergoing treatment, were 1–21 years of age and diagnosed with cancer at least 3 months. The results from an open-ended question: 'Is there any event or time that stands out in your mind that helped bring you closer together?' will be described. Qualitative analysis with intercoder agreement was performed. **RESULTS:** Parents reported several major themes of relationship-strengthening factors. Recognizing the partner's emotional needs, helping each other reduce stress, and joint-problem solving were the most common dyadic coping strategies identified. Specific or frightening medical events and witnessing the child's strength of character were described as unifying experiences. **CONCLUSIONS:** The findings identify specific events and partner behaviors that were found to strengthen the couple's relationship during the childhood cancer trajectory. These along with dyadic stress management strategies can be used to inform psychosocial interventions.

Research Implications: The findings from this study will be used to inform an intervention designed to strengthen parents' dyadic coping strategies posed by childhood cancer experience.

Practice Implications: Helping parents anticipate experiences and time points during the cancer trajectory when their relationship can be strengthened can be an important part of ongoing psychosocial care for the whole family.

Acknowledgement of Funding: This study was supported (in part) by the Intramural Program of the National Cancer Institute.

P1-156

Military Health System Prescribing Patterns Associated with Psychotropic Medications, by Cancer Type, FY07–FY14

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BACKGROUND/PURPOSE: This study examines the change in number of prescriptions for prostate, breast, lung and head and neck cancer patients within the MHS from fiscal years (FY) 2007–2014. **METHODS:** Primary ICD-9 codes for claims paid by TRICARE in fiscal years 2007–2014 were obtained from the Military Health System's Master Data Repository. Cancer diagnoses were identified using the Academy of Healthcare Research and Quality (AHRQ) Clinical Classification Software. Trend analyses examined filled prescriptions for psychotropic medications, by therapeutic class, controlling for gender, age group and setting of care (military/civilian). *Population Studied.* MHS beneficiaries aged 18–64, residing within the USA, were included only if they had accessed the healthcare system within the FY. FY population sizes for the selected cancer sites ranged from 47636 to 53967 beneficiaries. **RESULTS:** Approximately 35% of breast cancer patients were prescribed an antidepressant, while 31–35% of lung cancer, 14% of prostate cancer and 22–25% of head and neck cancer patients were prescribed. About 35% of lung cancer patients were prescribed an anxiolytic/sedative, compared to 10–25% for other cancer types. Notably, the percent of patients prescribed an anticonvulsant increased 5–9% for most cancer types over the 7-year period, while rates of anti-manic drugs declined. **CONCLUSIONS:** Findings indicate high rates of use for antidepressants for lung and breast cancer patients; and anxiolytic/sedatives primarily for lung cancer. A shift in prescribing from anti-manics to anticonvulsants was noted.

Research Implications: Analyses of physician prescribing for cancer patients must account for the cancer site.

Practice Implications: Significant differences in clinical patterns by cancer type likely influence physician prescribing; however, it is not known the extent to which all cancer patients are screened for mental health conditions.

Acknowledgement of Funding: DOD.

P1-157

Translating an Evidence-based Psychosocial Intervention into a Real-world Setting: Opportunities and Challenges

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BACKGROUND/PURPOSE: Translating interventions deemed efficacious by randomized controlled trials into real-world settings brings with it opportunities and challenges. Interventionists must consider multiple factors to ensure the success of a program. These factors include creative approaches to clinical delivery, institutional and key stakeholder buy-in, recruitment (i.e., patients and referral sources), participant retention, and fiscal viability. The purpose of this presentation is to discuss a model used to deliver an evidence-based psychosocial intervention for cancer patients at a large, regional hospital and to explore roadblocks/successes to its implementation. **METHODS:** This presentation will describe the implementation of a Biobehavioral Intervention (BBI) entitled *From Cancer to Health* developed and tested at The Ohio State University. The intervention was delivered at the Baylor Charles A. Sammons Cancer Center at Plano, which treated 1033 cancer patients in 2013. **RESULTS:** In combined calendar years 2013 and 2014, 234 new referrals were made to the BBI, 56 referred patients joined the program, resulting in a 24% conversion rate. A total of 43 participants ultimately completed the full 14-week program during the 2013–2014 period. **CONCLUSIONS:** The implementation of the Biobehavioral Intervention (BBI) at Baylor Plano has largely been a success and sustainable over time. Conversion of referrals into participants is what would be expected for a behavioral intervention and retention was excellent. Physician partners are supportive of the program, and referral numbers are consistent with estimates of patients needing psychosocial intervention.

Research Implications: This presentation will have implications for understanding implementation challenges that emerge when applying an evidence-based treatment protocol to a real-world setting. Researchers will find relevant the exploration of obstacles and opportunities for translating evidence-based treatment into a busy clinical setting.

Practice Implications: This program will appeal to clinicians, researchers, administrators and other stakeholders interested in understanding challenges and opportunities for enhancing sustainable implementation of evidence-based psychosocial interventions for patients diagnosed with cancer.

Acknowledgement of Funding: None.

P1-158

Therapies for Cognitive Deficits Associated with Breast Cancer Treatment: A Systematic Review of Objective Outcomes

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BACKGROUND/PURPOSE: At least 20% of women who undergo breast cancer treatment experience cognitive dysfunction during and after treatment. This systematic review summarizes evidence of treatments for these cognitive deficits. **METHODS:** A systematic search of the literature using 5 databases (PubMed, Embase, Cochrane, PsycINFO, and CINAHL), with no date or language restrictions, resulted in 12 studies that met inclusion criteria and underwent quality assessment. Articles were included if they provided objective, neuropsychological measurements of cognition, language, or memory in adult women undergoing (or who had undergone) treatment for breast cancer. Data were extracted in accord with Cochrane recommendations including characteristics of participants, interventions, outcomes, and studies. **RESULTS:** Nine studies included women with early-stage breast cancer; three included women with later stages. Half of the articles described interventions for cognition that took place during cancer treatment; half described interventions that took place afterward. Five interventions were medical (including a strength-training program), two were restorative, and five were cognitive. Medicinal treatments were ineffective; restorative and exercise treatments had mixed results; cognitive therapy had success in varying cognitive domains. **CONCLUSIONS:** Thus, cognitive therapy seems most promising.

Research Implications: Future research should identify optimal assessment tools, timing of cognitive treatment, and cognitive target(s) for treatment.

Practice Implications: Addressing this dysfunction is important because it begins during a stressful time, in which the ability to pay close attention to and recall streams of medical information is of paramount importance. It continues while cognitive health is needed to make necessary life adjustments, to adhere to treatment protocols, and to resume activities of daily living.

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P1-159

Associations of Physical Activity, Health-related Outcomes, and Patients' Confidence in Fighting Cancer between Cancer Patients and Family Caregivers

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BACKGROUND/PURPOSE: Cancer affects patients and family caregivers, physically and psychologically. However, few studies investigated the effect of cancer on both. This study aims to investigate patient–caregiver dyads in terms of physical activity (PA) and health-related outcomes, as well as role of patients' confidence in fighting cancer. **METHODS:** Two hundred and thirty-three mixed cancer patient–caregiver dyads completed an online questionnaire. Their associations were assessed by correlation coefficients in terms of International Physical Activity Questionnaire (IPAQ) and health-related outcomes including short form 12 (SF-12), Hospital Anxiety and Depression Scale (HADS), Pittsburg Sleep Quality Index (PSQI), and Perceived Stress Scale (PSS), plus a single item on confidence in fighting cancer. **RESULTS:** Mean age was 57.4 for patients and 53.6 for caregivers, and 59.2% of patients and 62.7% of caregivers were female. There were positive associations in PA ($r=0.156$, $p=0.002$) between the dyads. Most outcomes had positive associations in SF-12 mental health (MH) ($r=0.249$, $p<0.001$), HADS (anxiety: $r=0.407$, $p<0.001$; depression: $r=0.424$, $p<0.001$), PSQI ($r=0.200$, $p=0.002$), and PSS ($r=0.385$, $p<0.001$), but not for physical health (PH) ($r=0.088$, $p=0.182$). Patients' confidence was negatively associated with their PSQI ($r=-0.186$, $p=0.004$), HADS-anxiety ($r=-0.344$, $p<0.001$), depression ($r=-0.429$, $p<0.001$), and PSS ($r=-0.382$, $p<0.001$) and positively associated with PH ($r=0.259$, $p<0.001$) and MH ($r=0.278$, $p<0.001$), but not for PA ($r=0.078$, $p=0.250$). Patients' confidence was negatively associated with caregivers' PSQI ($r=-0.196$, $p=0.003$), HADS-anxiety ($r=-0.294$, $p<0.001$), depression ($r=-0.331$, and PSS ($r=-0.266$, $p<0.001$) and positively associated with MH ($r=0.247$, $p<0.001$) and PA ($r=0.211$, $p<0.001$), but not for PH ($r=0.105$, $p=0.110$). **CONCLUSIONS:** This study indicated close association in terms of PA and health-related outcomes between cancer patient and caregiver dyads, and patients' confidence in fighting cancer also plays an important role in shaping their behavior and health outcomes.

Research Implications: This study demonstrated the close associations in physical activity and health-related outcomes between cancer patient and caregiver dyads, which implied that their behavior and health-related conditions influence each other. In addition, to enhance the patients' confidence in fighting cancer will be an important strategy in reducing their negative symptoms and improving their healthy behavior and health-related quality of life for the dyads.

Practice Implications: This study offers hints on designing intervention for cancer patients–caregivers dyad. It might shed light on enhancing patients'

confidence in fighting cancer for the improvement of physical activity and health-related outcomes for both patients and caregivers. Validated scales of self-efficacy and self-esteem should be used in future studies instead of a single item on confidence of fighting cancer.

Acknowledgement of Funding: This study was supported by Behavioral Health Research Fund of the University of Hong Kong.

P1-160

Understanding Psychological Growth Using Exploratory Factor Analysis

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BACKGROUND/PURPOSE: Positive psychological change has been examined by the 21-item Post-traumatic Growth Inventory (PTGI) and the 17-item Benefit Finding Scale (BFS), often concurrently. It remains unclear whether each measure has a unique contribution or if they are evaluating the same underlying construct(s). **METHODS:** Data were drawn from the baseline assessment of research participants with advanced cancer. Analyses included correlations of the PTGI, PTGI subscales, and the BFS, and an exploratory factor analysis (EFA) of the 38 items in both scales. **RESULTS:** There was a strong correlation ($r=0.85$, $p<0.001$) between the PTGI and the BFS and highly significant ($p<0.001$) moderate to strong correlations between the BFS and subscales of the PTGI: Appreciation for Life, $r=0.67$; New Possibilities, $r=0.73$; Personal Strength, $r=0.78$; Spiritual Change, $r=0.66$; and Relating to Others, $r=0.77$. From the EFA, the first factor accounted for nearly half (46.28%) of the variance and the second factor contributed an additional 6.16% of the variance. A two-factor model indicated 'positive changes' as an underlying construct, with the first factor relating to positive changes within the self and the second factor relating to positive changes in relationships with others. **CONCLUSIONS:** The PTGI, similar to the BFS, appears to measure psychological growth broadly and its subscales seem less distinct than assumed, particularly in advanced cancer patients. Utilizing 38 items to measure such growth may be unnecessary given that the two measures are evaluating the same few underlying constructs. **Research Implications:** Future research should focus on designing a hybrid measure of psychological growth that uses fewer items to evaluate positive changes to the self and in relation to others as a result of an advanced cancer diagnosis.

Practice Implications: Capturing psychological growth in the most efficient manner, particularly in psycho-oncology and palliative care settings, is an initial step in delivering high-quality clinical patient care.

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P1-161

A Tiered Didactic and Supervision Model for Beginning a Psycho-oncology Training Program

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BACKGROUND/PURPOSE: Psycho-oncology is a growing area of practice and training. Given increased cancer survival rates, recognition of psychosocial support in quality cancer care, and need for clinical training sites—psycho-oncology is perched to connect these areas of growth and expand the science and care of cancer patients and caregivers. In developing our Psycho-Oncology Training Program, we utilized theories and models of group supervision and graduate education to develop a hybrid model incorporating clinical practice, supervision, didactic and experiential instruction, along with program self-evaluation. The current model combines several areas of practice in a vertically tiered supervision environment to support the growth of students and faculty at various levels of experience; the goal being to use developmental scaffolding to model and modify behavior. **METHODS:** Our Tiered Supervision model uses a monthly curriculum including: (1) Oncology Special Topics, (2) Psychotherapy and Professional Development Topics, (3) Journal Club, and (4) Clinical Case Presentation. One topic is covered during weekly 90-min Tiered Supervision meetings. A program evaluation was completed which included 11 questions on a 6 point scale (Excellent to Poor), and three qualitative responses for strengths, weaknesses, and other. **RESULTS:** Our first cohort included 2 pre-doctoral practicum students, 2 pre-doctoral interns, 1 post-doctoral fellow, and 2 faculty members. Of the 11 questions, six received Excellent across all participants, and the remaining five questions ranged from Very Good to Excellent. **CONCLUSIONS:** The qualitative and quantitative feedback from the program evaluation of the Psycho-Oncology Training Program was supportive of the Tiered Supervision Model.

Research Implications: Program evaluation will aid in the growth and development of the Psycho-Oncology Training Program to ensure that the training needs of students are met to aid in their progression from trainees to colleagues.

Practice Implications: Findings will aid in expansion and ongoing improvement of this clinical program. Findings may also establish aspects of the current program which may also be adapted and distributed for use in other developing or established psycho-oncology programs for their training purposes.

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P1-162

Race and Other Factors Associated with Advanced Directives Completion in Cancer Patients

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BACKGROUND/PURPOSE: Patients with advanced cancer face difficult future treatment decisions such as the withdrawal of life prolonging treatments in the terminal phase of disease. Advanced Directives are used to ensure that the patient's wishes are followed at the end-of-life. Two types of advanced directives are examined in this study, specifying treatment wishes and identifying a healthcare power of attorney (HPOA). Nationally, the rate of completion of advanced directives is only about 25% in most studies. Research suggest that patients with depression have higher completion rates, whereas ethnic minorities and those with lower income levels (<\$15,000) are less likely to complete advanced directives. Therefore, we predicted that patients without depression or anxiety, African American patients, and those with lower income and education status would be less likely to complete advanced directives. **METHODS:** One hundred and nineteen consecutive advanced cancer patients completed a psychosocial diagnostic assessment with a clinical psychologist. The assessment includes DSM-IV-TR diagnostic criteria, demographic information and questions about financial distress and completion of advanced directives. **RESULTS:** The percentage of patients having a living will (51%) or HPOA (58%) is higher than the national average. Results indicate that depression, anxiety and educational status were not significant, but minority status and financial distress were associated with completion and discussion of advanced directives. African American patients and those with greater financial distress were less likely to complete advanced directives and to discuss them with their family members. **CONCLUSIONS:** Research has hypothesized some reasons African Americans may not complete advanced directives (e.g. mistrust of healthcare system) and future research should focus on developing and

refining socioeconomically and culturally sensitive approaches to assisting patients with understanding and completing advanced directives.

Research Implications: Results demonstrate that certain factors continue to impact what subsets of patients are more and less likely to complete advanced directives and emphasize the need for attention directed towards developing new, more sensitive methods of educating patients and assisting them in end-of-life planning.

Practice Implications: This research is particularly relevant to clinical practice, emphasizing the importance of cultural sensitivity and consideration of factors that may be barriers to completion of advanced directives when providing education or discussing the topic with patients.

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P1-163

Interest in Wellness Programs among Caregivers of Head and Neck Cancer Patients

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BACKGROUND/PURPOSE: To inform development of targeted wellness programs, we evaluated interest among head and neck cancer (HNC) caregivers. **METHODS:** Participants included informal caregivers of patients with HNC scheduled for major surgery. Survey questions assessed demographics, health behaviors, and interest in wellness programs (by program type, timing, and delivery mode). Caregivers also completed measures of caregiver burden (the Burden Interview-Screening Version), mental and physical health (VR-12), depression (CES-D), and anxiety (PROMIS). Descriptive statistics summarized caregivers' interest levels. Chi-square tests and t-tests compared caregivers who were very interested versus somewhat or not interested in wellness programs. **RESULTS:** Caregivers ($n=32$; mean age=60 years ($SD=11.3$)) were predominately White (84.4%), female (84.4%), and partnered with the patient (75.0%). Most caregivers were very/somewhat interested in programs focused on diet/exercise (71.0%), cancer education (65.6%), stress reduction (62.5%), and finances, caregiving, and well-being (56.3%). Caregivers were most likely to endorse interest in programs offered during the patient's medical treatment (62.5% extremely/very likely to participate) or after the patient had fully recovered (53.1% extremely/very likely to participate). Mail was the preferred program format (51.6% extremely/very likely to participate), followed by computer/Internet (36.7% extremely/very likely to participate). Caregivers very

interested in any type of wellness program reported poorer mental health ($p=0.02$) and higher anxiety ($p=0.01$) compared to those less interested. **CONCLUSIONS:** HNC caregivers are interested in a variety of wellness programs, especially those reporting worse mental health. Wellness programs offered during the patient's medical treatment and by mail may be most accessible and attractive.

Research Implications: Cancer caregivers are increasingly perceived to be a priority population within the psycho-oncology literature. However, there is a paucity of research that addresses caregivers' interest in different types of wellness programs. Our findings address a critical gap in the literature regarding interest in wellness programs among head and neck cancer caregivers.

Practice Implications: These findings can be utilized to develop wellness programs for head and neck cancer caregivers, which may inform programs for other cancer caregivers as well.

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P1-164

Evaluating the Strengths and Weaknesses of Interventions Using the Post-intervention Questionnaire

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BACKGROUND/PURPOSE: The Post-intervention Questionnaire (PIQ) assesses the patients' perspective of the strengths and weaknesses of an intervention. **METHODS:** Data were drawn from the open-ended questions of the PIQ of patients with advanced cancer in a randomized controlled trial comparing Individual Meaning-centered Psychotherapy (IMCP), Individual Supportive Psychotherapy (ISP), and Enhanced Usual Care (EUC). Responses were reviewed and common themes, identified. **RESULTS:** Common themes from IMCP participants ($n=55$) included that the intervention emphasized the use of past meaningful experiences or accomplishments to forge ahead. Analyses of ISP participants' responses ($n=54$) suggested common themes such as that the treatment allowed a safe outlet to express emotions, encouraged participants to accept the difficulty of their situation, and gave participants license to be sad about their diagnosis. Common themes of EUC participants ($n=41$) included that the intervention assisted with understanding what resources are available and how useful such resources may be. The least helpful aspect of the psychotherapy arms was the failure to provide resources for dealing with practical issues, which was also identified

as the most helpful aspect for EUC participants. Similarly, the least helpful aspect of the EUC arm was the lack of interaction with a therapist or other patients, which was a common helpful theme cited in the IMCP and ISP arms. **CONCLUSIONS:** When designing interventions for advanced cancer patients for use in clinical settings, it may be advantageous to include both psychotherapy and resource components, as these components are desired when they are not present.

Research Implications: Future research should consider the importance of including both psychotherapy and practical components in interventions to maximize their beneficial potential.

Practice Implications: Clinicians should acknowledge that patients find benefit in both psychotherapy and resource programs, and incorporate both into their patient care.

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P1-165

Prevalence and Treatment of Subsyndromal Steroid-induced Mood Lability, Anxiety, and Insomnia in Cancer Patients: A Case Series and Literature Review

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BACKGROUND/PURPOSE: The purpose of this study was to investigate the prevalence and management of subsyndromal steroid-induced mood lability, anxiety, and insomnia in cancer patients receiving adjuvant steroid treatment, along with a case series involving 2 patients. Corticosteroids are commonly used to treat cancer. They are used in a number of different ways: as primary treatments, to help prevent or treat allergic reactions to certain drugs, to reduce swelling (edema), and to help lower blood calcium levels. Their neuropsychiatric effects are a well-established phenomenon. In this report, we presented two patients who came to our attention on the psycho-oncology consult service at MD Anderson. In addition we systematically review the existing literature to investigate the prevalence of subsyndromal steroid-induced mood lability, anxiety, and insomnia in cancer and non-cancer settings. This article reviews and discusses these important issues. **METHODS:** In this case series, the authors report 2 cases of subsyndromal steroid-induced mood lability, anxiety, and insomnia symptoms treated successfully at our institution with low dose quetiapine, an atypical antipsychotic. In both cases the patients were assessed between March 2014 and April 2014 during hospitalization at MD Anderson Cancer Center. Both patients underwent a clinical interview by a psychiatrist resident physician and

a board-certified psychiatrist. An article search was conducted in PubMed and Science Direct for studies published between 1990 and 2014. The keywords used were as follows: corticosteroids and psychosis, corticosteroids and mania, corticosteroids and psychiatry, and corticosteroids psycho-oncology. **RESULTS:** We located twenty studies in which subsyndromal steroid-induced symptoms were reported. The data from each subject was put forth in a table and noteworthy information was explained in subsequent paragraphs. The rates of subsyndromal steroid induced mood lability, anxiety, and insomnia ranged from 11 to 52% with the most prevalent symptom being irritability. **CONCLUSIONS:** Literature review offers preliminary support for the use of atypical antipsychotics, including quetiapine, to treat steroid-induced psychosis and mania. Our review findings suggest that our clinical observations are consistent with the literature. Severe psychiatric sequelae resulting from corticosteroid therapy may warrant the most attention in the literature, but they may not be the most common symptoms resulting from steroid therapy.

Research Implications: To our knowledge, the bulk of literature since then has focused on the extreme cases of steroid-induced symptoms—mania or psychosis—but we see in practice more subtle lability, irritability, and anxiety. Few studies have been published that focus primarily on these more mild-to-moderate psychiatric symptoms that do not fulfill criteria for a recognizable psychiatric disorder

Practice Implications: These symptoms can be especially concerning for cancer patients undergoing treatment. Any pre-existing anxiety, mood changes, or sleep disturbances can impair a patient's ability to make reasonable treatment choices. Furthermore, anxiety, depression and poor sleep quality have been associated with lower quality of life, decreased response to treatment, prolonged treatment requirements and increased rates of re-occurrence in cancer patients. Alternatively, patients free of these symptoms have shown improved response to chemotherapy and other treatment modalities, improved quality of life, and decreased rates of cancer re-occurrence. Combined, these factors emphasize the importance of aggressive treatment strategies at the onset of subsyndromal symptom

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P1-166

Pediatric Oncology Treatment in the Setting of Family Dysfunction: A Clinical Vignette

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BACKGROUND/PURPOSE: Patient (PT) is a 9-year-old diagnosed with a brain tumor (pineoblastoma; WHO Grade IV). Resulting treatment included surgical resection, shunt placement, XRT, and four cycles of chemotherapy/stem cell support. PT was also diagnosed (though untreated) with anxiety disorder and sensorimotor dysfunction. The following clinical vignette emphasizes the importance of psychosocial assessment and intervention in the provision of pediatric oncology treatment.

METHODS: Psychosocial assessment revealed a number of significant social risk factors for this family, including domestic violence (DV), inter-generational mental illness, and child neglect. PT's psychological distress was evidenced by his severe oral aversion (consuming only eight bottles of PediaSure daily since age 2) and his pervasive fear of death. Central to the intervention was the belief that the mother desired and was capable of affecting positive change if adequately empowered. The treatment plan focused on the goals of improved treatment compliance and assuring family safety. **RESULTS:** The mother underwent a DV assessment and subsequently completed related psycho-education, counseling, and parenting services. Behavioral modeling for PT, caregivers, and support staff was necessary to assure consistent implementation of the intervention across the health system. Eventually the mother and child separated from the paternal family, resulting in dramatic improvements in PT's safety, psychological functioning, and treatment compliance. This clinical vignette highlights the use of family-centered care, empowerment techniques, and safety planning to improve medical and psychological patient outcomes. It serves as a reminder that psychosocial assessment and intervention are an integral part of pediatric oncology care.

Research Implications: This case highlights the benefits of psychosocial intervention in the setting of a high-risk patient/family receiving pediatric oncology treatment. Additional qualitative/quantitative analysis comparing outcomes in similar case studies to those where psychosocial intervention was absent (or limited) could prove to further establish the cost/benefit of psycho-oncology care in the pediatric setting. Despite overwhelming changes, PT immediately embraced the separation from his father and his relationship to the mother improved almost overnight. Given past experiences with DV family reunification and the extent to which PT had been taught to distrust his mother, this almost instantaneous change is surprising. Further examination of the child's resiliencies/protective factors prior to presentation may in part explain the significant positive changes in a short period of time. In addition, any findings may offer further guidance to those practitioners counseling a current victim and/or preparing a caregiver for a DV separation.

Practice Implications: This case study illustrates the 'real-world' application of psychosocial assessment (safety

assessment, DV assessment, motivational interviewing, empowerment training, psycho-education, etc.) in affecting change in a familial system and treatment compliance. Before trying to address their adjustment to their illness, psychosocial oncology providers must remember to first assess and address lower-level (basic) needs.

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P1-167

Theoretical Mediators of Health Behavior Distinguish Persistent from Sporadic American Indian Mammographic Screeners

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BACKGROUND/PURPOSE: Consequences of low mammographic screening among Bemidji Area American Indian women are high rates of late stage of breast cancer and high mortality relative to rates of all Indian Health Service areas combined. We seek to isolate theoretical mediators of health behavior that differentiate regular screeners from sporadic ones. Such differences may be important to developing interventions to increase regular screening. **METHODS:** We are administering a survey to probe for differences in the two groups across six theoretical mediators of health behavior and demographic characteristics. We have mailed surveys to 1400 women (at least 43 years of age with no prior history of breast cancer). To date, we have analyzed responses from 75 women (39 self-reported sporadic screeners and 36 self-reported persistent or regular screeners). Persistent screeners self-reported having mammograms at least every 18 months over both a 3-year period and a 5-year period. Where appropriate, responses were analyzed using Fisher's exact test. **RESULTS:** Persistent and sporadic screeners differ significantly in multiple areas including, demographic characteristics, social networks, elements associated with the theory of planned behavior, social support, and health beliefs. At this time cancer health literacy and social norms are least likely to differentiate persistent and sporadic screeners. **RESULTS:** Should subsequent analyses from the entire survey sample reflect current findings, the results will guide development of interventions that derive from differences in persistent and sporadic screeners' responses.

Research Implications: Intervention research on breast cancer screening in American Indian and Alaska Native populations has typically used theoretical health behavior mediators that were found to be effective in other populations. This research demonstrates that it is possible to identify specific mediators that are influential in specific populations.

Practice Implications: If specific mediators of health behaviors can be isolated that distinguish sporadic from persistent screeners, it may be possible for providers and community health agencies to design effective messages and programs that improve screening participation of sporadic mammographic screeners and reinforce the behaviors of persistent screeners.

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P1-168

'Action Methods' Employed in a Psychiatric Oncology Setting

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BACKGROUND/PURPOSE: Various methods of psychotherapy have been used to help alleviate distress in the cancer patient. Moreno, founder of Psychodrama, believed that using re-enactments of real situations brought about deeper understanding to patients and their relationships bringing healing by insight and catharsis. Sometimes distress may come from interpersonal relationships. When distress comes from a relationship with their caregiver or clinician, it may not be safe for them to express their feelings or thoughts directly with that person. This poster will employ 'action methods' to enable patients to express those feelings. **METHODS:** Using the psychodramatic methods of Role Reversal, Doubling, and the Empty Chair, may help the patient express those feelings in a safe environment of an inpatient room or clinician's private office with their mental health provider. I will describe hypothetical case scenarios in which these methods are employed. In each scenario, dialogue between the patient, in all their 'roles', and clinician will be cited. The process of using the Empty Chair will also be explained. **RESULTS:** The reader will find common scenarios, which may be faced by the cancer patient. In each method used, the hypothetical patient's experience of catharsis will be described. The patient's experience of insight will also be portrayed. **CONCLUSIONS:** The patient's 'inexpressible' feelings will be shared in a safe setting. The clinician will also experience insight on the patient's interpersonal relationships and be able to use either more 'action methods' or other therapeutic modalities to help the patient.

Research Implications: If these psychodramatic methods are used, standardized instruments could be used to measure before and after each session and at subsequent sessions. If actual benefit to the patient is found, this could lead to benefit to the psychosocial oncology population.

Practice Implications: The 'action methods' can be another tool used by the psychosocial oncology clinician to explore and relieve distress in the patient's interpersonal relationships.

Acknowledgement of Funding: None.

P1-169

Cancer and Pain Management: Debunking Myths in Latino Patients and Caregivers

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BACKGROUND/PURPOSE: Pain is a sensitive topic among Latinos, due to fear of disease progression, treatment delays or fear of pain medication addiction. To date, limited Spanish educational materials/programs on pain management are available. In the USA, pain is the most common reason individuals consult with a physician, yet for many—especially the Hispanic community—pain is a very sensitive topic especially among cancer patients. However, through culturally relevant education on how best to manage pain, patients can empower themselves to have an active voice in their healthcare and learn how their cancer journey can be pain free. The purpose of this educational intervention was to educate Spanish speaking patients, families and caregivers on pain management and debunking their myths about cancer pain. **METHODS:** Based on results of performance improvement activity amongst new Latino cancer patients, an educational intervention was provided to Spanish speaking cancer patients, caregivers and their families over a 2-year period. Pretests and posttests were collected as well as 1-month follow-up calls and focus groups. A total of 10 Spanish pain classes were conducted by Advance Practice Nurse and Health Educator. Five interactive components were embedded to ensure patients understanding and learning. The educational intervention and resources were provided in Spanish. Education was provided on: types of cancer pain, pain scales, pain diaries, medication safety, including CAM and non-therapeutic options for pain management. Including education on pain management, pain types, and dispelling myths/perceptions of cancer pain and taking an active role in their care by communicating their pain. Patients/Families received a 2 h educational class, culturally relevant tools and resources. **RESULTS:** A total of 64 patients and caregivers attended the educational program in Spanish. Of these 36 were caregivers. The educational intervention further identified a distorted perception of pain when undergoing cancer treatment: (1) pain was not manageable (2) part of the treatment process (3) a way that the body is getting rid of cancer. Others refused medication for fear of addiction. When asked how they dealt with pain, the majority mentioned that they preferred to receive support or comfort in their families or talk with

other cancer patients in similar situations. Some patients shared that they did not communicate their pain issues to their healthcare team, for fear of treatment delay. In addition 75% were currently experiencing cancer pain, of those 90% had yet to discuss this with their medical team and 50% did not know that cancer pain could be managed. Patients stated that the class provided them with tools and resources to take more of an active role in their care and managing their pain. **CONCLUSIONS:** After attending class patients are able to take more of an active role in their care. Attendees are able to communicate their pain to their healthcare team by using descriptive words and/or using the pain scale to rate their pain or describe it. Patients have incorporated non-drug intervention strategies to help them cope with pain (music, meditation, attending educational classes). Patients reported improvements in communication with their healthcare team, managed pain and ability to better enjoy day-to-day activities. Caregivers reported a better sense of taking control of their care as well and empowered to be better advocates of their own health.

Research Implications: Findings from this study can guide future research interventions and education to improve cancer pain perceptions amongst Latinos and patient engagement in the healthcare process. It can also guide the development of future educational programs for patients and families and to explore innovative ways to deliver pain educational program and interventions.

Practice Implications: Understanding gained from this study provides an opportunity to enhance health communication and health education strategies more effectively to benefit patients and families.

Acknowledgement of Funding: None.

P1-170

Intervening Oncology Young Doctors' Psychological Pressure with Group Drawing Therapy

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BACKGROUND/PURPOSE: Patients with tumor specialized subject faced by young doctors and patients' families is a special group, the tumor specialized subject of young doctors self-acceptance is related to their ability to adapt to the good doctor-patient relationship, learn cooperation and competition between colleagues. **METHODS:** Fourteen young doctors participated in this trial. Seven patients accepted group psychotherapy (5 consecutive, twice a week, sessions of 90 min) and 7 served as control subjects. Two screening scales (Self-acceptance Questionnaire (SAQ) and interpersonal self-diagnosis scale) were sent

to young doctors. **RESULTS:** Test acceptance of self-acceptance level higher than the control group, improve the level of young doctors' self-esteem and self-confidence, improve the ability of emotional control, and conflict resolution skills. Help young oncologists to establish a good doctor-patient relationship, a better understanding of doctor-patient conflicts of the patient and family to emotional problems. Find themselves characteristics of human relationships, relieve anxiety and enhance psychological harmony and integrity, achieve the goal of personal growth. **CONCLUSIONS:** Group drawing therapy can help oncology young doctors to deal with the pressure, to improve the level of self-esteem, promote internal form personality growth, promote the understanding of doctor-patient relationship, improve self value, increase the subjective well-being.

Research Implications: Group drawing therapy can help oncology young doctors to deal with the pressure, to improve the level of self-esteem, promote internal form personality growth, promote the understanding of doctor-patient relationship, improve self value, increase the subjective well-being.

Practice Implications: Group drawing therapy can help oncology young doctors to deal with the pressure.

Acknowledgement of Funding: None.

P1-171

Mindfulness-based Stress Reduction (MBSR) for Individuals Diagnosed with Breast Cancer: Evaluation of an Online MBSR (eMBSR) Treatment Program to Relieve Symptoms of Psychological Distress—A Proposed Randomised Wait List Control Trial

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Griffith University

BACKGROUND/PURPOSE: It is estimated that approximately 43 women will be diagnosed with breast cancer each day in 2015 in Australia. Many will be from remote and rural Australia with limited access to psychosocial support. MBSR is an 8-week group intervention based on mindful meditation and yoga. Efficacy research has shown that face-to-face MBSR (fMBSR) has had positive effects on cancer patients such as decreased levels of anxiety, depression and stress, and increased mindfulness and self-compassion which have been associated with improved levels of well-being. **METHODS:** The primary objective is to determine if a therapist supported self-study online version of the course with group support provided through discussion boards is as effective as fMBSR in decreasing psychological distress and improving well-being in women diagnosed with breast

cancer. Using current technologies, an easy-to-use multimedia treatment programme will be offered over the Internet. Online questionnaires will be administered pre-treatment, mid-treatment, and post-treatment with a 3-month follow-up. Mixed factorial ANOVA, reliable change index and intent to treat analyses will be conducted on the data. Mediated regression modelling will be used to determine the influence of changes in mindfulness and self-compassion on distress as a result of the intervention.

Research Implications: Although the current study concentrates on breast cancer, if eMBSR is shown to be effective, it can be offered to all individuals with chronic illnesses, in a similar way to fMBSR.

Practice Implications: Positive results will allow psychosocial services to be offered to a wider group of patients specifically in rural and remote Australia and even globally who do not have access to fMBSR.

Acknowledgement of Funding: None.

P1-172

Reducing Family Caregiver Psychosocial Distress through Automated Remote Home Monitoring and Self-care Coaching

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¹University of Utah

BACKGROUND/PURPOSE: Health and well-being often deteriorates for family caregivers (FCs) providing home hospice care. Automated remote monitoring (ARM) of symptoms has shown promise in cancer care and could be extended for care of FCs. The purpose of this study was to test the efficacy of an ARM and coaching system for cancer family caregivers providing care at home. **METHODS:** In a randomized control trial of the symptom care intervention (SC) versus usual care (UC), 203 FCs were recruited from 9 hospice programs in 4 US states. All FCs called the automated telephone-based system daily reporting presence and severity (0–10 scale) of their own fatigue, sleep quality, mood and anxiety as well as perceived patient symptom presence and severity. SC intervention FCs received automated tailored symptom coaching about self-care based on the reported severity patterns and moderate or higher symptoms generated alerts to the hospice nurse. **RESULTS:** Most caregivers were female (65%), White (95%), mean age of 60 with 63% spouses and 37% adult children. The prevalence of moderate-to-severe FC symptoms was common. The SC intervention FCs had significantly less symptom severity overall than UC ($p < 0.001$). This was also true for anxiety and depressed mood separately (all $p < 0.001$). Six weeks post-death CESD score for depressive symptoms compared with baseline was significantly lower in SC FCs

than UC ($p = 0.048$) with UC above the screening cut point (16) at six weeks (12.9 vs 17.5). **CONCLUSIONS:** Automated symptom monitoring with tailored coaching of cancer family caregivers is highly beneficial in reducing family caregiver burden and psychosocial distress.

Research Implications: Extending interventions utilizing electronic platforms for patient-reported outcomes to family caregiver-reported outcomes combined with self-care coaching is a promising new approach to improving care to families with life-limiting cancers.

Practice Implications: Cancer family caregivers experience significant distress in providing care to family members and benefit from interventions that provide frequent monitoring and coaching in self-care.

Acknowledgement of Funding: NIH P01CA138317.

P1-173

Cancer and Pain Management: Debunking Myths in Latino Patients and Caregivers

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BACKGROUND/PURPOSE: Pain is a sensitive topic among Latinos, due to fear of disease progression, treatment delays or fear of pain medication addiction. To date, limited Spanish educational materials/programs on pain management are available. In the USA, pain is the most common reason individuals consult with a physician, yet for many—especially the Hispanic community—pain is a very sensitive topic especially among cancer patients. However, through culturally relevant education on how best to manage pain, patients can empower themselves to have an active voice in their healthcare and learn how their cancer journey can be pain free. The purpose of this educational intervention was to educate Spanish speaking patients, families and caregivers on pain management and debunking their myths about cancer pain. **METHODS:** Based on results of performance improvement activity amongst new Latino cancer patients, an educational intervention was provided to Spanish speaking cancer patients, caregivers and their families over a 2-year period. Pretests and posttests were collected as well as 1-month follow-up calls and focus groups. A total of 10 Spanish pain classes were conducted by Advance Practice Nurse and Health Educator. Five interactive components were embedded to ensure patients understanding and learning. The educational intervention and resources were provided in Spanish. Education was provided on: types of cancer pain, pain scales, pain diaries, medication safety, including CAM and non-therapeutic options for pain management. Including education on dispelling myths/perceptions of

cancer pain and taking an active role in their care by communicating their pain. Patients/Families received a 2 h educational class and were provided culturally relevant tools and resources. **RESULTS:** A total of 64 patients and caregivers attended the educational program in Spanish. Of these, 36 were caregivers. The educational intervention further identified a distorted perception of pain when undergoing cancer treatment: (1) pain was not manageable (2) part of the treatment process (3) a way that the body is getting rid of cancer. Others refused medication for fear of addiction. When asked how they dealt with pain, the majority mentioned that they preferred to receive support or comfort in their families or talk with other cancer patients in similar situations. Some patients shared that they did not communicate their pain issues to their healthcare team, for fear of treatment delay. In addition 75% were currently experiencing cancer pain, of those 90% had yet to discuss this with their medical team and 50% did not know that cancer pain could be managed. Patients stated that the class provided them with tools and resources to take more of an active role in their care and managing their pain. **CONCLUSIONS:** After attending class patients are able to take more of an active role in their care. Attendees are able to communicate their pain to their healthcare team by using descriptive words and/or using the pain scale to rate their pain or describe it. Patients have incorporated non-drug intervention strategies to help them cope with pain (music, meditation, attending educational classes). Patients reported improvements in communication with their healthcare team, managed pain and ability to better enjoy day-to-day activities. Caregivers reported a better sense of taking control of their care as well and empowered to be better advocates of their own health. **Research Implications:** Findings from this study can guide future research interventions and education to improve cancer pain perceptions amongst Latinos and patient engagement in the healthcare process. It can also guide the development of future educational programs for patients and families and to explore innovative ways to deliver pain educational programs and interventions. **Practice Implications:** Understanding gained from this study provides an opportunity to enhance health communication and health education strategies more effectively to benefit patients and families.

Acknowledgement of Funding: None.

P1-174

Comparing Characteristics of Home versus Hospital Deaths—Small Study Findings That Can Improve Clinical Practice

Clare Manicom
GVI Oncology

BACKGROUND/PURPOSE: This quantitative study investigated what family members or caregivers of deceased patients experienced in terms of support and preparation for home deaths compared with death in an acute-care hospital. **METHODS:** A postal questionnaire to caregivers yielded 58 respondents who provided information about preparation for the patient's death, as well as aspects of support and care that were present or absent. **RESULTS:** Over 75% of the respondents were the main carer with half of the Home Death carers having employed additional help at home, compared with 79.20% of the Hospital Death carers having no paid help in place at home. Of the hospital death respondents, 75% did not report access to domiciliary hospice assistance compared with 90.8% of the home death respondents who had accessed hospice assistance. **CONCLUSIONS:** To better support the dying patient and family members, and to encourage dying at home for those patients who prefer a home death, better access to information and resources for carers is required. **Research Implications:** Further studies into the needs and awareness of rights of patients in the healthcare system would provide a foundation for advocacy for improved Palliative Care services in South African communities. **Practice Implications:** Support for informal caregivers could be enhanced by: Practical assistance and psycho-education for informal caregivers; Improved access to bereavement counselling for informal caregivers. It is recommended that discussions regarding possible Place of Care and Place of Death include practical aspects of home care and what is necessary to action such care.

Acknowledgement of Funding: None.

P1-175

A Case Study of an Innovative Lab of Writers about the Psychosocial Standard of Care

Carolyn Messner
CancerCare

BACKGROUND/PURPOSE: This poster presentation will describe an Innovative Lab of Social Work Writers in an oncology setting. The author will describe how a busy department is able to engage staff and interns to write for publication as a team about the psychosocial standard of care. One may ask how staff can do this with everything else on their plate. There are many publication opportunities that abound in our field. Incremental growth is a cornerstone of mentoring and cultivating writers who build their authorship visibility one step at a time, day by day. **METHODS:** The author will include innovative strategies to support staff through their writing process, and being there when articles are accepted or rejected. Creating a crucible for nurturing writers strengthens the foundation of leadership and allows

significant opportunities for professional exchange. The rewards of mentoring the next generation of writers, a literature review and a small group teaching exercise will be included. **RESULTS:** This presentation describes how to create sanctioned time to write for busy practitioners in understaffed oncology social work environments with a successful replication model using an interdisciplinary team approach to publish psychosocial standards of care. **CONCLUSIONS:** This group of social workers through mentorship and technical help has become prolific writers who as a team are able to support each other in their writing successful papers for publication about the psychosocial standard of care.

Research Implications: This model is useful to researchers who are trying to create writing teams to publish their data.

Practice Implications: The strategies implemented by this team in a social work department offer a replication model for other departments to use as a role model of fostering a joy of writing for publication with strategic planning and organizational support.

Acknowledgement of Funding: None.

P1-176

Cognitive Impairment in Advanced Breast Cancer Patients with Mild to Moderate Pain and Depression

Huaidong Cheng

The Second Affiliated Hospital of Anhui Medical University

BACKGROUND/PURPOSE: The relationship between depression and cognitive impairment in advanced breast cancer patients with cancer pain is unclear. We designed this study in order to find out whether the cognitive impairment in advanced breast cancer pain patients is related to the depression. The relationship between depression and cognitive impairment in advanced breast cancer patients with cancer pain is unclear. We designed this study in order to find out whether the cognitive impairment in advanced breast cancer pain patients is related to the depression. **METHODS:** Sixty advanced cancer patients with mild to moderate pain are recruited for the study. They are divided into two groups, one is the patients with mild to moderate pain and depression, the other is the same patients without depression. A battery of neuropsychological scales including the Hamilton Depression Scale, the Mini Mental State Examination, and the Auditory Verbal Learning Test were administered to them. **RESULTS:** Compared with the patients without depression, there is a significant statistical difference on the performance of MMSE ($t=7.423$, $p<0.01$) and AVLT ($t_1=9.227$, $t_2=8.968$, $p<0.01$) in advanced breast cancer pain patients with depression. **CONCLUSIONS:**

We found that the total cognition and retrospective memory were impaired in advanced breast cancer pain patients with depression when compared with no depression. It is suggested that depression may be an important factor of cognitive impairment in advanced breast cancer pain patients.

Research Implications: We found that the total cognition and retrospective memory were impaired in advanced breast cancer pain patients with depression when compared with no depression.

Practice Implications: It is suggested that depression may be an important factor of cognitive impairment in advanced breast cancer pain patients.

Acknowledgement of Funding: This research was supported by the National Natural Science Foundation of China (81372487, 81141103), The authors are grateful to the patients of the Department of Oncology of The Second Hospital of Anhui Medical University for their participation in and assistance with the study. We would like to thank Huaidong Cheng for their helpful comments on an earlier draft of this paper. The authors alone are responsible for the content and writing of the article and report no conflicts of interest.

P1-177

Chemotherapy-induced Cognitive Impairment in Breast Cancer Patients with Different Hormone Receptor Expressions

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BACKGROUND/PURPOSE: To investigate the features of chemotherapy-induced cognitive impairment (CICI) in breast cancer patients with different hormone receptors expression. **METHODS:** Sixty breast cancer patients who have received six cycles of adjuvant chemotherapy after operation, including 30 patients with ER (estrogen receptor) and PR (progesterone receptor) negative (Group A), 30 patients with ER and PR positive (Group B), were administered with a battery of neuropsychological tests including Mini Mental State Examination (MMSE) and Auditory Verbal Learning Test (AVLT) tasks. **RESULTS:** Compared with healthy controls, performance of breast cancer patients in MMSE were significantly impaired (26.12 ± 1.39 vs 28.92 ± 0.96 ; $t=-12.824$, $p<0.05$); Compared with Group B, the MMSE score of Group A were (25.57 ± 1.22 vs 26.67 ± 1.35), IM-AVLT (immediate memory-auditory verbal learning test) score were (2.72 ± 0.95 vs 3.78 ± 1.30), DM-AVLT (delay memory-auditory verbal learning test) score were (0.87 ± 0.77 vs 1.37 ± 0.93), differences were statistically significant ($t_1=-3.311$, $p<0.05$; $t_2=-3.616$, $p<0.05$; $t_3=-2.264$, $p<0.05$). **CONCLUSIONS:** Breast cancer patients have different degrees of cognitive impairment after chemotherapy. Furthermore, compared with patients with ER and PR positive, patients with ER and PR negative have a more significant

damage in total cognitive function and memory, implying that different hormone receptors expression may be related to the heterogeneity of CICI in breast cancer patients.

Research Implications: The different hormone receptors expression may be related to the heterogeneity of CICI in breast cancer patients

Practice Implications: The different hormone receptors expression may be related to the heterogeneity of CICI in breast cancer patients

Acknowledgement of Funding: This research was supported by the National Natural Science Foundation of China (81372487, 81141103), The authors are grateful to the patients of the Department of Oncology of The Second Hospital of Anhui Medical University for their participation in and assistance with the study. We would like to thank Huaidong Cheng for their helpful comments on an earlier draft of this paper. The authors alone are responsible for the content and writing of the article and report no conflicts of interest.

P1-178

Head and Neck Cancer Patients' Experiences of Lymphedema and Fibrosis

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BACKGROUND/PURPOSE: Lymphedema and Fibrosis (LEF) is a frequent side effect from head and neck cancer (HNC) and/or its treatment. This study aimed to describe HNC patients' perceptions of onset and symptoms of LEF, their experiences with LEF treatment, and their perspectives and needs regarding associated self-care. **METHODS:** Twenty HNC patients who underwent LEF therapy participated in semi-structured face to face interviews. Interviews were recorded and transcribed. Content analysis was used to analyze data. **RESULTS:** Most patients first noticed facial swelling within 2 months following either surgery or radiation therapy. Extensive concurrent symptom burden and functional deficits were described. This includes: head and neck specific issues (e.g., difficulty eating), musculoskeletal impairments (e.g., neck stiffness), general function limits (e.g., impacted driving) and impaired body image (e.g., altered appearance). The majority reported positive experience with lymphedema therapy; however, limited insurance coverage was a barrier to care. Although most patients received paper-format educational materials for self-care, concerns were reported including (1) information overload; (2) fragility of handouts; and (3) lack of consideration for various learning skills. The majority

conveyed the problems and needs related to self-care: (1) diminished self-care activities over time; (2) lack of motivation for self-care consistency; (3) need of salient education regarding self-monitoring; (4) need of continued guidance; (5) partners and/or caregivers needed to be taught skills of lymphedema self-care; and (6) need of self-care program as reminder and refresher. **CONCLUSIONS:** Opportunities exist to improve LEF awareness and self-care in HNC patients.

Research Implications: Tailored information should be considered when developing a home-based self-care program.

Practice Implications: Healthcare professionals should focus on delivering high-quality and targeted information about self-care to HNC patients with lymphedema.

Acknowledgement of Funding: Vanderbilt Office of Clinical and Translational Scientist Development

P1-179

Feasibility of an iPad-administered Group-based Stress Management Intervention

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BACKGROUND/PURPOSE: Cancer and its treatment can be an anxiety-provoking, stressful experience. While many clinical interventions centered on reducing stress and providing coping/relaxation techniques have proven effective, the time required and lack of available providers can make accessing these programs burdensome, inconvenient, and at times, impossible for the patient. To address these barriers, providers can treat stress in a group setting, allowing for one provider to treat many individuals at once; additionally, treatment that can be effectively distributed remotely can also alleviate patient barriers to care such as commuting and scheduling. This study aims to combine these approaches, piloting a stress management intervention in a group setting using video-conference administered by iPad. **METHODS:** Participants were 14 survivors (9 females) with a history of either breast cancer, prostate cancer or a stem cell transplant. Participants attended a four-session stress intervention group over the course of 1 month. During these sessions, participants were taught methods to address maladaptive cognitions and active coping skills including muscle relaxation and guided meditation. Workbooks with session content were provided to each participant and materials from the workbooks were covered and reviewed during each session. Participants were also encouraged to independently read through program content between sessions. The Perceived Stress Scale, Measure of Current Status, and Brief Cope,

were given pre-intervention and post-intervention to quantify perceived stress and coping skills. A quality feedback item was included only post-intervention in order to assess feasibility of the program. **RESULTS:** Most participants reported the intervention as being favorable and helpful or beneficial. Some participants also indicated that the number of sessions was insufficient, the iPad administration made it difficult to connect with other participants, and the software was difficult to use. Paired sample *t*-test analyses revealed no significant differences between pre-intervention and post-intervention *t*-score means for all measures. **CONCLUSIONS:** Future stress management interventions should consider the participant's ability to access program sessions in a convenient and effective manner. Feedback from our pilot groups indicate that we should extend the program length beyond 4 sessions, and should provide enhanced technology training prior to the intervention delivery.

Research Implications: There is continued interest in examining ways in which technological methodology can improve the availability and dissemination of proven psychosocial treatments for cancer survivors. However, there are limitations to the delivery of such interventions that must be understood in order to ensure that future efforts avoid similar pitfalls. Researchers hoping to utilize Web-based videoconference for their psychosocial interventions must consider the Web readiness of their participants and ensure that sufficient training and on-demand troubleshooting are provided.

Practice Implications: The use of manualized clinical interventions is helpful in ensuring treatment fidelity. However, with limited healthcare resources, there are growing efforts to examine the minimum dose necessary for patient improvement. Our findings indicate that the abridged 4-session intervention does not adequately replicate the impact of the original 10-session manualized intervention, providing pilot evidence of a dose that is insufficient.

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P1-180

Delivering an Adapted Group Cognitive Behavioral Treatment for Insomnia in a Cancer Survivorship Program

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BACKGROUND/PURPOSE: Cognitive behavioral treatment for insomnia (CBT-I) is highly effective, yet rarely available for cancer survivors even in centers delivering specialized cancer survivorship care. This is unfortunate because survivors are at elevated risk for insomnia, with

as many as 65% reporting sleep dysfunction years after treatment. Barriers to delivering CBT-I in oncology settings include a lack of trained providers, treatment length and distance to cancer centers. To address these issues, we adapted traditional six-session to eight-session, individual CBT-I and evaluated whether an abbreviated, group CBT-I intervention was acceptable and effective for cancer survivors. **METHODS:** Thirty-four survivors (mean age=52.2 years; 84.0% female) enrolled in our 3-session CBT-I program delivered over 4 weeks. They were primarily breast (59.0%) survivors (mean years post-diagnosis=5.1; mean years post-treatment=3.2). The intervention emphasized sleep restriction and stimulus control, with brief discussions of cognitive factors related to insomnia and sleep hygiene. Participants completed sleep logs throughout, subjective measures of sleep at baseline and week 4, and program evaluations at week 4. **RESULTS:** Twenty-five participants (74.0%) completed the program. Group improvements in sleep efficiency (77.8% to 88.7%), and Insomnia Severity Index total (16.5 to 10.6) were seen from pre-intervention to post-intervention (all *ps*<0.01). Individually, 23 of 25 participants reported improved sleep efficiency post-intervention. All participants believed the program helped to improve their understanding of insomnia and all but one reported overall satisfaction with the program. Only 1 in 3 had discussed their insomnia symptoms with medical providers in the prior year. **CONCLUSIONS:** Pilot data indicate that a brief, group-based CBT-I intervention in a clinical oncology setting is both acceptable for survivors and effective in improving insomnia.

Research Implications: There is a need to study the long-term impact of brief, group CBT-I on sleep function, and evaluate whether eHealth delivery is feasible within this population.

Practice Implications: Clinicians must develop an increased awareness about the efficacy of behavioral treatments for insomnia, and understand treatment referral options to provide quality care for their patient's insomnia symptoms.

Acknowledgement of Funding: None.

P1-181

Changes in Comorbidities and Psychological Distress for Chinese-American and Korean-American Breast Cancer Survivors

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BACKGROUND/PURPOSE: The purpose of the study is to (1) examine whether psychological distress scores varied with the occurrence of specific comorbidities for Chinese-American and Korean-American breast cancer

survivors (BCS) and (2) investigate the mediating effects of changes in comorbidities in the relationship between life stress and psychological distress. **METHODS:** A cross-sectional descriptive design was used. A total of 157 Chinese-American and Korean-American BCS were recruited from California Cancer Surveillance program and local hospitals in Los Angeles County. Changes in comorbidities have been assessed using questions on whether the participants had comorbidity before cancer diagnosis and currently have comorbidity. The degrees of improvements in the specific comorbidity and in comorbidities in total were included as mediators. **RESULTS:** Approximately 60% of Chinese-American and Korean-American BCS had at least one discordant comorbidity, and osteoporosis was the most prevalent comorbidity. Psychological distress differences due to the occurrence of a specific comorbidity were evidence for eye/vision problems, dental problems, digestive problems, chronic pain, heart disease, and lymphedema. The structural equation modeling demonstrated that life stress was negatively associated with improvements in dental problems, chronic pain, and lymphedema. Improvements in comorbidities in total significantly influenced reducing psychological distress when the occurrence of a specific comorbidity such as allergy, arthritis, digestive problems, heart disease, osteoporosis, or thyroid was controlled. **CONCLUSIONS:** The current study adds to the existing literature by examining the mediating effects of changes in comorbidities on psychological distress. The findings support the need for healthcare professionals to clearly assess psychological comorbidities when providing survivorship care for cancer survivors.

Research Implications: An investigation about the applicability and efficacy of the ethnically tailored stress management skills for BCS is warranted.

Practice Implications: Evidence that changes in comorbidities are associated with life stress and psychological distress serves as a rationale for developing strategies to reduce life stress and psychological distress in survivorship care.

Acknowledgement of Funding: NIH/NCI R03 CA139941.

P1-182

Measuring Clinically Significant Change among Advanced Cancer Patients Participating in Meaning-centered Group Psychotherapy

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BACKGROUND/PURPOSE: Meaning-centered group psychotherapy (MCGP) is a novel intervention aimed to

optimize coping through an enhanced sense of meaning and purpose. We aim to measure clinically significant change in depressive symptoms among advanced cancer patients participating in MCGP and identify differences between patients who report significant improvement and those who remain stable. **METHODS:** One hundred two patients from a larger randomized controlled trial of meaning-centered group psychotherapy with non-localized or recurrent cancer completed self-report measures capturing demographic information, psychiatric history, depression (Beck Depression Inventory II), desire for hastened death (The Schedule of Attitudes toward Hastened Death), hopelessness (Beck Hopelessness Scale), quality of life (McGill Quality of Life Questionnaire), and somatic symptoms (Memorial Symptom Assessment Scale-Short Form). Clinically significant change was calculated for all variables between T1 (pre-intervention) and T2 (post-intervention). **RESULTS:** With respect to depressive symptoms, 37 patients of the 102 demonstrated clinically significant improvement between T1 and T2. Clinically significant improvement of depressive symptoms was correlated with clinically significant change in desire for hastened death, quality of life, hopelessness, and somatic symptoms. Additional analyses provide information regarding predictors of the observed clinically significant change. **RESULTS:** Our results demonstrate the importance of this statistic as well as highlight the factors that contribute to clinically significant improvement in depression at the end of life. Furthermore, we contribute to the current literature and identify important factors related to both depression and the efficacy of MCGP. **Research Implications:** The measurement of clinically significant change from pre-intervention to post-intervention is the gold standard for analyses of randomized controlled trials. Our results demonstrate the importance of measuring clinically significant change as opposed to statistically significant change in order to attain results that can be easily translated to clinical practice.

Practice Implications: Our results provide insight into the clinically relevant psychosocial outcomes for advanced cancer patients participating in MCGP. Furthermore, we demonstrate protective factors that contribute to clinically significant improvement in depressive symptoms at the end of life.

Acknowledgement of Funding: Supported by grant (1R01AT00184201) from the National Cancer Institute to William Breitbart.

P1-183

Grief and Bereavement Due To Loss of a Sibling to Cancer in Adulthood: Transformations of Families

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BACKGROUND/PURPOSE: This research illuminates the details and characteristics of grief, and changes in behavior and role with respect to members of their family of orientation, experienced by people who are bereaved by the loss of a sibling to cancer in adulthood. **METHODS:** A qualitative, descriptive study was carried out using the modified grounded theory approach. **RESULTS:** Eight subjects were interviewed; six were female and two were male. Concerning patients' ages at the time of death, one was in his twenties, one was in her thirties, five were in their forties, and one was in her fifties. 'Awareness of nepotism' and 'the loneliness of being unable to mourn together' emerged as categories of the grief type 'feelings attached to the sibling'. Additionally, 'growing up and becoming distant', 'opponent, rival, or idol', and 'blood relatives and sickness' were identified as categories belonging to the type 'strong feelings about circumstances shared as siblings'. Further, 'position in one's family of orientation and consideration of elderly parents' included behavior and roles within families of orientation and families of procreation. **CONCLUSIONS:** Characteristics of being bereaved by loss of a sibling to cancer in adulthood include: (1) a tendency for mature and independent (separated) siblings to reunite due to the disease, and then separate permanently, (2) refraining from expressing sadness out of respect for the patient's spouse, and (3) being forced to care for grieving elderly parents.

Research Implications: We showed the methodology (M-GTA: the modified grounded theory approach.)

Practice Implications: We showed the understanding of people who are bereaved by the loss of a sibling to cancer.

Acknowledgement of Funding: None.

P1-184

Comparing Characteristics and Predictors of Distress among Cancer Patients and Carers in Regional and Metropolitan areas in Western Australia

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BACKGROUND/PURPOSE: Distress among cancer patients is associated with suffering. Affected individuals in regional locations may experience heightened distress because of distance from cancer services. This study

explored characteristics and predictors of distress among patients and carers from regional and outer metropolitan Western Australia. **METHODS:** In a cross-sectional study, distress screening data were collected as part of a routine screening program implemented across seven health regions by Cancer Council Western Australia (CCWA) in 2013, using the Distress Thermometer (DT) and Problem List. Consecutive adult patients and carers referred to a Cancer Support Coordinator (CSC) [April 2013 to March 2014] were eligible. The CSC screened and assessed each consenting individual, then provided targeted supportive care. **RESULTS:** Of 1266 eligible individuals, 48% were screened with complete data available for 562 (441 patients, 121 carers). Of the outer metropolitan participants, 78% scored ≥ 4 on the DT compared to 64.4% of regional participants. Eighty-nine percent of the sample experienced emotional or physical problems. The most common concerns were worry and fatigue. Predictors of high distress included carer status (odds ratio 'OR' 2.38), number of emotional problems (OR 2.07), and outer metropolitan location (OR 1.80). **CONCLUSIONS:** Individuals from outer metropolitan areas were more likely to report high distress. Carers reported greater distress than patients. Strong support networks in rural locations may create a sense of connectedness that is not available in urban fringes. Referral pathways to supportive care services for addressing emotional concerns, particularly for carers and for outer urban locations may need to be improved.

Research Implications: This cross-sectional study, which was conducted among individuals diagnosed with cancer and carers from outer metropolitan and regional locations in Western Australia, has several research implications. Firstly, the strong association between carer status and high distress requires further exploration in a longitudinal study where the interdependence between patients' and carers' distress and suffering over time is examined, together with potential moderating or mediating variables (e.g. geographical location, social support/social isolation, availability of practical and emotional resources, and access to and uptake of supportive care services). Secondly, the prevalence of emotional concerns and physical problems in the sample highlights the need for more randomized controlled trials that test the efficacy and cost effectiveness of interventions that target common concerns including worry, fears, fatigue and sleep difficulties. More practical and emotional resources specifically targeted to the needs of carers need to be developed, pilot-tested and evaluated.

Finally, further research is needed in Australia and internationally that examines specific variables attached to geographic location (e.g. urban versus rural) that may moderate or mediate cancer patients' and carers' psychological distress (including anxiety and depression). Important variables to examine may include: social support networks, sense of connectivity and community, strength

and clarity of referral pathways after diagnosis to supportive care services, and oncology health professionals' awareness of available resources.

Practice Implications: While this was a cross-sectional study and causal inferences cannot be drawn, there are several implications for clinical practice. Firstly, the study was conceived as part of the implementation of routine distress screening by Cancer Council Western Australia (WA) across seven health regions in WA. The study, therefore, highlights a direct translation of the IPOS International Standard of Quality Cancer Care (July 2010) because it involves (i) the integration of the psychosocial domain into routine cancer care, and (ii) the routine measurement of distress (the 6th Vital Sign) among cancer patients and carers using the Distress Thermometer and Problem List. Secondly, the high distress levels of the majority of the sample and the prevalence and predictive value of emotional concerns highlights that oncology health professionals require training in psychosocial screening and assessment. Oncologists and allied health professionals also need evidence-based communication skills training so that they are equipped to detect and address distress. Thirdly, health professionals in the oncology setting should ensure there are clear referral pathways for patients and carers to supportive care services targeted to the needs identified. Well defined referral pathways to services and resources for addressing emotional concerns, physical symptomatology and practical issues will be particularly important. Communication processes among oncology health professionals and their awareness of the services available locally and further afield, may also need to be improved.

Acknowledgement of Funding: None.

P1-185

A Matched Comparison of Caregivers and Patients Attending Psychology Services in a Cancer Center

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BACKGROUND/PURPOSE: Many cancer centers offer psychological services to caregivers, who often experience emotional distress. The purpose of the current study was to compare caregivers and patients who attended initial psychology appointments at a cancer center with regard to demographic variables, psychological symptoms, and service utilization. **METHODS:** Data were collected from 13 patients and 13 caregivers who attended initial psychology appointments between February 2014 and January 2015. Patients were selected at random from a clinical database and matched with caregivers by gender.

There were 10 females and 3 males in each group. Data analyzed included age, PROMIS Anxiety (8a) and Depression (8a) scores, number of psychology appointments attended, and socioeconomic status. **RESULTS:** Caregivers' mean age was 55; patients' was 52. The mean Depression T-score for both groups was 58. Mean Anxiety T-scores were 63 for caregivers and 59 for patients. Both groups attended an average of three to four psychology appointments. Seventy percent of caregivers lived in ZIP Codes with median household incomes between \$50,000 and \$75,000 (only 31% of patients lived in areas within this range). Forty-six percent of patients lived in areas with median incomes between \$25,000 and \$50,000. **CONCLUSIONS:** Caregivers and patients did not differ in age, service utilization, or depressive symptoms. The difference in Anxiety scores was not statistically significant, but was clinically meaningful. Caregivers' mean score was greater than one standard deviation from the population mean; patients' mean score was within one standard deviation of the population mean. Caregivers lived in areas with higher median household incomes compared to patients.

Research Implications: Future research that aims to identify factors predictive of clinically significant caregiver distress and the relations among caregiver functioning and patient outcomes would be helpful in further informing efforts for screening and intervention with distressed caregivers.

Practice Implications: Caregivers are important components of the overall cancer care system. The present data suggest that many caregivers may experience similar levels of psychological distress compared to patients. Their distress may even be more pronounced than patients in the case of anxious distress specifically. Additionally, this data suggests that increasing awareness of psychology service availability may be especially important for caregivers of lower socioeconomic status.

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P1-186

The Association of Pain and Pain Interference with Physical and Psychological Well-being of Cancer Patients in Gaborone, Botswana

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BACKGROUND/PURPOSE: Cancer-related pain has been associated with poorer well-being. This study described cancer patients' pain levels, pain interference, and

associations with physical and psychological well-being. **METHODS:** This cross-sectional study was conducted at baseline (T1) and 7 days after baseline (T2) on cancer patients ≥ 21 years in Botswana between June and August 2014. English and Setswana versions of the Memorial Symptom Assessment Scale-Short Form (MSAS) and its Global Distress Index (GDI), Psychological (PSYCH), and Physical (PHYS) subscales, validated in Setswana in previous studies; PROMIS Pain Interference-SF8a Scale (PI); and Visual Analog Pain Scale (VAP) were used. Frequencies, percentages, measures of central tendency and dispersion, and Pearson product moment correlations were calculated. **RESULTS:** Twenty-five patients participated, 18 (72%) female; common cancers were gynecologic ($n=7$, 28%) and breast ($n=7$, 28%). Average age was 44.7 (12.4) years. Thirteen (52%) and 12 (48%) participants reported pain $\geq 4/10$ at T1 and T2, respectively; after administration of pain medications, 13 (52%) participants still reported pain $\geq 4/10$ at both T1 and T2. Correlations between VAP and PI were $r=0.70$, $p<0.001$ at T1 and $r=0.721$, $p<0.001$ at T2. VAP did not correlate with GDI or PSYCH. PI correlated with GDI ($r=0.56$, $p=0.004$) and PHYS ($r=0.48$, $p=0.016$) at T1 and GDI ($r=0.53$, $p=0.007$) and PHYS ($r=0.61$, $p=0.001$) at T2. PI did not correlate with PSYCH at T1 or T2. **CONCLUSIONS:** A majority of patients report uncontrolled distressing cancer pain that interferes with physical, though not psychological, well-being. Routine pain assessment and a national cancer pain plan are recommended for cancer care in Botswana.

Research Implications: There is a need to trial a pain management protocol in Botswana and measure patient responses following the intervention.

Practice Implications: The MSAS, VAP, and PI can be used to routinely assess patients' symptoms in order to develop psychosocial and supportive care plans.

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P2-244

Coping and Resilience in Cancer Survivors with Cancer-related Hair Loss

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BACKGROUND/PURPOSE: Cancer-related hair loss has the potential to impact cancer patients' quality of life and

has been associated with changes in personality, symptoms of anxiety and depression, and decreased self-esteem. To date little is known about the impact of cancer-related hair loss on patients' resiliency, perceptions of appearance, and coping strategies. **METHODS:** This qualitative study examined resiliency and coping constructs in cancer patients who have experienced cancer-related hair loss. Data were collected via in-person interviews and questionnaires including the Connor-Davidson Resilience Scale (CD-RISC), the Appearance Schemas Inventory-Revised (AIS-R), the Brief COPE, and demographic/medical information ($n=12$) in order to explore the impact that cancer-related hair loss has on cancer patients resiliency and coping. **RESULTS:** Several themes emerged. Resilience was fostered for some patients via the use of social support, perspective taking, and practical problem solving, i.e. hats, wigs. Challenges included loss of femininity, and difficulties dealing with others reactions to hair loss. **CONCLUSIONS:** This study highlights the unique challenges associated with cancer-related hair loss as well as the potential for fostering resilience and positive coping with patients in the midst of managing this difficult treatment side effect.

Research Implications: This study supports the need for further research on the impact of resiliency and coping strategies as mechanisms that may have the potential to moderate the relationship between cancer-related hair loss and psychological well-being.

Practice Implications: Clinicians working with patients who are facing cancer-related hair loss may benefit from reviewing common reactions to hair loss, adaptive coping strategies, and opportunities for enhanced resilience.

Acknowledgement of Funding: None.

P1-188

A Proposal of Supportive Art Therapy for Children of Cancer Patients

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BACKGROUND/PURPOSE: We present a proposal of objectives and steps to follow in supportive art therapy for children of parents with cancer. **METHODS:** A search of the literature published was conducted, using MEDLINE, Endnote, PsycINFO and CancerLit databases. Given the lack of research on the use of art therapy in children whose parents have cancer, this proposal is based on the review of researches with children of parents with cancer, but which do not consider the use of art therapy, and on researches about the use of art therapy for physical illnesses different from cancer. **RESULTS:** This theoretical proposal considers: Cognitive objectives aiming to raise awareness of the

parent's disease and to assign a new meaning to this reality. Affective objectives relating to the emotional expression and the reduction of threatening feelings. Behavioral objectives focusing on the creation of an artistic product and the reduction of disruptive behaviors. Social objectives attempting to improve parent-child communication regarding the experience of cancer. **CONCLUSIONS:** Literature review shows a lack of research on the use of art therapy in children whose parents have cancer. Hence the need for establishing, first of all, the objectives and the steps to follow during art therapy with children facing this reality.

Research Implications: The efficacy of art therapy has not been empirically addressed in children with parents with cancer.

Practice Implications: To establish the objectives and the steps to be followed during therapy sessions would provide a structure that facilitates clinical application, serves as support to explain the dynamics and processes underlying art therapy, and contributes to produce better results during the practice.

Acknowledgement of Funding: None.

P1-189

A Matter of Life and Breasts: Embodied Experiences, Suffering, and Mortality Salience in Latina Women Facing Breast Reconstruction Decision Making

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BACKGROUND/PURPOSE: Although Latina women are less likely to develop breast cancer compared to Non-Hispanic White women, it is the leading cause of cancer-related death in this population (American Cancer Society, 2009). Using a terror management theory framework, this qualitative study aims to examine commonalities and contradictions in participants' narratives as they relate to illness and death, both in implicit and explicit terms. **METHODS:** In a thematic analysis of interviews with a sample of Latina women ($n=12$), this study explored how patients' bodies were experienced within various treatment settings and social contexts such as within their families, relationships with healthcare providers, partners, and local communities. Issues related to race, ethnicity, nationality, gender and class were explored, particularly in regard to how these are constructed and felt within participants' embodied experiences. A common theme of mortality salience was identified and explored as it related to other key themes. **RESULTS:** Findings within this sample of interviews suggest that throughout their breast cancer experience, participants' mortality salience was present in connection with feelings of bodily self-awareness, or *embodied experiences*. Several existential

and spiritual concerns were raised throughout their narratives such as, 'Who is in control of my body and thus, life and death?', 'What's worth dying/suffering for?' and 'What is God's role in my life with cancer?' **CONCLUSIONS:** Women in this sample reported both denial, fear, and acceptance of death in the face of cancer, as well as themes of reevaluating the purpose of their own existence. Participants also reported experiences of their bodies as triggers of mortality salience, such as desires for 'erasing' the memory of cancer on their bodies through reconstruction or by reversing the effects of aging and sickness.

Research Implications: Breast cancer treatment can vary in regard to the degree of invasiveness and its overall effect on the body. From undergoing chemotherapy and radiation to breast-conserving surgeries and bilateral mastectomies, each treatment comes with its benefits but also its risks. Future research should further examine the ways in which cancer patients' health decisions are tied in to their voiced or unvoiced existential concerns.

Practice Implications: Practitioners—both in medicine and psychology—may explore issues around mortality salience and embodiment in their treatment, and consider it as a part of a patient's decision-making process. Further, cultural considerations regarding patient's spiritual needs should be explored.

Acknowledgement of Funding: None.

P1-190

Professional Quality of Life of Oncology Professionals in Flanders, Belgium

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BACKGROUND/PURPOSE: International research shows that oncology staff suffers more from stress and burn out than other healthcare professionals. In 2008, a Flemish study on the prevalence of burnout in oncology was held in Flanders (Dutch speaking part of Belgium) by the Cédric Hèle institute, Flemish institute for psychosocial oncology (CHi). Based on these results, CHi conducted a further study to explore the extent to which oncology professionals experience stress in their work and the psychological impact of working in an oncology setting. **METHODS:** CHi distributed digital questionnaires among healthcare providers, medical staff and nurses working with oncology patients, as well in intramural as extramural settings in Flanders.

The questionnaire consisted of four parts. A first part contained questions concerning *demographic and job features*. In the second part, *The Health Professions Stress Inventory* was used to explore stress experiences of oncology professionals. *The Dutch General Self-Efficacy Scale* was used in the third part to measure self-efficacy. To measure

'professional quality of life', in terms of compassion satisfaction, burn out and secondary traumatic stress/compassion fatigue, the *ProQoL* (Version 5, 2009) was used. RESULTS: The results will be based on the data from 548 participants. There may already be noticed that 21.5% of the participants score low on compassion satisfaction. Furthermore, there is an indication that 23.2% and 24.5% of the participants have an increased risk for burn out and compassion fatigue, respectively. CONCLUSIONS: In December 2015, the conclusions will be presented on the third Flemish congress of Psychosocial Oncology.

Research Implications: The CHI aspires to encourage more national research in other countries among healthcare professionals in psychosocial oncology. A further exploration of the needs of oncology professionals is necessary in order to protect them from a low professional quality of life.

Practice Implications: The CHI is the reference in psychosocial oncology in Flanders. The CHI provides the professionals with a large network, access to information and scientific research in psycho-oncology, and a range of training in the psychosocial aspects in oncology and in important skills. The CHI wants to bring the results of the study close to the clinical workers, write recommendations for national policy and directors of hospitals to prevent a low professional quality of life among oncology professionals. The results can have an impact on current educational programmes and further education for oncology professionals.

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P1-191

Correlates of Oncologist-issued Referral for Psycho-oncology Services: What We Learned from the Electronic Voluntary Screening and Referral System for Depression

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BACKGROUND/PURPOSE: Under-recognized and thus under-treated depression negatively affects cancer patients. As a solution, we designed and pilot-tested a voluntary depression screening system. Within this system, we examined the trends in oncologist-issued referrals for the psycho-oncology service (POS). **METHODS:** The Electronic Voluntary Screening and Referral System for Depression (eVSRS-D) comprised self-screening, automated reporting, and referral guidance for oncologists. Using touch-screen kiosks anytime in a tertiary cancer hospital, participants with cancer completed the Patient Health

Questionnaire-9, received its result, and reported willingness for the POS. At oncology appointments, oncologists issued referrals using a pre-recommended guideline and screening responses. The correlates of actual referrals were examined within all participants and each of the willing and non-willing groups. RESULTS: Among 838 participants, 56.3% reported severe depression symptoms, 30.5% wished for being referred, and 14.8% were actually referred. The correlates of participants' willing to be referred were their having severer depression symptoms, being unmarried, and being metastasis and recurrence free. The correlates of actual oncologist-issued referrals amongst all participants were their unemployment, less severe depression symptoms, poorer performance, treatment status, and willingness for a referral. The sole correlate of actual referrals within the non-willing group was poorer performance, while none was found within the willing group. Non-referrals were mostly (87.1%) due to postponed decisions. CONCLUSIONS: The eVSRS-D may not definitely diagnose major depression but self-select a population highly prevalent of significant depression symptoms. Patients' willingness for the POS most strongly predicted actual referrals. Oncologists' reviewing automated screening reports may not result in further depression severity-attuned referrals.

Research Implications: To our knowledge, this is the first study to examine the pattern in oncologist-issued referrals for psychosocial care, within a voluntary psychiatric screening system for cancer patients. The correlates of participants' willing to be referred were their having severer depression symptoms, being unmarried, and being metastasis and recurrence free. The correlates of actual oncologist-issued referrals amongst all participants were their unemployment, less severe depression symptoms, poorer performance, treatment status, and willingness for a referral. The sole correlate of actual referrals within the non-willing group was poorer performance, while none was found within the willing group. Non-referrals were mostly due to postponed decisions.

Practice Implications: It may be inferred from the results of this study how to further improve the referral flow of the eVSRS-D. More intensive staff training may be needed to develop oncologists' tendency to persuade even non-willing patients with probable depression to accept the referral. Removing the 'postpone' button from available options should be considered, which may result in increased number of actual referrals and following of a recommended guideline. And it is necessary to open up a channel for participants' self-referral to increase the number of actual referrals.

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P1-192

Psychosocial Correlates in Youth Living with Medullary Thyroid Carcinoma (MTC)

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BACKGROUND/PURPOSE: Medullary thyroid carcinoma (MTC) is a rare malignancy. In children and young adults, MTC is usually inherited and associated with Multiple Endocrine Neoplasia (MEN) 2A and 2B. Other cases of MTC may present sporadically, but this is typically seen in middle-aged adults. No studies examining the psychosocial experience of youth or young adults living with MTC have been identified. This study aims to describe the psychosocial correlates associated with living with MTC and to identify patient-identified resources. **METHODS:** Participants ($N=21$) ages 9–23, diagnosed with MEN2A and MEN2B completed structured psychosocial interviews and a pediatric adapted Distress Thermometer. The interview assessed general health, psychosocial areas of concern, family stressors, psychiatric history, and interest in specific psychosocial services. Descriptive data analysis was performed. **RESULTS:** Most youth and young adults living with MTC rated their current health as ‘very good’ or ‘good’. Mean overall distress rating among youth and young adults patients was respectively 2.57 (SD: 2.50, range 0–10) and 5.09 (SD: 2.26, range 1–8). Most frequently endorsed distress symptoms were worry/anxiety (57.1% and 71%), pain (34% and 69%), headaches (24% and 43%), and fatigue (28.6% and 72%). Half (50%) of the sample reported ever seeing a mental health professional; most participants would find education (77%) and meeting other patients with MTC (69%) very useful. **CONCLUSIONS:** This is the first study to examine the psychosocial experience of youth and young adults living with MTC. Our data indicates that regardless of perceived current health status, psychosocial distress increases with age. Interventions to address specific needs are provided.

Research Implications: The study includes a longitudinal design that will allow us to assess whether psychosocial challenges and self-identified service needs change over time. Future research should examine whether youth with sporadic MTC have other factors that contribute to psychosocial outcomes than those whose disease is inherited.

Practice Implications: The study findings will allow us to link specific clinical indicators to more clinically useful and interpretable findings.

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P1-193

Financial Toxicity and Factors Related to Patients’ Desire for Cost Information

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BACKGROUND/PURPOSE: Cancer patients are concerned about the cost of care, and many want more information about costs. This study examined whether the amount of desired information varied between patients based on factors such as age, gender, financial well-being, and preferences for control over treatment decisions. **METHODS:** A convenience sample of cancer patients ($N=176$) receiving ongoing treatment at a community cancer center completed a survey that assessed the amount of information they desired and received from their oncologists about topics including information about treatment costs. Control preferences, objective and subjective financial well-being, quality of life, anxiety, and depression were assessed. Generalized linear models tested the associations between participant characteristics and the amount of information desired. **RESULTS:** Few patients (4%) wanted less information about costs than they had received; half (49%) wanted more. Partnered and younger individuals wanted more information than single and older people, respectively, $ps < 0.05$. Controlling for partner status, age, and treatment type, control preferences were the strongest predictor of the amount of cost information patients desired, $b=0.25$, $p=0.031$, 95% CI (0.024, 0.048). Desire for cost information was unaffected by gender, anxiety, depression, quality of life, type of health insurance, income, degree of financial distress, and personal costs. **CONCLUSIONS:** Most people want information about costs of care. How much control a patient wants to have in treatment decisions is a strong indicator of how much cost information they would like.

Research Implications: Further research is needed about what cost information patients want and need as well as when and how it should be shared.

Practice Implications: Treatment teams should individualize cost discussions with patients.

Acknowledgement of Funding: None.

P1-194

Cognitive Emotion Regulation in Pregnant Cancer Patients and Their Partners and the Relationship with Anxiety and Concerns

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BACKGROUND/PURPOSE: Pregnant women diagnosed with cancer and their partners are confronted with high levels of distress. Little is known about which people encounter major distress and may benefit from psychosocial support. We aimed to identify people at risk for heightened cancer in pregnancy related concerns using clusters of cognitive emotion regulation strategies. **METHODS:** Sixty-eight pregnant cancer patients and their partners from Belgium and The Netherlands filled out the Cognitive Emotion Regulation Questionnaire (CERQ) and the newly constructed 5-factor Cancer In Pregnancy Anxiety Scale (CIPAS) following their cancer diagnosis. *K*-means cluster analysis was performed on the nine CERQ-scales. Scores on the CIPAS were compared between the different CERQ-clusters. **RESULTS:** Three clusters of CERQ-scales were retrieved: positive focused, internalizing and externalizing coping. Patients and partners preferably using internalizing emotion regulation strategies had significantly higher scores on concerns about the outcome for the child, the cancer disease and treatment, and the pregnancy and delivery. No differences were found for satisfaction with the information and care of the medical team and tendency to maintain the pregnancy. Patients and partners did not differ on anxiety scores or on satisfaction with the medical team, but patients were more inclined to maintain the pregnancy than their partners. **CONCLUSIONS:** Pregnant cancer patients and their partners both experience cancer in pregnancy related concerns. However, people mainly using internalizing coping strategies deal with the highest levels of concerns and may benefit from additional psychosocial support.

Research Implications: Cancer during pregnancy is a rare but increasing phenomenon. Until recently, no questionnaires were available to investigate the psychological impact of cancer diagnosis and treatment during pregnancy. Therefore, the construction of the Cancer in Pregnancy Anxiety Scale with five reliable factors is an innovative project. However, validation in a larger population is needed.

Practice Implications: The newly constructed Cancer in Pregnancy Anxiety Scale may add to the assessment of distress encountered in the particular situation of cancer during pregnancy for both the patient and the partner and may be used as a tool to determine the required psychosocial support. Additionally, the assessment of cognitive emotion regulation clusters is useful to identify people at risk for high levels of cancer in pregnancy related concerns.

Acknowledgement of Funding: Frédéric Amant is senior clinical researcher for the Research Foundation Flanders (F.W.O.). Tom Wilderjans is postdoctoral fellow at the Research Foundation Flanders.

P1-195

Intervention Programs in Therapies of the Third Generation in Cancer Patients

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BACKGROUND/PURPOSE: Deepen the knowledge and know the degree of clinical efficacy of psychological treatments based on third-generation therapies: mindfulness, counselling and acceptance and commitment therapy, starting from the systematic review of relevant existing jobs in psychoeducational programs proposed and scientific literature to cancer patients and see their benefits to improve their quality of life and coping in the field of the patient with cancer. **METHODS:** They were two psychoeducational groups: a group that applied programs of therapies of the third generation (mindfulness, acceptance and commitment therapy and counselling) comparing its effectiveness with a group control that applies a traditional psychoeducation. It consisted of 12 weekly sessions of 2 h each. The participants were 18 and 11, respectively. Baseline data were collected and administered (pretest–posttest) the following questionnaires to participants in both groups: STAI (anxiety State and trait anxiety), BDI (depression) and EORTC-QLQ C-30 (quality of life), Rosenberg (self-esteem), scale of body connection (SBC). **RESULTS:** In the experimental group indicative of improved statistically significant differences can be seen in all measures (depression, anxiety State, anxiety trait and quality of life) while in the control group only appeared in the variable anxiety State. **CONCLUSIONS:** Data from this research indicate that third-generation therapies produce a significant improvement in emotional discomfort and in the quality of life of the patient cancer, above which can be achieved with a traditional psychoeducational intervention. However, it cannot state that third-generation therapies like mindfulness, counselling and acceptance and commitment therapy should be the technique of choice for all cases, as it is not clear that it can be followed by any type of patient, require a high involvement of the same.

Research Implications: Program is designed starting from a thorough review of the third-generation therapies: mindfulness, counselling and acceptance and commitment therapy, to improve the quality of life of patients with cancer. Consists of starting up a program group psychoeducational, with cancer patients with psychosocial intervention, which addresses the important psychological and emotional aspects during the illness: self-esteem, communication, body image, sexuality, education for health, coping and stress.

Practice Implications: The results indicate an improvement in cancer patients in the cancer process. Group programs help the patient and medical staff to receive a full comprehensive care focused on day care, differentiating other specific

methods to optimize resources and efforts to achieve better results in cancer patients, taking into account the few resources in the industry's health and the population in general.

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P1-196

Metastatic Breast Cancer and the Emotional Experience of Patients, Caregivers, and Oncologists

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BACKGROUND/PURPOSE: The Make Your Dialogue Count survey explored emotional experiences of women (≥ 21 years) with metastatic breast cancer (MBC), adult caregivers of women with MBC, and licensed US medical oncologists treating ≥ 5 MBC patients per month. **METHODS:** The survey was conducted online, by paper, and by telephone (June-August 2014). Respondents were not necessarily associated with each other. Patient/caregiver data were unweighted. Oncologist data were weighted by geographic region and years in practice by sex to match actual proportions in the population. **RESULTS:** Three hundred fifty-nine patients/234 caregivers/252 oncologists responded. At treatment change, patients who changed treatment felt as committed and determined to treat MBC aggressively as they felt at initial MBC diagnosis, but also less scared and more hopeful about stabilizing MBC. At initial MBC diagnosis, more patients/caregivers (70%/82%) than oncologists (65%) felt it was important or very important for oncologists to refer patients to support services (e.g., psychologist, counselor, or support group); 36%/41% of patients/caregivers indicated that oncologists actually referred patients. Caregivers (94%) always try to be positive, but 53% felt that nobody understands what they are going through. For most oncologists (89%), treating women with MBC has at least a little negative emotional impact on them. Although most oncologists (81%) felt that it is unprofessional to let their emotions affect treatment recommendations, 23% reported that emotions have kept them from providing some information to patients. Notably, 27% indicated they sometimes do not discuss that MBC is incurable. **CONCLUSIONS:** Understanding the emotional experiences of MBC patients/caregivers/oncologists may narrow potential communication gaps and ensure that patient/caregiver needs are addressed.

Research Implications: The Make Your Dialogue Count survey represents a major contribution to research on the emotional experience of patients, caregivers, and

oncologists, both for its size ($N=845$) and the racial diversity of the survey respondents. In particular, 18% of patient-respondents and 27% of caregiver-respondents were non-White. The collective findings of the survey indicate that the emotional experience of patients and caregivers is nuanced and complex, and worthy of further investigation. The survey findings also indicate a need to research better strategies to minimize gaps in communication among patients, caregivers, and oncologists, and to identify factors affecting oncology referrals to support services.

Practice Implications: Improved understanding of the array of emotions that patients and caregivers experience can in turn improve the quality of care that patients and family members receive. Awareness that referrals to support services are important to patients and caregivers ensures that more will receive the psychological and counseling services they desire. Recognition that oncologists themselves are emotionally affected by their work and especially that their emotions can influence the type of information they provide to their patients highlights the need for oncologists to also receive psychological and emotional support.

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P1-197

Meeting Privately with Oncology Patients: A Survey of Oncology Staff Members' Attitudes and Practice

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BACKGROUND/PURPOSE: Family presence, during treatment, presents opportunities for meaningful discussion of healthcare concerns though patients may be reluctant to answer honestly about end-of-life decisions, mood, or safety. Patients may even subordinate their treatment decisions to their family if there is disagreement. The literature is replete with information about patient/family involvement but limited about patients speaking privately with their healthcare provider, specifically, who should initiate the request, how patient/family disagreements about treatment are managed, and what barriers exist to meeting privately. Limited information is available about factors which might discourage healthcare providers from meeting privately with the patient. **METHODS:** One hundred one Cleveland Clinic oncology and palliative care providers responded to ten Survey Select questions (Likert scale, check best answer and comments). Aggregate data

were de-identified except for profession and practice area. **RESULTS:** Thirty-three percent of providers sometimes and 11% always, ask patients if they wish to meet privately. Sixty-eight percent of providers indicate that patients rarely initiate the request. Sixty-three percent of providers feel responsible for requesting the family leave the room. Seventy percent feel that patients' honesty is sometimes adversely impacted with family presence. Sixty-eight percent of providers assume patient consent for family to be present for discussion if they accompany the patient but sexual and safety questions are asked privately. Providers attempt to resolve disagreements about treatment during the appointment. **CONCLUSIONS:** Standardizing periodic private meetings with patients during treatment, surveying patients about privacy and providing conflict resolution training for staff is recommended.

Research Implications: Surveying patients about this same topic is recommended to determine the patient's attitude about discussing various issues in the presence of family who accompany them, how honest the patient feels they can be when asked questions in the presence of their family, whose responsibility they feel it is to request that the family step out so that the patient can speak privately and candidly about their wishes for treatment particularly at end of life and how they would like disagreements with their family about treatment addressed. It is unclear how much extended hospital lengths of stay at the end of life and increase in cost of medical care can be attributed to unresolved patient/family disagreement about end-of-life decisions and whether standardizing advanced care planning, initially privately with patient and subsequently with the patient and family, would resolve these problems.

Practice Implications: Healthcare providers recognize that patients may not be able to be completely honest when asked about certain issues (i.e. distress screening, compliance with treatment, etc.), in the presence of their family yet family members are routinely present during healthcare visits. The opportunities for healthcare providers to speak privately to the patient become increasingly more limited if there is disease progression since patients may become more dependent on their family who may accompany them to all medical visits. Patients may be spoken to privately during brief opportunities during the visit but this may not be sufficient. Providers assume that the patient is giving tacit permission to discuss personal and healthcare issues if the patient's family is present; it is unclear if this is what patients assume and will be the focus of future studies. The survey has implications for standardizing periodic private meetings with patients during the course of treatment so that the healthcare provider is fully aware of the patient's wishes about what type of treatment to pursue including adding palliative care, transitioning to hospice or ending

treatment. Patients may need periodic private meetings so they have the opportunity to articulate their wishes about treatment or transitions in care to their healthcare provider, followed by a joint patient/family advanced care conference facilitated by healthcare providers skilled in conflict resolution and advocacy if there is patient/family disagreement about treatment decisions. Determining the stages at which these discussions should be occurring and with what frequency they ought to be scheduled may differ by disease. Additional challenges exist for how providers deal with patients who are elderly, have a change in their mental capacity, have hearing or other sensory deficits.

Acknowledgement of Funding: None.

P1-198

Clinical Application of the Distress Thermometer to Uighur Tumor Patients

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BACKGROUND/PURPOSE: To evaluate effect of the Distress Thermometer (DT) recommend by the National Comprehensive Cancer Network on Uighur tumor patients. And to understand present status and related factor of psychological pain in those patients. **METHODS:** The DT was used to detect the levels of psychological pain in 80 patients from a tumor hospital. **RESULTS:** The psychological pain of cancer patients scored 4.53 ± 2.11 with diagnosis, age, educational backgrounds, and medical expense payment ($p < 0.05$ for all). Emotional and physical problems were predominant predictors of psychological pain ($p < 0.01$). **CONCLUSIONS:** The DT could be used in Uighur tumor patients to promptly identify the levels and causes of psychological distress, so as to provide references for medical staff to implement individualized psychological interventions.

Research Implications: Psychological factors in the occurrence and development of malignant tumor, outcome plays an important role. Psychological factors play an important role in the occurrence and development of malignant tumor. Nowadays, more and more medical workers had begun to increased concerns about Psychological factors. However, there is still much to be desired in tumor patients. The research works to correct the flaw

Practice Implications: The study will provide a more effective simpler tool for cancer patients.

Acknowledgement of Funding: None

P1-199

Recollections of Cancer Caregiving at End of Life

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BACKGROUND/PURPOSE: There is evidence that providing care to a family member or friend with terminal cancer can have positive and/or negative impact on bereaved caregivers, yet the relationship between the contexts in which caregiving takes place, and caregiver outcomes in bereavement has not previously been considered. This study aimed to gain a qualitative understanding of the interpersonal, medical, and personal aspects of the caregiver experience and the impact of each of these aspects on caregivers in bereavement. **METHODS:** Telephone interviews were conducted with 22 bereaved caregivers ($n=18$ spousal caregiver; $n=4$ caregiver of parent) recruited from Australian community-based organisations. Interviews used a semi-structured script addressing issues relating to the caregiver's relationship with the care recipient and family (interpersonal), dealings with health professionals (medical) and recollections of their caregiving experience (personal). Interviews were recorded, transcribed verbatim and analysed using thematic analysis via NVivo. **RESULTS:** Two themes emerged as factors influencing caregiving recollections: Relationships and Communications (with the care recipient, extended family, healthcare team) and the Caregiver's Coping Approach. Participants identified both negative (e.g., legal issues) and positive (e.g., pride) caregiving outcomes. Caregivers tended to ascribe negative outcomes to interpersonal issues/concerns (e.g. nature of relationships and communications), whereas positive outcomes tended to be influenced more by personal aspects (e.g. caregiver's coping ability). **CONCLUSIONS:** Personal and interpersonal factors appear to differentially influence recollections about providing care to an individual with terminal cancer. These findings suggest greater focus is needed in identifying potentially detrimental interpersonal aspects of caregiving, while simultaneously bolstering caregiver coping ability.

Research Implications: Prior research has identified the need for improved communication about cancer diagnoses at end-of-life, the importance of social support for caregivers and the role of individual differences in bereavement adjustment. However, the relationship between these domains has not previously been considered. These qualitative data indicate that bereaved caregivers of a spouse or parent who died of cancer ascribed negative outcomes of caregiving to interpersonal factors, such as family tensions resulting in litigation

following the death of the individual with cancer. In contrast, positive outcomes were associated with caregiver qualities, such as feeling proud that they were able to manage the challenges of caregiving and meet the needs of their spouse or parent. These data indicate that quantitative research regarding these issues is also necessary in order to understand how outcomes for caregivers, both during caregiving and in bereavement, might be improved.

Practice Implications: These findings reinforce the importance of improving communication about incurable cancer within healthcare settings, identifying caregivers at risk of negative outcomes, and facilitating improved caregiver coping.

Acknowledgement of Funding: None

P1-200

The Social and Psychological Effects of Dyschezia Following Low Anterior Resection of the Rectum

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BACKGROUND/PURPOSE: We examined self-evaluations of changes in dyschezia, living conditions, and bowel movements of patients who underwent low anterior resection for rectal cancer. **METHODS:** Subjects are 14 patients (10 men and 4 women) aged 40–84 years (mean 62.1 years) were included in this study. Data were self-recorded during outpatient visits. (1) The Defecation Dysfunction Assessment Scale ver.2 (DDAS ver.2), consisting of 2 subscales, total 12 items. Scores ranged from 12–60 points. (2) Self-evaluation of bowel movements (0–100). Living conditions described in interviews. Periodic changes in (1) and (2) were analyzed in patients who underwent three or more interviews. The correlation coefficient between the DDAS and self-evaluation of bowel movements was calculated. **RESULTS:** Each patient underwent 1–6 interviews during outpatient visits conducted 40–607 days following surgery. Nine patients underwent three or more interviews. Patients most commonly passed 4–15 bowel movements a day; however, DDAS scores gradually decreased in seven patients. Trends in self-evaluations of bowel movements differed depending on the individual (2–83). The correlation coefficient between the DDAS and the self-evaluation of bowel movements was -0.63 and for the subscales 'Fecal continence and passage' and 'Constant urge to defecate', the correlation coefficients were -0.27 and -0.73 , respectively. **CONCLUSIONS:** Although dyschezia following low anterior resection was alleviated over time, some patients still suffered

from the condition more than 2 years after surgery, which greatly affected their social life. We found that the constant urge to defecate affected self-evaluation of bowel movements.

Research Implications: This research contribute development nursing care improving QOL of patients who underwent low anterior resection for rectal cancer.

Practice Implications: To relieve suffering for rectal cancer patients undergoing low anterior resection.

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P1-201

Sexuality after Gynecological Cancers: A Cross-sectional Study

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BACKGROUND/PURPOSE: One side effect following treatment for gynecological cancer is the significant negative effects on women's sexuality. Sexuality is a significant part of human nature and cannot be separated from a person's life. It should have a high priority in cancer care throughout the cancer trajectory as well as in the follow-up. **PURPOSE:** The main purpose of this study was to describe and compare sexual activity, functioning and quality of life of the various gynecological cancers according to diagnoses, treatment modalities and age. **METHODS:** One hundred and twenty-nine (129) women with different types of gynecological cancers, who were participants in an intervention study, answered a psychometric instruments measuring Sexual Activity Questionnaire (SAQ). **RESULTS:** Close to two thirds (60.5%) of the women had engaged in sexual activity during previous month, which is a higher frequency than in other comparable samples. However, the women reported a low (er) level of sexual pleasure and a higher level of discomfort compared to normative sample. Fifty percentage of the sexually active women were not satisfied/little satisfied with their sexual activity, and reported dryness in the vagina, as well as pain or discomfort during penetration. Furthermore, the majority of these women reported a relatively satisfactory quality of life, despite bodily ailments, discomforts and changes in sexual life. **CONCLUSIONS:** Sexuality is an important factor in quality of life and should have a high priority in the encounter with health personnel throughout the cancer trajectory as well as in the follow-up.

Research Implications: The Sexual Activity Questionnaire (SAQ) used in this study investigates and focuses on sexual function and activity. Sexuality is, however, a

multidimensional phenomenon and should, as such, be identified and measured across all dimensions of sexuality. Gynecological cancers and treatment may have a negative impact on psychological and social aspects of sexuality and quality of life, as well as physical functioning and activity.

Practice Implications: It is important that health personnel fully understand the women's sexual concerns and address them in practice. Sexual function and response cycle, as well as body image and sexual relationships should be taken into consideration in the encounter with the individual woman. Being sensitive to the individual woman and her questions, having good communication skills and competence in disease and treatment modalities for sexual difficulties, are paramount. Furthermore, written information alongside counselling consultation will increase the information presented.

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P1-202

A Pilot Study of the KSADS-PL To Assess the Mental Health of Adolescents and Young Adults with and without Cancer

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BACKGROUND/PURPOSE: Describe the feasibility of using a child psychiatric diagnostic interview (KSADS-PL) for adolescents and young adults (AYA) with or without cancer. Evaluate whether parent interviews change diagnostic findings of AYA participants. **METHODS:** Convenience sample of 18- to 25-year-old individuals with cancer (CA) enrolled at NIH Clinical Center ($n=10$) and comparison group of healthy volunteers (HV) ($n=15$). Parent interviews were conducted in person or by phone, and were completed by the same trained clinician who interviewed the AYA. **RESULTS:** It was more feasible to complete parent interviews with CA than HV (100% vs. 67%). Only KSADS-PL findings for completed dyads were analyzed (10 CA and 10 HV). In general, AYA in both groups endorsed more screening symptoms compared with their parents and therefore were asked additional interview questions. Rates of any lifetime psychiatric diagnosis were higher in CA compared to HV (100% vs. 40%). CA lifetime rates were (mood 80%; anxiety 70%; drug/alcohol abuse 40%) compared to HV (mood 30%; anxiety 10%; drug/alcohol abuse 0%). Rates of any current diagnosis were 50% in CA and 20% in HV. Except for one AYA who

underreported alcohol use, parent interviews did not change current or lifetime psychiatric diagnoses in either group. **CONCLUSIONS:** Parents underreport psychiatric symptoms in their children ages 18–25. Our data suggest that AYA self-report is sufficient for diagnostic assessments. We found high rates of current and lifetime psychiatric disorders among our convenience samples of AYA CA compared to HV. While many AYA endorsed drug/alcohol items, only CA met criteria for drug/alcohol abuse.

Research Implications: Clinician-administered structured psychiatric diagnostic interviews can detect mood and anxiety disorders in older adolescent and young adult (AYA) cancer patients without collateral parent report. A domain that could benefit from further study is alcohol/drug abuse due to the potential for underreporting by AYA and parent informants.

Practice Implications: The findings suggest that older adolescents and young adults with cancer are generally able to provide adequate information about their own mental health histories and that additional information provided by parents does not enhance detection for most psychiatric disorders. This study lends support to the notion that the AYA population needs to be understood within a developmental framework and should be empowered to be active participants in their clinical evaluation and care.

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P1-203

Examining Parents' Perspectives of Social Competence in Pediatric Brain Tumor Survivors: A Mixed-methods Approach

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BACKGROUND/PURPOSE: Pediatric brain tumor survivors (PBTS) experience difficulties with social competence and are at risk for social isolation and victimization. Guided by a model of social competence, this mixed-methods study solicited families' perspectives on factors affecting survivor social competence. **METHODS:** Focus groups were conducted with parents (13 fathers, 11 mothers; average age=48.58 [$SD=7.40$]) of 24 PBTS (13 female; average age=14.58 [$SD=2.28$]). Survivors were 9.15 years from diagnosis ($SD=2.93$). Parents participated in a guided group discussion and completed questionnaires on family functioning, survivor executive function, and survivor social functioning. Themes derived from qualitatively oriented content

analyses were examined quantitatively. **RESULTS:** Primary themes from analyses included (1) neurocognitive difficulties impacting survivor social interactions with peers; (2) parental difficulties discerning age-appropriate social behavior from late effects; and (3) families' varied practices in terms of fostering survivors' social lives. In Pearson bivariate correlations, poorer executive functioning and family functioning were significantly associated with worse social skills and more social problem behaviors (r 's range 0.41–0.88). Exploratory regression analyses revealed that family functioning accounted for significant variance in social skills ($t[23]=-2.80$, $p<0.05$) and social problem behaviors ($t[23]=2.17$, $p<0.05$), while controlling for executive function. **CONCLUSIONS:** Behavioral manifestations of executive dysfunction may be an important risk factor for survivor social problems. Parent perspectives highlight the role of family variables as key contributors to survivor social competence and underscore family functioning as an intervention target for improving social competence in PBTS.

Research Implications: Understanding the perspectives of parents of PBTS on survivor difficulties with social competence is important and can inform future prospective studies that examine family predictors of survivor social competence. The current study also suggests avenues for the development of family-based interventions, including outlining parents' roles in promoting survivor social functioning.

Practice Implications: Pediatric brain tumor survivors experience difficulties with social competence and are at risk to be isolated by peers. Programs that work to increase parental involvement in structuring survivors' social lives might be particularly important for this at-risk group.

Acknowledgement of Funding: This study was supported by 1K07CA178100-01, 'A prospective study of social competence in pediatric brain tumor survivors', principal investigator: Matthew C. Hocking, Ph.D.

P1-204

Cancer Survivors' Perspectives on the Role of Behavioural and Personal Factors Regarding Return to Work And Continuation of Work: An Interview Study

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BACKGROUND/PURPOSE: We know which socio-demographics, cancer-related and work-related factors affect return to work in cancer survivors. However, there is a lot we still do not know, especially regarding behavioural and personal factors, such as attitude towards work,

meaning of work, expectations and coping. In this study, cancer survivors' perspectives on the role of these factors regarding return to work and continuation of work have been inventoried. **METHODS:** Participants were recruited through a hospital registry and received a short questionnaire. Breast, colorectal and head and neck cancer survivors were included, who were 1–2 years after diagnosis, 18–60 years of age, and had an employment contract at time of diagnosis. The semi-structured interviews were conducted by telephone and contained nine predetermined topics, with questions related to, e.g., attitude, social support and self-efficacy. Thematic analysis was applied. **RESULTS:** Of the 130 invited cancer survivors, 66 returned the questionnaire and 28 interviews were conducted. Behavioural and personal factors such as social support and pressure, but also self-efficacy, were described to be influential in both return to work and continuation of work. All survivors had a positive attitude towards work, some experienced social pressure, and most believed that return to work and continuation of work partly could be controlled by themselves. **CONCLUSIONS:** Behavioural and personal factors have not been explored related to return to work and continuation of work in cancer survivors. Considering these factors in the development of work-related interventions might be promising, since these interventions have hardly shown significant effects so far. **Research Implications:** Behavioural and personal factors have not been explored related to return to work and continuation of work in cancer survivors. Considering these factors in the development of work-related interventions might be promising, since these interventions have hardly shown significant effects so far.

Practice Implications: Next to well-known and important sociodemographics, cancer-related and work-related factors associated with return to work, attention should also be paid to these behavioural and personal factors by healthcare professionals, since intervention programs will continue to show insignificant effects if factors related to the survivor are not included in the development of these interventions.

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P2-242

Differential Effect of Health Status Dimensions on Psychological Distress in a Cohort of Childhood ALL Survivors

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CHU Sainte Justine

BACKGROUND/PURPOSE: Recent research has found that trajectories of distress of remitted pediatric cancer patients were associated with health status, with poorer

health status being related with deterioration of distress over time. In this population, the domains responsible for psychological distress are still unclear though. The purpose of this study is to identify domains of health status associated with measures of psychological distress. **METHODS:** One hundred thirty ALL survivors (70% > 18 years, 5 years post-diagnosis, without relapse), followed at Sainte-Justine UHC in Montreal responded questionnaires on their health status (15D-16D-17D) and measures of distress (BSI-18, BYI-II, BAI, BDI-II, DT) in a cross-sectional cohort follow-up. We used stepwise ascendant regression analyses to identify the best predictors of psychological distress among health status dimensions. **RESULTS:** We found 20% of cases of significant distress in the sample. Differences were found on functional status dimensions as compared to norms on: Breathing (medium ES), Sleeping difficulties (medium ES), and Excretion (small ES). Most frequent important issues were reported on Appearance (16%), Vitality (15%) and Sleep (15%). Depression, anxiety and distress were best accounted for by reported difficulties on Mental functioning and Excretion (ORs = 1.05–2.75). Anxiety levels were associated with difficulties on Mobility (OR = 1.50). The associations were consistent when controlling for age. **CONCLUSIONS:** The results suggest that specific areas of physical limitations should be considered as they are associated with psychological distress. Subjective experience of limitations is an important area of research in survivors confronted with long-term adverse effects.

Research Implications: The results suggest researchers should pay closer attention to individual dimensions of health status and physical symptoms, in addition to global health status assessment, when explaining factors of distress.

Practice Implications: Domains of perceived physical limitations should be investigated when assessing and treating distress during survivorship.

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P1-206

Coping Skill Improve Quality of Life in Women with Breast Cancer and Maladaptive Coping Style

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BACKGROUND/PURPOSE: Breast cancer (BC) is a common malignancy among women. BC is a stressor in life that affect coping strategies and quality of life. This study performed to improve the quality of life in

women with maladaptive coping style. **METHODS:** A randomized clinical trial, held in 2011. Patients with maladaptive coping strategy were included in the study. Sixty-two patients were randomized to two groups. Before and after 8 weeks of coping therapy, the quality of life was measured. General Linear Model was used for analysis. **RESULTS:** The mean age in the intervention and in control group was 45.10 ± 7.34 $46/52 \pm 6.20$ respectively (p -value > 0.5). Functional health significantly improved after the intervention (p -value < 0.005), but in the control it decreased (p -value = 0.029). symptom health between the two groups demonstrated no difference before and after intervention. General health improved in the intervention group. (p -value = 0.017). But in the control group it was not significant (p -value = 0.128). Problem-focused coping strategies in the intervention group improved markedly (p -value = 0.003) whereas the control group did not reveal significant differences (p -value = 0.196). **CONCLUSIONS:** The results showed that the coping skill training program can improve the overall quality of life of breast cancer women, and indicated that the care of breast cancer should address psychological issues and the findings point to the importance of taking individual coping strategies into account when evaluating the impact of breast cancer on psychosocial well-being.

Research Implications: Patients with cancer demonstrate different reactions to cancer after confirming diagnosis, it depends on their psychological status patients with maladaptive coping style are more prone to loss quality of life and well-being.

Practice Implications: In the practice setting, clinicians according to, psychological status of patients, should plan, more supportive care for, this type of patients

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P1-207

The Dyadic Effects of Family Coherence and Communication on Psychological Distress for Cancer Survivor Couples

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BACKGROUND/PURPOSE: This study aimed to examine the actor and partner effects of family coherence and family communication on psychological distress for cancer survivor couples. More specifically, the current study investigated the moderating effect of gender in the relationships among family coherence, family communication, and psychological distress. **METHODS:** A total of 91 breast, colorectal, and prostate cancer survivor-

spouse dyads were included in the final analysis. Participants were recruited from the University Hospital Registry in Cleveland, Ohio. Standardized questions that assessed family coherence, communication, and psychological distress were used. **RESULTS:** The actor-partner interdependence mediation model demonstrated that the mediating effect of family communication in the relationship between family coherence and psychological distress was confirmed for cancer survivors only. In the relationships between survivor coherence and partner communication, and between survivor communication and partner distress, the partner effects emerged. Findings indicate that the survivors' perception regarding family coherence improved the partners' abilities to communicate with family members, and the survivors' abilities on family communication reduced the spouses' distress. Gender moderated the relationships among the study variables. Regarding the male survivor group, both the survivors' and the spouses' family cohesion significantly influenced their own communication (actor effect). In terms of the female survivor group, the partner effects between family cohesion and psychological distress observed. **CONCLUSIONS:** Enhancing family coherence and communication for cancer survivors' and their spouses' can reduce their psychological distress of couples coping with cancer. Our findings highlight the importance of understanding different paths in the relationships among family coherence, communication, and psychological distress by gender.

Research Implications: Future study regarding the applicability and efficacy of gender-based approaches by cancer type and ethnicity is warranted.

Practice Implications: Evidence that gender differences in the relationships among family coherence, communication, and psychological distress exist serves as a rationale for gender-based approaches under the family context to reduce psychological distress in survivorship care.

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P1-208

Using the Course of Life Questionnaire to Examine Psychosocial Development in Adolescent and Young Adult (AYA) Oncology Patients

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BACKGROUND/PURPOSE: Individuals diagnosed with cancer at younger ages experience setbacks in psychosocial development, which can continue through young adulthood. This study describes differences in three domains of psychosocial development between AYA cancer patients (CA) and healthy volunteers (HV). **METHODS:**

As part of a larger mental health study, we administered the Course of Life Questionnaire (CoL) in a convenience sample of 10 CA and 15 HV, aged 18–25 years. CoL is a self-report retrospective questionnaire that assesses the impact of childhood disease on psychosocial development. This analysis examines three developmental domains: autonomy, social and psychosexual. First, we compared CA and HV psychosocial development. Then, we examined subgroup differences in the CA group by sex, age at diagnosis (≤ 18 or ≥ 19) and years since diagnosis (≤ 2 or ≥ 3). **RESULTS:** Compared to HV, CA were similar on most measures of social development, but reached fewer autonomy and psychosexual milestones. For example, job (50% vs. 100%); living with parents (60% vs. 7%); significant other (50% vs. 87%). For CA subgroups, females and those diagnosed ≤ 18 were less likely to achieve milestones across all domains. There were fewer differences in the subgroup analysis of years since diagnosis (≤ 2 or ≥ 3), except for psychosexual milestones for CA with longer disease duration, e.g., falling in love and sexual intimacy. **CONCLUSIONS:** Preliminary data suggest that cancer affects AYA psychosocial development. Attention to psychosocial development among females and AYA diagnosed ≤ 18 is warranted. CA with a longer disease history may have more difficulty forming intimate partner relationships.

Research Implications: Our findings are worth replicating with larger AYA samples with and without medical illness. With regard to our subgroup analyses, a larger sample size would also clarify the impact of sex, age at diagnosis and disease duration on psychosocial development. If significant differences are found, interventions could be developed to support the psychosocial development of AYA individuals with serious medical illnesses, including cancer.

Practice Implications: We recommend that clinicians who care for AYA with cancer evaluate their psychosocial development and pay special attention to females and AYA patients diagnosed at age 18 or younger. Because there was variability in the pattern of milestone achievement, clinicians treating AYA with cancer should query specifically in the domains of autonomy, social and psychosexual development.

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P1-209

Perceived Level of Emotional Support and Self-reported Areas of Post-traumatic Growth in Parents of Children Undergoing Cancer Treatment

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BACKGROUND/PURPOSE: Post-traumatic growth (PTG) is a psychological phenomenon that results in positive change following seriously distressing events, such as caring for a child receiving cancer treatment. PTG has been reported internationally in numerous research cohorts. Emotional and social support may be an important factor in enhancing PTG. This study compared perception of emotional support with the number of positive changes reported by parents of children diagnosed with cancer. **METHODS:** As part of a larger study to characterize caregiving experiences in a cohort of parents whose children were undergoing cancer treatment (6–18 months post-diagnosis), 269 parents provided information about positive life changes secondary to their child's diagnosis, as well as the parent's perceived level of emotional support on a 3-point scale. **RESULTS:** Nearly all participants (97%) reported at least 1 positive life change following their child's diagnosis. The most commonly reported area of growth was 'I feel like I have a new or different appreciation of life' (73%). A one-way ANOVA revealed a significant difference in mean number of growth symptoms across the 3 levels of perceived emotional support $F(2, 264) = 3.071$, $p = 0.048$. Post-hoc comparisons indicated the mean number of growth symptoms was significantly greater in parents with 'a lot' of support ($M = 5.6$, $SD = 2.8$) compared to those with 'some' support ($M = 4.7$, $SD = 2.8$). **CONCLUSIONS:** These findings describe the most common areas of growth reported in parents of children undergoing cancer treatment. The results add support to models of PTG that suggest social and emotional support may facilitate growth following a trauma experience.

Research Implications: Future studies should assess the impact of treatment intensity, treatment outcome, and other demographic variables on parental growth experiences following a child's cancer diagnosis. Additional research can help identify ways to maximize positive changes that can occur following a child's cancer diagnosis.

Practice Implications: Parents of pediatric cancer patients should be assessed for emotional support at the beginning of their child's treatment and throughout the cancer trajectory, as this may impact the amount of positive change parents can experience during treatment.

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P1-210

Screening for Depression and Suicide Risk in Adult Cancer Inpatients

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BACKGROUND/PURPOSE: Suicide accounts annually for more than 800,000 deaths worldwide. Cancer patients are at increased risk for suicide and, more commonly, depression. While screening medical patients for these mental health concerns is recommended, it is not routine in most hospitals. The Patient Health Questionnaire (PHQ-9) is a commonly utilized depression screen that includes Item 9, often used for measuring suicidal ideation and self-harm. Recent studies have shown that depression screening alone may not be adequate to identify medical patients at risk for suicide. This analysis describes the relationship between screening positive for depression and suicide risk in adult cancer inpatients. **METHODS:** As part of a larger suicide instrument development study, adult oncology inpatients admitted to a research hospital completed a depression screen, two suicide risk screens, and a demographics questionnaire. Univariate statistics were calculated to examine the relationship between screening positive for depression and screening positive for suicide risk. **RESULTS:** Sixty oncology inpatients participated. Seven (12%) screened positive for depression only, two (3%) screened positive for suicide risk only, and four (7%) screened positive for both. Participants with positive depression screens were more likely to also screen positive for suicide risk, compared to those with negative depression screens, $\chi^2(1, N=60)=10.4$, $p=0.001$. Only three of sox patients who screened positive for suicide risk endorsed PHQ-9 Item 9. **CONCLUSIONS:** Although there is a clear overlap between depression and suicide risk, cancer patients at risk for suicide may be under-detected if only screened for depression. Asking directly about suicide may identify more patients at risk.

Research Implications: Depression and suicide may be separate constructs; depression screening alone may not detect cancer research participants at risk for suicide.

Practice Implications: Clinicians should consider screening all cancer patients for risk of suicide, not just those who show depressive symptoms.

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P1-212

Associations of the Future Intention of Using Psychosocial Support Services with Concerns and Psychological Distress among Breast Cancer Patients

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BACKGROUND/PURPOSE: Breast cancer patients have concerns and psychological distresses. Although psychosocial support services are more available, the rate of the use is low. Therefore, we investigated the future intention of the use, and examined the associations of the intention with concerns and psychological distresses. **METHODS:** We sent E-mail with URL that invited to our questionnaire website to breast cancer patients who join a mailing list of one of patients' association. We used the data of fifty-eight participants who have not used any psychosocial support services (33.5% of total participants). We asked demographic information, the future intention of the use, BCWI, and HADS. **RESULTS:** About half of participants were adjustment disorder or major depression (31.0% and 24.1%, respectively). No one planned to use some psychosocial support services concretely. Participants reported, 'Intending to use it as necessary' (47.5%) and 'Being interested in it' (40.7%). Logistic regression analysis showed that neither total score of BCWI nor HADS had significant association with 'Intending to use it as necessary'. However, some items of BCWI (about life and death of oneself and about doing job or house work ($p < 0.05$, respectively)) had significant association with it. **CONCLUSIONS:** About half of participants were adjustment disorder or major depression. However, no one planned to use such services concretely. Some items in BCWI had association with the intention of the use, but both total score of BCWI or HADS did not. The result would help us to understand patients with heavy distress do not use.

Research Implications: We surveyed very limited participants. Therefore, it is expected to survey covering a large variety of cancer patients by a method like Internet research system. We expect that not only concerns and distresses but also other factors will be considered and that examining of the association between the actual use of psychosocial services and other factors by longitudinal study will be conducted. In addition to that, we think that identifying specific situations that patients need such services concretely in future study.

Practice Implications: According to our study, assessing contents of patients' concerns carefully and approaching to them would be more effective, than assessing an amount of concerns or distresses, to facilitate patient to use.

Acknowledgement of Funding: None

P1-213

Spousal Support Can Be Positive or Negative: Qualitative Analysis of Colorectal Cancer Risk Prevention Discussions

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BACKGROUND/PURPOSE: Colorectal cancer (CRC) is one of the most common cancer diagnoses. Detection and removal of precancerous polyps through CRC screening procedures can reduce mortality, yet screening rates remain less than optimal. Research suggests that spousal influence, through social support and social control, may increase CRC screening participation and risk-reducing behaviors. Less is known about the mechanisms by which spousal communication is or is not effective in changing health behaviors. This study aim was to identify support behaviors of spouses in a cancer risk prevention discussion. **METHODS:** In this pilot study, 16 heterosexual married couples ($n=32$; M age = 57) in which one spouse had a family history of CRC participated in a risk assessment session with a genetic counselor. Couples then engaged in a 5-min semi-structured discussion task in which they discussed risk prevention strategies. Discussions were transcribed verbatim and qualitatively analyzed to identify themes. **RESULTS:** While there was evidence of spousal support for positive health behaviors (e.g. encouraging health behaviors), many spouses also supported negative health behaviors or justified not engaging in health behaviors (e.g. discounting risk or exaggerating existing health behaviors to justify lack of further effort). **CONCLUSIONS:** Although spouses were overall seen as highly supportive, our study findings revealed that this support may not necessarily be beneficial for health behaviors. Spousal influence may in fact undermine efforts to improve health.

Research Implications: This preliminary work has implications for the development of future interventions to improve CRC screening behavior.

Practice Implications: Clinicians may need to communicate the importance of health behaviors to both patients and spouses.

Acknowledgement of Funding: Brigham Young University, Office of Research and Creative Activities Mentoring Environment Grant

P1-214

Resilience, Africultural Coping, and Distress in Black Prostate Cancer Patients

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BACKGROUND/PURPOSE: Black men report greater emotional well-being and less depressive symptomatology than Caucasian men following PC. This pilot study

explores resilience as a mediator between four africultural ways of coping (i.e., Cognitive/Emotional Debriefing, Spiritual-Centered Coping, Collective Coping, and Ritual-Centered Coping) and distress in a sample of Black men. **METHODS:** This study has recruited 97 Black men with PC who received prostate specific antigen (PSA) tests at standard clinic appointments. Men completed the Hospital Anxiety and Depression Scale (HADS), the Africultural Coping Structure Inventory (ACSI), and the Brief Resilience Scale (BRS). **RESULTS:** To date, 97 subjects with a mean age of 67 ± 9 years have completed all study assessments. Of the men, 11.4% met a total cutoff score of ≥ 16 on the HADS; 21.8% scored ≥ 7 on the subscale of anxiety and 16.3% on the depression subscale. Surprisingly, three africultural coping methods were not related to distress (range: $r=0.00-0.20$, $p=0.06-0.97$). The Ritual-Centered Coping subscale of the ACSI was positively correlated to the anxiety ($r=0.29$, $p=0.005$) and depression ($r=0.23$, $p=0.025$) subscales of the HADs. Greater resilience was associated with decreased anxiety ($r=-0.45$, $p<0.001$) and depression ($r=-0.54$, $p<0.001$). Mediation was not tested as the relationship between the ACSI and distress was not statistically significant. **CONCLUSIONS:** Understanding the dimensions of resilience and coping is essential for tailoring effective psychosocial interventions for Black men with PC. Contrary to our hypothesis, specific africultural ways of coping were not helpful for men dealing with distress related to PC. Bolstering resiliency may be more effective in managing their distress.

Research Implications: As africultural coping mechanisms were not influential in increasing resiliency or decreasing distress, more investigation is needed on the specific coping mechanisms that are effectively utilized by Black Prostate Cancer patients. Further research should (1) look longitudinally at depression, anxiety, and quality of life, (2) the development of a psychosocial intervention for men with Prostate Cancer focused on resilience.

Practice Implications: Interventions that utilize resilience as an aid in coping with anxiety and depression in Prostate Cancer patients should be developed further.

Acknowledgement of Funding: None

P1-215

Medical Mistrust and Discrimination among Breast Cancer Survivors and Access to Psychosocial Services

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BACKGROUND/PURPOSE: Perceived unfair treatment in the medical setting results in poor cancer care. Latinas, in particular, have been shown to perceive discrimination in cancer care and exhibit high levels of medical mistrust. These shared experiences may negatively impact their care, including psychosocial service use. We examined relations between utilization of psychosocial services after diagnosis and discrimination and medical mistrust in non-Latina White and Latina breast cancer survivors. **METHODS:** Latina and non-Latina White breast cancer survivors completed a self-report questionnaire about their preferences for receipt of psychosocial services. Assessments included: utilization of psychosocial providers and services, medical mistrust, and experienced discrimination. Descriptive statistics, t-tests and chi-square tests were performed. **RESULTS:** A sample of 256 survivors—95 Latinas and 161 non-Latina Whites—completed assessments. Latina survivors reported greater medical mistrust ($M=31$, $SD=4.0$) than non-Latina White survivors ($M=34$, $SD=2.7$). Latina survivors also reported more discrimination (39%) compared to non-Latina Whites (14%). Greater medical mistrust among Latinas was significantly associated with lower use of psychosocial services ($p=0.02$) and less contact with psychosocial providers ($p=0.02$). No significant relationships were found between medical mistrust, discrimination and accessing psychosocial services or providers for non-Latina Whites. **CONCLUSIONS:** Consistent with previous research, Latinas experienced greater discrimination and medical mistrust in the cancer setting than non-Latina Whites. While discrimination did not seem to impact their use of psychosocial services/providers, mistrust in healthcare professionals negatively impacted their level of contact with psychosocial services and providers after the cancer diagnosis. Culturally sensitive provider interventions may reduce patients' mistrust and improve utilization of psychosocial services provided to Latinas.

Research Implications: Our results suggest important implications for medical mistrust and discrimination in terms of utilization of psychosocial services among Latina breast cancer patients. More research is needed to understand the mechanisms of medical mistrust and discrimination that deter Latina survivors from contacting providers and utilizing psychosocial services.

Practice Implications: A breast cancer diagnosis and its treatment places great strain on patients, which often results in decreased quality of life and greater emotional distress. Our findings suggest that Latina breast cancer survivors also experience higher levels of medical mistrust and discrimination which in turn inhibit the uptake of psychosocial services aimed to improve quality of life and reduce distress. As such, cancer healthcare professionals would benefit from culturally responsive trainings in order to address

mistrust and feelings of discrimination amongst minority populations.

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P1-216

Adaptive Resources in Mothers of Children with Cancer

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BACKGROUND/PURPOSE: The objective of this original research was to diagnose the adaptive resources used by mothers of children and teenagers with cancer. **METHODS:** We use a quantitative research approach with a descriptive type of investigation. To fulfill our research objective we ask the mother's permission to participate in the investigation and later we ask them to answer the Scale to Evaluate Adaptive Resources. After that, we processed the information in form of frequencies and percentages. **RESULTS:** As a result of our investigation we found that all mothers try to find a concrete solution to the problems related to the illness, most of them create a more positive perspective of the situation, change their habitual behavior to fit the new situation, took decisions and improved family communication to potentiate understanding and comprehension between family members. They also change family rules and norms to fit the new situation. Even though most of the mothers said, they won't change family leadership and goals to adapt to the new situation. **CONCLUSIONS:** We found that most of the mothers studied have adaptive resources to deal with the diagnosis and treatment of the cancer on their children. These resources are based mainly in the ability of the families to have a more optimistic perspective about the situation, in the possibility of changing their behavior as a family to take new decisions and to find out a solution to the problems. The most affected adaptive resource are related to the idea that even they have the ability to change some things about the family functioning they won't change the leadership of the family and the goals they had before the diagnosis, even though these things will affect the way the family copes with the illness of the child.

Research Implications: With this information researchers can focus their research lines in find out why families won't change family leadership and goals in this new situation and how this would affect the family functioning, to have a better understanding on family health in psychosocial risk situation families.

Practice Implications: These results are highly important for psychologists working in the oncology area, to focus intervention programs on potentiation the most affected

aspects developed in this research. This will contribute to have more efficient interventions programs, with more evidence result outcomes.

Acknowledgement of Funding: None.

P1-217

Household Financial Well-being and Navigating Cancer Care: A Qualitative Study of Conceptualizing Financial Well-being among Social Workers and Resource Specialists

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BACKGROUND/PURPOSE: A cancer diagnosis can have a significant financial impact on the family; and although having insurance greatly reduces the cost, comprehensive health insurance coverage does not eliminate the risk of substantially deteriorating a household's financial resources. An expanded view of the socioeconomic context for cancer patients might uncover socioeconomic factors influencing disparities in treatment-related outcomes over and above traditional SES measures; and a construct to capture this expanded socioeconomic context is financial well-being (FWB). **METHODS:** Based on a transdisciplinary literature review, we developed a conceptual model of FWB in the cancer care context. Our model included material, psychosocial and behavioral concepts. The present qualitative research study evaluated a conceptual model of FWB in the cancer care context among social workers and resource specialists at an NCI designated comprehensive cancer center. Two focus groups ($N=8$) were conducted. Transcribed data were analyzed according to a conventional qualitative content analysis method, which was comprised of a two stage coding process: Level 1 structural coding and Level 2 thematic coding. **RESULTS:** There was consensus that the material, psychosocial, and behavioral domains of FWB were useful explications of this construct. Themes that emerged around conceptualizing and measuring FWB included: (1) impact of treatment on finances; (2) making household financial adjustments during treatment and survivorship; (3) changing roles of household members during treatment and survivorship; and (4) pre-diagnosis household financial well-being. **CONCLUSIONS:** The present study informs a larger study on the development of measures of household of financial well-being as families navigate cancer care.

Research Implications: There have been calls in the cancer disparities literature for greater clarity on the pathways and mechanisms causing differential cancer outcomes

across racial/ethnic and socioeconomic groups. However, relatively little attention has been paid to the conceptualization AND operationalization of socioeconomic circumstances. Rigorous measures development consisting of conceptual evaluation is often desired in our measurement tools, but this work is less often conducted.

Practice Implications: The development of measures of socioeconomic circumstances is needed. Yet, few studies expand the measurement of socioeconomic status (SES) beyond traditional measures of income, education and insurance status, and these measures can be viewed as very limited indicators in understanding how SES is actually lived by individuals as they navigate cancer care. Our research presents a conceptual model for measures development in this area.

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P1-218

A Patient-centered Approach to Address Fears of Cancer Recurrence during Surveillance after Treatment for Lung Cancer

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BACKGROUND/PURPOSE: The increasing evidence that shared decision making leads to better treatment outcomes makes a compelling case for providers to understand and incorporate patients' preferences for follow-up care after curative cancer treatment. However, little is known about patients' preferences during this phase of medical care. This study aimed to (1) determine patient preferences for follow-up after curative treatment for lung cancer, (2) identify psychosocial needs underlying patients' preferences, and (3) offer suggestions to assist patient-provider communication. **METHODS:** We implemented a longitudinal survey following 30 lung cancer patients who were cancer free for 1 year after treatment ended. Bivariate and multivariate analyses assessed the relationships among patient characteristics, surveillance preferences, quality of life, and fear of recurrence. **RESULTS:** The majority of patients (87%) agreed that it was 'important' or 'extremely important' for them to receive information or assistance with psychosocial needs. Further analyses revealed that patient preferences for help with managing their anxiety, desire to discuss future planning, and assistance with coping were highly correlated with their level of worry about cancer

recurrence ($p < 0.05$). Although patient quality of life improved from Time 1 to Time 2, there was no difference in self-reported level of worry. **CONCLUSIONS:** Despite the persistence of psychosocial issues during the surveillance phase after treatment has ended, there appears to be little evidence that these issues are addressed in surveillance plans or through referrals for supportive care with oncology social workers or psychologists. Shared decision making may help incorporate patients' preferences in planning for this critical phase and address psychosocial needs.

Research Implications: It is evident that there is a need for further research about providers' perceptions of patient preferences and the development of decision aids to help facilitate shared decision making between providers and patients.

Practice Implications: This study draws attention to the psychosocial concerns of cancer patients having completed treatment for lung cancer. Two significant findings were (1) patients' preferences for follow-up (such as, number of appointments, tests during appointments, providers seen) were highly related to patients' psychosocial concerns, and (2) persistent fears of recurrence were not being adequately addressed during the surveillance phase.

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P1-220

Are We Responding to the Distress of Cancer Patients? An Examination of Psychosocial Response after Distress Screening

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BACKGROUND/PURPOSE: Multiple studies have investigated adherence to distress screening implementation in cancer centers. However, limited information is available about adherence to psychosocial assessment and referral as mandated by the Standard 3.2. This study examined psychosocial contact and action rate during the first year of implementation of a distress screening protocol, and psychosocial and clinical predictors. **METHODS:** Data on 182 breast and lung cancer patients treated at a NCI-designated academic comprehensive cancer center (ACAD) were abstracted from the patients' medical charts for a period of 1 year. Bivariate correlations and logistic regressions were used to examine predictors of referral and psychosocial contact. **RESULTS:** Among patients identified as distressed ($DT \geq 4$), 79.6% ($n=82$) were referred to the on-site psychosocial provider. At least one action was recorded in 86% of cases ($n=72$), with emotional support (35.7%) as the most common action

performed. Multiple services were offered in 34.5% of cases ($n=29$). Patients were more likely to be referred for psychosocial services if they were White, had high DT scores, and reported presenting practical, emotional and physical issues. Controlling for these variables, only the distress score was a statistically significant predictor of referral ($p < 0.05$). Significant correlations were found between psychosocial action and younger age, breast cancer, high distress and the presence of practical issues. **CONCLUSIONS:** The distress screening protocol appears to facilitate referrals to resources. More research needs to investigate psychosocial and clinical variables that may play a role in the likelihood of receiving a psychosocial response from a practitioner.

Research Implications: Identifying factors associated with referral to psychosocial services and action rate provide guidance for future implementation of distress screening protocols.

Practice Implications: Psychosocial professionals engaged in distress screening can use the evidence from this study to identify patients at risk for not having their distress addressed.

Acknowledgement of Funding: Chiara Acquati, MSW is supported by a Doctoral Training Grant in Oncology Social Work, DSW-13-278-01 from the American Cancer Society.

P1-221

Cognitive Impairment, Distress, and Quality of Life

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BACKGROUND/PURPOSE: Cognitive changes after chemotherapy, known as 'chemo brain' is reported to occur between 15% and 25%. For a significant proportion of these patients, this cognitive decline is impairing to a degree that effective functioning in work, education, and home is no longer possible. As such, quality of life (QOL) is significantly impacted. This study reports preliminary data from a larger study examining QOL and psychological needs of cancer patients in a large non-profit hospital system. **METHODS:** Participants ($N=31$) completed self-report questionnaires assessing emotional and physical well-being. **RESULTS:** Participants were an average age of 59 (± 11) and were predominately Caucasian (87%), female (57%), and unemployed (61%). Thirty-two percent of participants reported having memory and concentration problems. Participants endorsing memory problems reported higher levels of distress ($M=4.0$, $SD=2.1$) than those who did not ($M=3.1$, $SD=3.3$), although this difference was not statistically

significant $t(26) = -0.716, p = 0.480$). QOL scores were also not statistically significant between groups. Of note, 75% of breast cancer patients reported memory problems compared to only 37.5% of prostate cancer patients. **CONCLUSIONS:** Although no significant differences were found on distress and QOL measures between groups, preliminary data show trends toward greater impairment in patients endorsing memory/concentration problems. In addition, patients in this study endorsed this concern at a higher proportion than found in previous research.

Research Implications: Further research is needed to clarify the relationship between cognitive impairment, distress, and QOL.

Practice Implications: It is hoped that results from this ongoing study can serve as a foundation for future interventions for patients suffering from cognitive changes following treatment.

Acknowledgement of Funding: None

P1-222

The Effect of Obesity on Recovery after Endometrial Cancer Surgery

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BACKGROUND/PURPOSE: Excess body fat is a risk factor for endometrial cancer. However, its effects on quality of life (QOL) post-treatment are yet undetermined. We examined the extent to which body mass index (BMI) predicted depression, insomnia, and fatigue, persistent and common QOL concerns following surgery. We also considered type of surgery, physical activity, and inflammation as potential mediators of relationships between BMI and QOL. **METHODS:** Women who underwent surgical resection of endometrial cancer ($N = 83$) were evaluated at 1, 4, and 16 weeks post-surgery. At each assessment, participants completed measures of depression, insomnia, and fatigue. Actigraphy assessed activity level, and inflammatory cytokines were quantified in peripheral blood using an electrochemiluminescence platform. Mixed-effects linear regression models covarying for age and disease stage tested the significance of relationships between BMI and outcomes. **RESULTS:** Participants with higher BMIs reported greater depression ($z = 2.16, p = 0.013$) and fatigue ($z = 2.54, p = 0.011$) at all post-surgical assessments. There was no significant association between BMI and insomnia. Those with higher BMIs were more likely to have more invasive surgery

($p = 0.048$), had lower activity levels ($z = -2.85, p = 0.004$), and had higher IL-6 levels ($z = 2.38, p = 0.017$). Activity level mediated the relationship between BMI and fatigue. Surgery, and IL-6 levels did not mediate relationships between BMI and QOL outcomes. **CONCLUSIONS:** Findings indicate that high BMI is a risk factor for a slower recovery following treatment for endometrial cancer, particularly for mood and fatigue. The level of physical activity mediates the relationship between BMI and fatigue, suggesting a potential intervention target to improve QOL following surgery.

Research Implications: The results of this study highlight the importance of considering obesity when investigating quality of life concerns among cancer survivors. The findings also add evidence for the role of physical activity in reducing cancer-related fatigue.

Practice Implications: Clinicians can use BMI to identify women who may be at an increased risk of a slower or more difficult recovery from endometrial cancer. Findings also highlight the potential therapeutic benefit of physical activity for women of all body sizes to improve their fatigue after treatment.

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P1-223

Mechanisms of Navigating Goals after Testicular Cancer in Young Adult Men

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BACKGROUND/PURPOSE: Cancer challenges the pursuit of meaningful goals. Such pursuits reflect one's most valued aspirations. Facility in navigating goals after cancer might have unique relationships with one's sense of life purpose and meaning, and ability to regulate emotional responses to cancer. This study examined the relationships of goal navigation skills (goal identification, clarification, and adjustment) with sense of life purpose and meaning, emotion-regulating coping, and physical and psychological health indicators in young adults with testicular cancer. The mediating role of meaning and emotion-regulating coping on outcomes were examined. **METHODS:** Men ages 18 to 29 ($N = 171$; M age = 25.2, $SD = 3.32$) with a history of testicular cancer were

recruited via a state registry and completed questionnaire measures of goal navigation, meaning and purpose, emotion-regulating coping, and physical and psychological adjustment. **RESULTS:** Greater goal navigation was associated with higher sense of meaning and purpose ($r=0.44$, $p<0.01$), higher emotion-regulating coping ($r=0.27$, $p<0.01$), lower depressive symptoms ($r=-0.41$, $p<0.01$), and better physical functioning ($r=0.28$, $p<0.01$). Emotion-regulating coping and meaning and purpose were significantly related to lower depressive symptoms and better physical functioning. Mediation analysis revealed significant indirect effects of meaning on both psychological (-0.60 ; 95% CI: -0.89 , -0.37) and physical (0.44 ; 95% CI: 0.26 , 0.70) adjustment. Further, the indirect effect of emotion-regulating coping on both psychological (-0.08 ; 95% CI: -0.24 , -0.01) and physical (0.11 ; 95% CI: 0.02 , 0.26) adjustment were significant. **CONCLUSIONS:** This study reveals core processes by which goal navigation skills may be affecting physical and psychological well-being. Findings point to modifiable targets of future intervention with young adult survivors.

Research Implications: Results point to key mechanisms of goal navigation processes that will contribute to theory development and future intervention work.

Practice Implications: Limited work has sought to develop and test interventions for young adult survivors. This study provides information for key intervention targets in an understudied group of patients.

Acknowledgement of Funding: Livestrong Foundation

P1-224

Patient and Staff Perceptions of Automated Distress Screening: Implications for Quality Improvement

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BACKGROUND/PURPOSE: The Commission on Cancer (CoC) requires distress screening for cancer patients. Each institution determines the tool and process for gathering information. The Josephine Ford Cancer Institute (JFCI) within Henry Ford Health System is a large, urban center. JFCI adopted a 32-item automated distress screen (ADS). This study evaluates initial patient and staff perceptions of the ADS to guide quality improvement. **METHODS:** With IRB approval, staff and patients completed a Likert Survey about their ADS experience. Sample included (1) Medical/Radiation Oncology patients, (2) all clinic staff involved in ADS. Staff completed surveys prior to initial clinic roll-out. Patients completed surveys immediately following their

first ADS. **RESULTS:** Staff: $n=99$. Patients: $n=76$ (62% male; age range 20–86 years). Staff were more likely to report the survey was too long (M 3.37, SD 1.08) than patients (M 2.36, SD 1.055), $p<0.001$. Staff were less likely to report the iPad was easy to use (M 2.80, SD.84) than patients (M 4.53, SD 0.68), $p<0.001$. Staff were less likely to report ADS questions identified all the appropriate problem areas (M 3.54, SD.87) than patients (M 4.09, SD.72), $p<0.001$. Further, 84.2% of patients believed their responses would assist their healthcare team to provide good care. **CONCLUSIONS:** Results identified discordance between clinician-assessment of patient beliefs and actual patient perceptions. Clinicians tend to be more pessimistic about what patients are willing to do to participate in their care. This study supports acceptability and utility of a 32-item, structured-question survey in a diverse cancer population.

Research Implications: Further study is needed to determine which factors most contribute to acceptability and utility of distress screening for patients and staff, in order to facilitate integration of comprehensive distress screening into routine cancer care for all persons with cancer.

Practice Implications: Data from patients' and staffs' initial experiences with distress screening can be used to overcome barriers to implementation by challenging staff's false beliefs, structuring the distress screening tool to meet user preferences, and shaping the distress screening process to maximize efficiency and clinical value. Surveying patients and staff early in the distress screening implementation process, and then employing rapid cycle improvements, can empower both groups as change agents and collaborators for quality care.

Acknowledgement of Funding: None

P1-225

Will Type D Personality Affect the Change of fatigue in Colorectal Cancer Survivors?

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BACKGROUND/PURPOSE: Type D personality is an important factor associated with QOL in colorectal cancer (CRC) survivors. Evidences have shown that those CRC survivors with higher level of negative affectivity tended to have higher level of fatigue intensity. Therefore, the aim of this study was to examine if type D personality could be an important factor to affect fatigue among CRC survivors. **METHODS:** A longitudinal design with two time points (Time 1 and Time 2) collecting data within 3 months was used. The patients were recruited from a medical center in northern Taiwan. The structured questionnaire was used

to assess patients' demographic and clinical characteristics, symptom distress, anxiety and depression, fatigue characteristics, and type D personality. The multiple regression was used to explore the significant factors of fatigue intensity. **RESULTS:** Among 187 patients, the level of symptom distress, anxiety, depression and fatigue increased in 3 months. About 11.8% ($N=22$) of them were identified as type D personality. Compared to the patients with non-type D personality, patients with type D personality were more female, and with poor functional status. Anxiety and symptom distress at Time 1 were significant factors for intensity of fatigue after 3 months (Time 2). **CONCLUSIONS:** Type D personality was not the significant factor to affect the level of fatigue after 3 months. Meanwhile, anxiety and symptom distress could affect the intensity of fatigue after 3 months for CRC survivors. However, the population in this study has completed cancer-related treatment, the level of fatigue increased after 3 months. The reasons need the longitudinal study to identify the change of symptom distress and fatigue in further research.

Research Implications: Although CRC survivors have completed treatment, their physical and psychological have changed within 3 months, the reasons for changing of their distress should be explored in the future studies. The majority of patients with type D personality were female and the interventions for decreasing the influence of personality on quality of life in female is suggested for the further studies.

Practice Implications: Healthcare providers should be aware of the change of physical and psychological distress among survivors by offering symptom management and providing psychological support in order to lowering fatigue.

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P1-226

I am a Young Adult with Cancer ... Now What? Attrition and Reduction in Distress of Young Adult Participants in a 6-week Psycho-educational Group

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BACKGROUND/PURPOSE: Adolescents and Young Adults (AYAs) face unique challenges in emotional, social and cognitive development while undergoing oncology treatment, resulting in distress and falling behind in meeting developmental milestones. While

literature documenting distress and treatment outcomes in the AYA population is well established, intervention development and efficacy research is still in its infancy. The purpose of this study was to examine the feasibility and impact on distress of a 6-week psycho-educational program for young adults during oncology treatment. **METHODS:** A 6-week psycho-education program was provided for patients on treatment between the ages of 18 and 30. Topics identified in the literature as areas of need were included: symptom management, coping, self-image, and relationships. Attrition (attendance) and distress (HADS) were measured to determine the feasibility and effectiveness of the program. **RESULTS:** Twenty-two enrolled and 12 completed the program. Of 12 that completed, they attended 4.17 (SD 1.28) sessions. For the 12 who completed, HADS at pre-intervention was 13.58 (SD 7.984, range 0–26). HADS at post-intervention was 11.67 (SD 8.003, range 1–27). On a correlated *t*-test, the change was significantly different $F(1,11)=5.95$, $p=0.03$. There was no significant relationship between number of groups attended and change in HADS scores. **CONCLUSIONS:** Effective psychosocial treatment interventions for AYAs during treatment remain challenging. This study demonstrated that a psycho-education social group designed to address area of need particular to the AYA population can reduce levels of distress. Challenges with group attendance while on treatment, however, limit the impact on those on treatment.

Research Implications: Psycho-social, developmental, and emotional issues are significant contributors to this trend, and identifying effective methods of intervention are necessary to see improvements in treatment outcomes for this population.

Practice Implications: Findings could prove helpful in further developing this and other interventions towards the goal of decreasing distress among AYA patients.

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P1-227

Addressing Breast Cancer Survivors' Sexual Health Concerns: Conceptualizing Professional Roles and Communicating across Specialties

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BACKGROUND/PURPOSE: Sexual health concerns have been reported in up to 50% of breast cancer survivors. Addressing the interrelated physical, psychological,

and social components of sexual health for a growing number of survivors is a challenging clinical reality. In this setting, coordination among provider specialties is increasingly important. However, little is known about when and how coordination takes place. Our aim is to uncover providers' views regarding their role in sexual health care, the circumstances in which they consult other providers, and their experiences coordinating with other specialties. **METHODS:** Semi-structured interviews were conducted with providers from oncology (5), family medicine (13), gynecology (13), internal medicine (6), and behavioral health (3). The constant comparative method was used to analyze for themes that illustrate providers' perceptions of their function and their coordination of care practices. **RESULTS:** The following themes illustrate how various provider types view their role: delivering social support, writing prescriptions, giving referrals, and having no role (other specialties attend to sexual health). Providers consulted other professionals when hormone replacement therapy was discussed, when psychosocial issues were present, when time was limited, or when they sensed patient discomfort or felt discomfort themselves. Coordination of care experiences included disagreements with other providers, inability to contact other providers, and prompt/helpful professional communication. **CONCLUSIONS:** These findings underscore the sensitive nature of sexual health concerns, confusion and discomfort regarding providers' roles in delivering biopsychosocial survivorship care, and the challenges of communicating across disciplines. The results can be translated to enhance healthcare organizational practices and inform provider communication training.

Research Implications: This study builds on our understanding of the challenges associated with biopsychosocial survivorship care in oncology and primary care settings by uncovering beliefs various types of providers possess regarding their role in biomedical and psychosocial aspects of care. It further expands our knowledge of healthcare communication in that it reveals differing levels of provider knowledge and comfort with the sensitive and sometimes stigmatized topic of sexuality. The findings here may extend to other potentially taboo topics in cancer care.

Practice Implications: This research demonstrates the obstacles inherent in the changing survivorship care landscape. As the system is taxed by growing numbers of survivors, there is a need for oncologists to work with other provider specialties to address survivors' needs. These findings illustrate the practical realities of trying to achieve coordinated sexual health care from multiple vantage points in the medical system. This work suggests that cultural norms influencing provider role perceptions may negatively impact patient care. Motivations for consulting other professionals also reveal the strengths, limitations, and constraints of addressing sexual health

care in different medical departments. Finally, this work explores providers' narrative regarding coordination of sexual health care as a means to develop strategies for circumventing difficulties that hinder care.

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P1-228

Supportive Care Plans: Linking Psychosocial and Physical Distress Screening to Evidence-based Care across the Cancer Continuum

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BACKGROUND/PURPOSE: The negative impact of symptom distress on patient outcomes is well-documented. The goal of this study is to explore feasibility and usability of a novel supportive care planning technology linking screening with management. **METHODS:** Prospective, multi-center pilot study at two cancer centers enrolled $N=101$ patients (gynecological [GYN] and breast cancer) and their providers. Patients completed ePRO assessments and received electronically generated supportive care plans during office visit(s). Study outcomes include usability and satisfaction (1–5 scales). Care plan referrals were also analyzed. **RESULTS:** Seventy-two patients and eight providers completed post-test measures. Of these, 69.3% were breast cancer patients and 30.7% GYN, averaging $M=29.4$ months and $M=4.7$ months since diagnosis, respectively. Both patients and providers reported high overall satisfaction ($M=4.0$ and 4.29 , respectively). Provider satisfaction was highest with platform ability to address patient concerns/distress ($M=4.63$). Both patients and providers reported high system usability ($M=4.07$ and 4.06). Referral data show patients received an average of 5.03 unique referrals per care plan. The most common referrals were to psychosocial support services for anxiety and/or depression (83.3% of patients) and to services to manage sleep/fatigue (78.1% of patients). Nearly half of all patients were recommended referrals for pain and cognitive dysfunction. **CONCLUSIONS:** The On Q Care Planning System (CPS) was developed to improve care processes and patient outcomes through delivery of personalized electronic care plans, aligned with quality care standards and current evidence. Usability and satisfaction are high, and use of the platform results in high rates of referrals for psychosocial and physical distress.

Research Implications: Satisfaction with and use of the platform was high, but further studies are needed to determine the right timing and dose of the supportive care plans, whether or not referrals made were actually acted upon and whether care plan use improve patient outcomes.

Practice Implications: Use of this technology has the potential to become standard of care and provide an easy, accessible and effective way to link point of care symptom screening with management techniques and referrals, improve patient self-management, patient-provider communication and better align clinical practices with quality care standards and current evidence.

Acknowledgement of Funding: On Q Health, Inc.

P1-229

The Use of Stakeholder Feedback in the Development of a Cognitive Bias Modification Intervention for Fear of Recurrence in Breast Cancer Survivors

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BACKGROUND/PURPOSE: Fear of recurrence (FOR) is common among breast cancer survivors (BCS), yet interventions designed to reduce FOR are lacking. To address this, a pilot study is underway to adapt a cognitive bias modification (CBM) intervention, Attention and Interpretation Modification for Fear of Breast Cancer Recurrence (AIM-FBCR), to reduce fear of recurrence in BCS. This study examined qualitative participant feedback to evaluate the acceptability of and potential ways to improve AIM-FBCR. **METHODS:** Breast cancer survivors ($n=88$) were randomized to receive eight sessions of one of two versions of AIM-FBCR or a placebo control (PC). Acceptability was evaluated during post-treatment qualitative exit interviews, which were audio-recorded, transcribed, and coded by two independent coders (ES and KR) and analyzed using thematic content analysis and rigorous qualitative research techniques to help achieve consensus. **RESULTS:** Thematic analysis of the exit interviews revealed positive feedback around the convenience of the intervention. Emergent themes related to ways to improve the intervention centered around addressing technical issues with the computer intervention, including lack of a user-friendly interface, lack of program compatibility with Mac products, and further personalizing the content of the intervention. **CONCLUSIONS:** While AIM-FBCR appeared acceptable, participant

feedback suggested user-friendliness and program content should be further refined.

Research Implications: This study demonstrates the potential importance of incorporating stakeholder feedback to improve the acceptability and efficacy of psychosocial interventions for cancer populations.

Practice Implications: Qualitative stakeholder feedback can be used to better understand BCS's unique concerns about FOR and to improve AIM-FBCR.

Acknowledgement of Funding: This research is supported by the National Institute of Health Center for Translational Science Center (CTSC) UL1 RR024996 (pilot funding), the T.J. Martell Foundation, and T32 CA009461-26 (Ostroff, PI).

P1-230

When a Father Is the Primary Caregiver: The Experience during the Childhood Cancer Relapse Treatment

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BACKGROUND/PURPOSE: Few studies have addressed the specific psychosocial issues related to being a father as a primary caregiver of children who have experienced a cancer relapse. The present case study aims to better understand the lived experience of a father and his 5-year-old child facing a cancer relapse in southeast Brazil. **METHODS:** This was a descriptive and exploratory case study with a clinical-qualitative approach. A semi-structured interview and two sections of Drawing-And-Story procedure were conducted respectively with the father and the child. The narratives were audio-recorded, fully transcribed and analyzed by content analysis, with two independent evaluators. **RESULTS:** The child's cancer relapse led to the need for family reorganization in terms of dynamic roles and responsibilities. The father's identity as a primary caregiver involved attention to his child's development, adaptation to the changing childhood cancer needs and concerns about being a father in a caring context that is predominant feminine. The father appreciated his resources to deal with each new emerging situation, as well as his learning capacity. Feelings of sadness and hope were reported during the challenges in the child's therapeutic process and while living with the possibility of death. Through the D-S, the child illustrated the threat of life and vulnerability. The bond with the father was highlighted as an important source of security for the child when dealing with the treatment uncertainty. **CONCLUSIONS:**

Our data identified specific aspects of the father's challenges as a primary caregiver for a child with recurrent cancer. Understanding the dyadic experience allowed the psychosocial providers to better address their needs and tailor psychosocial interventions.

Research Implications: The case study conducted offered detailed information about the family dynamics and primary caregiver experience in the relapsed childhood cancer context.

Practice Implications: Our data offers a better understanding about the challenges a father who is the primary caregiver of a child with relapsed cancer experience and can be used to inform psychosocial interventions in the childhood cancer context.

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P1-231

Sociodemographic Disparities in Diagnosis and Treatment of Colorectal Cancer

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BACKGROUND/PURPOSE: Previous research within the last decade has shown that there are racial, age, gender and socioeconomic disparities in cancer diagnosis, treatment and care, with the highest mortality rate among African American males. However, there is conflicting evidence on the presence of these disparities. Thus, the purpose of this study was to add to the existing body of literature and determine the presence of sociodemographic disparities in cancer stage and treatment among patients with colorectal cancer. **METHODS:** A secondary data analysis was conducted utilizing the Shands at UF Health tumor registry database. All patients ($n=524$) with adenocarcinomas located in the colon, rectum or rectosigmoid junction between May 2009–May 2014 were identified. Patient characteristics included, age, race/ethnicity, gender, marital status, county of residence, clinical/pathologic staging and treatment type. **RESULTS:** A multiple linear regression confirmed that both age ($\beta=-0.045$, $p<0.01$), gender ($\beta=-0.876$, $p<0.01$) and race ($\beta=0.756$, $p<0.05$) were significant predictors of diagnosed pathologic stage. An independent-samples t -test was conducted to compare pathologic disease stage by gender, which yielded a significant result, $t(499)=2.611$, $p<0.01$. Female gender was associated with a diagnosis of more advanced disease. However, there were no other significant pathologic differences between patients identifying as Caucasian or

African American. There were no significant findings by sociodemographic characteristics for treatment type. **CONCLUSIONS:** Findings showed that female gender was associated with a diagnosis of more advanced disease. Further studies should explore gender-based disparities in cancer diagnosis and treatment and the potential psychosocial issues behind the existence of these disparities.

Research Implications: This study is relevant to researchers in that it adds to the existing body of literature on sociodemographic disparities in colorectal cancer diagnosis, treatment and care.

Practice Implications: This study is relevant to clinical practice by shedding light on the potential for sociodemographic disparities in colorectal cancer treatment and care.

Acknowledgement of Funding: None

P1-232

Protecting Their Sons: The Influence of Parents' Gender on Sex Communication and Involvement in the HPV Vaccine

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BACKGROUND/PURPOSE: As the most common sexually transmitted infection, the human papillomavirus (HPV) is a serious health issue affecting 70% of all sexually active individuals and causing 4.8% of all cancers (e.g., cervical, head and neck, and others). Currently HPV vaccine uptake rates among Canadian boys aged 9–16 (~2.7%) lag far behind girls (60–85%). The HPV vaccine is most effective if administered prior to sexual debut and is thus contingent upon parental consent. To date, most research examining HPV vaccine decision making targeted parents as a unit or exclusively mothers; we were additionally interested in examining the role of fathers in the HPV vaccine decision-making process. **METHODS:** Data were collected via a Web-based survey from a national sample of 3117 Canadian parents (68% mothers and 32% fathers) with a son (ages 9–16). The questionnaire measured parent–son communication about sex and the degree to which parents believe they and their partner should be involved in the decision-making process. **RESULTS:** Parent–son sex communication differed significantly by gender, $\chi^2(3)=83.16$, $p<0.001$; mothers engaged in more conversations about sex than fathers. Regarding gender and parents' involvement in vaccine deliberations, fathers endorsed comparable levels of self-involvement and partner involvement, whereas mothers preferred higher levels of self-involvement than partner involvement. **CONCLUSIONS:** Parental gender differences are still quite evident in family health

behaviors (e.g. sex communication with sons). Both mothers and fathers, however, feel highly involved in preventative healthcare decisions (e.g. HPV vaccination) and recognize their partner's role in this decision.

Research Implications: The identification of meaningful gender differences within parents' healthcare involvement suggests the need for a gender-sensitive approach to psychosocial oncology research. Parental involvement is a critical factor regarding the prevention of cancer in children. Thus, examining mothers' and fathers' differential healthcare involvement, can improve our understanding of how to more effectively encourage cancer prevention practices.

Practice Implications: Pursuing a shared healthcare decision-making model, including mothers and fathers, will help to fulfill parents' reported preferences of involvement as well as encouraging more communication about the HPV vaccine. Healthcare providers, public health organizations and educational interventions are needed to recommend this model to parents. Mothers should be informed that fathers want to share health responsibilities and fathers should be informed that mothers want 'him' to be involved in health decisions as well. Currently, the vast majority of children's healthcare messages are directed at mothers. Developing educational initiatives and public health messages catered to fathers, can improve their awareness, desire to be involved, and actual behaviors.

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P1-234

The Impact of Androgen Ablation Therapy on Cognition in Older Men with Prostate Cancer

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BACKGROUND/PURPOSE: Evidence suggests that androgen deprivation therapy (ADT) in men with prostate cancer may significantly impact cognition. However, results have been inconsistent potentially because these studies have not focused on older men who may be predisposed to cognitive decline. This study explores the cognitive impact of ADT on men with prostate cancer ≥ 65 years of age who have been on hormone therapy ≥ 1 year. **METHODS:** Men ≥ 65 years of age were recruited from one of two groups: prostate cancer patients on ADT for 1–3 years and prostate cancer patients not on ADT (comparison group). All participants were administered a one-time neuropsychological battery which tested the following domains: verbal function, verbal memory, visual memory, spatial function, psychomotor function,

attention, and executive function. Cohen's d is reported to estimate effect sizes ($d=0.2$, small effect; $d=0.5$, medium effect; $d=0.8$, large effect). **RESULTS:** In this ongoing study, a total of 101 men with a mean age of 73 ± 5 years have completed the neuropsychological assessments. When controlling for age, men receiving ADT ($n=58$) scored significantly lower than the comparison group ($n=43$) on tests of verbal memory ($p=0.02$, $d=0.50$), visuospatial ability ($p=0.02$, $d=0.49$), and processing speed ($p=0.01$, $d=0.51$). In uncontrolled analyses, possible differences were seen in visuospatial memory ($p=0.06$, $d=0.38$) and executive functioning ($p=0.14$, $d=0.29$) with men on ADT scoring lower than comparisons. **CONCLUSIONS:** These data suggest older men with prostate cancer may experience cognitive decline when receiving androgen ablation therapy.

Research Implications: Research should continue to define the cognitive effects of ADT, and specifically focus on age as a risk factor for experiencing cognitive decline when on ADT. Additionally, interventions should target this at risk group.

Practice Implications: Men who are on ADT may report cognitive decline and distress related to this decline. The clinician should be aware of this possibility, and that age has the potential to increase the likelihood of cognitive decline when on ADT.

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P1-235

Couples Coping with Cancer Together (CCCT): A Model Program for Women with Cancer and Their Partners Integrated into Standard Medical Care

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BACKGROUND/PURPOSE: Research shows that women with cancer report high levels of distress and partners can be as distressed. Women have better psychological adjustment to their illness if partners are emotionally supportive, but this is often where partners struggle. CCCT is a model program of psychosocial care for couples developed from research and integrated into standard medical care. **METHODS:** Opposite/same-sex couples diagnosed with breast cancer are scheduled into CCCT. Couples complete a tailored *SupportScreen* which identifies biopsychosocial problems, provides real-time triage, education, and linkage to multi-specialists. Couples participate in a standardized session with clinician-

educators to review gender-specific supportive behaviors and develop a plan that can include individual/group counseling. Couples then meet with the surgeon/oncologist. Lastly, couples complete *SupportScreen-Satisfaction* tailored for each professional. **RESULTS:** January 2014–December 2014, 149 patients/132 partners completed *SupportScreen*. Patients were screened in 37 topics and Partners in 33. Some examples of high distress areas are: Patients *Treatment side-effects* (61.1%), *feeling anxious or fearful* (49.7%). Partners *worry about future* (29.6%), *feeling anxious or fearful* (27.3%). August 2014–December 2014, 43 patients/42 partners completed *SupportScreen-Satisfaction*. Couple Satisfaction: *Important to talk about treatment and impact of diagnosis...* (Patients 85.7%, Partners 97.6%); *I recommend program...* (Patients 88.1%, Partners 100%). Additional data and analyses will be presented. **CONCLUSIONS:** Integrating a psychosocial program for couples into standard medical care is feasible. Couples actively participate in gender based discussions and rate the program highly. Additional research needs to be developed to test long-term outcomes.

Research Implications: There is a dearth of data concerning same sex couples and a need to further explore the unmet needs of this vulnerable and underserved group. Hypothesis driven research now needs to be developed for this model of care and gender-specific interventions to study performance outcomes.

Practice Implications: Couples often struggle to support each other when a woman is diagnosed with cancer. Time sensitive tailored distress screening can identify immediate concerns and opportunities to promote overall coping and couple adjustment. A prospective psychological gender-specific couples intervention integrated into standard medical care can decrease distress thereby enabling couples to maximize their time with their physician.

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P1-237

Innovation in Developing Evidence-based Programs That Identify and Address the Social and Emotional Needs of Cancer Caregivers: Examples of Community-initiated Research

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BACKGROUND/PURPOSE: Caring for a relative or friend with cancer is highly demanding and emotionally straining. Unattended psychosocial distress can lead to poorer health outcomes for caregivers and patients. Learning from the patient-centered research model, initiatives

focused on capturing the caregiver experience may provide a meaningful way of understanding caregiver distress. **METHODS:** To that end, the Cancer Support Community developed two caregiver-powered initiatives: (1) ‘Cancer Experience Registry: Caregivers’, an online registry to capture the psychosocial concerns of caregivers over time; and, (2) ‘CancerSupportSource-Caregivers’, a caregiver distress screening, referral and follow-up program. **RESULTS:** Guided by the Community-Initiated Research Collaboration Model, we will discuss the process of developing both initiatives that directed the active and ongoing participation of caregivers, advocacy, health providers and leading experts within the caregiving field. We will detail the multi-step process for the development and implementation of the ‘Cancer Experience Registry: Caregivers’, which was launched online in December 2014. We also reflect upon the translation of a validated distress screening tool designed for cancer patients and the use of caregiver focus groups toward the development of ‘CancerSupportSource-Caregivers’. **CONCLUSIONS:** In tandem, these community-initiated research initiatives inform a comprehensive approach to innovation and development of interventions/programs designed to improve outcomes for caregivers, and, ultimately, patients.

Research Implications: By applying principles of Community-Initiated Research Collaborations, this presentation will focus on methodological approaches that build on collaborations with caregivers and other key stakeholders. This approach is used to optimize the implementation and dissemination of evidence-based programs that are designed to enhance the lives of caregivers.

Practice Implications: Preventing or reducing distress among caregivers can positively impact a caregiver’s own health outcomes as well as the patient receiving care.

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P1-238

Consequences of Illness and Treatment in Prostate Cancer Patient by Age

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¹*FEFOC*

BACKGROUND/PURPOSE: Prostate cancer (PC) is linked to old age. Nowadays that human population is living more years, cancer in general increases its incidence due to age. Several years ago prostate cancer was an infrequent cancer since men die before it was detected. Now prostate cancer is one of the firsts male cancer and its relation with sexual dysfunction and incontinence are focusing psycho-oncology to this cancer type. The

reluctancy of men to seek for psychological support is also a point that may be specially interesting to work to ascertain the consequences of illness in psychosocial well-being. Geriatric Oncology points out at prostate cancer as an old age one, but we want to analyze if illness consequences are due to prostate cancer characteristics or to age. Old people are assumed to have less anxiety and more depression levels than younger cancer patients. **METHODS:** We include an online self-administered series of questionnaires for men with prostate cancer: The HAD scale in order to find out anxiety and depression levels, and a general questionnaire on PC consequences in patients' life. Patients filled them after having accepted to participate in our ongoing research. **RESULTS:** After 6 years, we have a convenient sample of 278 prostate cancer patients who accepted to participate in our study. Participants have a mean age of 58.61 years old ($SD=10.18$). Twenty-four percent are retired from work and 28% actively working while the remaining are on leave. Eighty-three percent are married or partnered, with 47.1% having undergone radical prostatectomy. Related to problems after PC treatment main results are the following: 33% had urinary incontinence, 15% have had overweight since treatment, 92% have difficulty in achieving erection but 38.59% had this kind of problems before prostate cancer; 63.8% keep their sexual desire irrespective of erectile problems. Forty-two percent experience changes in family relationships, and only 17% have told to friends they were suffering from PC. Twenty-six percent have used alternative medicine. Mean of depression is 7.02 ($SD=4.88$) and anxiety is 9.44 ($SD=5.05$). The only significant difference by mean age in this sample is having difficulty in maintaining erection after treatment for PC, more frequent as older is the patient ($p<0.011$). No differences in anxiety and depression results are found in this study. **CONCLUSIONS:** It has not been easy to have this sample. Men are more reluctant to answer questionnaires answering to their emotional or personal state than women, at least in our culture. However, after 6 years, we have a sample big enough to have some conclusions: PC patients have a moderate level of anxiety and depression in our sample, being anxiety higher than depression. However, these results are not significantly linked by age. Our sample is young if we look at literature on PC. We think of Internet recruitment bias. In our country, old people are not using Internet as a usual tool; even this trend is changing. Our work is a preliminary study that needs further analyze but our first results points out at no differences by age, except for consequences in erectile function. Other aspects remain with no differences by age.

Research Implications: This work shows that prostate cancer may be more studied in its psychosocial consequences. Its consequences may be hard for the male self-esteem but this seems to be irrespective of age, so

we must tailor more studies to ascertain exactly how differences are yielded by age or by specific prostate cancer outcomes.

Practice Implications: In the practice prostate cancer may need more attention, at least in some cultures where male profile is still one of not showing weakness or frailty. Having in account our results may lead to think of special attention to men with CP more than point at age differences.

Acknowledgement of Funding: None.

P1-239

Improving Cancer Screening Behavior: How Does Spousal Influence and Communication Effect Behavior?

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BACKGROUND/PURPOSE: Colorectal cancer (CRC) is a leading cause of cancer death and individuals with a family history are at increased risk. Regular CRC screening can detect cancers earlier when they may be curable, and engaging in health behaviors can reduce risk. Research has shown that married individuals tend to engage in more screening and health behaviors. Spousal influence, through social support and social control, may increase CRC screening participation and risk-reducing behaviors, but less is known regarding the specific mechanisms of how spouses influence each other. Relationship quality may play a role in how influential a spouse may be. **METHODS:** As part of a pilot study, 16 heterosexual married couples ($n=32$; M age=57; 100% Caucasian) in which one spouse had a family history of CRC individually completed questionnaires assessing health behaviors, characteristics of spousal influence, and relationship quality. Analysis was conducted using GLM to determine the role of relationship quality in spousal influence. **RESULTS:** Analysis indicated better marital quality was significantly associated with increased spousal influence in general health behaviors ($p=0.036$), but not associated with influencing age-appropriate cancer screenings ($p=0.194$). Cancer screening behavior was significantly correlated with the amount of reported spousal communication about screening ($p=0.02$). **CONCLUSIONS:** Spouses who report higher marital quality influence each other to make better health decisions, but regardless of marital quality spouses must be communicating about CRC screenings to increase cancer screening behavior.

Research Implications: This work has implications for future couples' communication interventions encouraging targeted discussions about specific health behaviors based on couples' risk factors.

Practice Implications: This work has implications for future couples' communication interventions encouraging targeted discussions about specific health behaviors based on couples' risk factors.

Acknowledgement of Funding: None.

P1-240

Effect of Mantra Chanting on Terminally Ill Cancer Patients

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BACKGROUND/PURPOSE: Chanting and the pineal gland are known for being anticarcinogenic. The pineal gland is responsible for the rhythmic circadian cycle. Its hormones have antiaging and anticytotoxic properties. Psychologically, it releases more melatonin hormone, which has an immunostimulatory function. **METHODS:** Most of the commonly used quality-of-life (QOL) instruments in oncology do not include spirituality as a core domain. However, previous research suggests that spirituality might be an important aspect of QOL for cancer patients and that it may, in fact, be especially salient in the context of life-threatening illness. This study used a large ($n = 1610$) and ethnically diverse sample to address three questions relevant to including spirituality in QOL measurement: (1) Does spirituality demonstrate a positive association with QOL?; (2) Is this association unique?; and (3) Is there clinical utility in including spirituality in QOL measurement? **RESULTS:** Patients with chanting showed +13.57 improvement on QOL. **CONCLUSIONS:** Patients become more emotionally stable, become less depressed, have no need of antidepressants. Rhythmic chanting works like a morphine drug relieving pain. It stimulates the hypothalamus to secrete neurotransmission fluids, which causes the release of the corticotrophin release factor. Tranquility is attained. (There was no response to external or internal stressful stimuli).

Research Implications: This study aimed to preserve the effect of chanting of the 45th shloka of Bhaktamar, which can be a cure for incurable disease like ascites, where hope of life is lost.

Practice Implications: A drugless therapy is one of the Millennium Goals of the United Nations. A drugless therapy does not have any physical form but acts like a drug to improve QOL of cancer patients, and its side effect is spiritual upliftment—connecting to a higher consciousness.

Acknowledgement of Funding: Although I am member of the Ethical Committee, no funding is available for this research. The author of Bhaktamar Stotra—Acharya Maantungaji Maharaj—is acknowledged. Prof. Hermann Jacobi contributed to the 22nd and 45th volumes on *Jain Sutras* published by Oxford University Press in 1884 and 1895, respectively, in *Maxmullar's Sacred book of East Series* (1–50 volumes). It is stated that Bhaktamar is a most powerful prayer in times of danger. In 1875, Prof. Hermann Jacobi learned Sanskrit and translated all 48 shlokas of Bhaktamar in the German language. This was a great inspiration to the present author and urged Prof. O.P. Verma to translate this work in French. Prof. O.P. Verma, the Head of the Foreign Linguistic Department and Retired Head of History and Culture (from RTM Nagpur University), spent 3 years translating stotras. The case studies taken up for her research brought out astonishing results, which were endorsed by Dr. Ajay Omprakash Mehta '...Patients have benefitted by this technique. It has strengthened their mental and physical health and helped early recovery. I strongly recommend "Spiritual Healing" as complementary therapy showing amazing results' (M. Jain, 2011, p. 26). Dr. Manju Jain is the Director of the International School for Jain Studies, Houston, Texas.

P2-1

Innovation in Cancer Management Spiritual Care and Changes in Dopamine Receptor Gene Expression in Breast Cancer Patients

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BACKGROUND/PURPOSE: Breast cancer is the most common cancer in females in Iran and in most of the developed countries. Behavioral and clinical studies have shown that having chronic stress and impaired mental and spiritual condition of each individual predispose several types of cancer including breast cancer. Research results showed that religious and spiritual factors correlate with indices of physical consequences such as heart disease, cancer, and death, so do psychiatric conditions and changes in receptor gene expression in depression, anxiety, and social dysfunction. Different studies demonstrated the role of neurotransmitters in occurrence and progression of cancers. They affected cells by their various types of receptors. In accordance with our previous studies, the most effective gene in psychiatric conditions and thus physical conditions are Dopamine receptors. Accordingly, the study was conducted to evaluate effects of spiritual therapy on changes in Dopamine receptor gene expressions in breast cancer patients. **METHODS:** Ninety female volunteers,

including 30 healthy individuals and 60 diagnosed with breast cancer, considering exclusion criteria, were selected to run the study. The breast cancer patients were further categorized into experimental and control groups of 30 each. Blood samples were collected both prior to and following the spiritual intervention to analyze changes in their dopamine gene receptor expressions. **RESULTS:** We observed that DRD2-DRD4 in the control group (breast cancer patients) PBMC increased compared to healthy individuals. It was also observed that DRD2-DRD4 in intervention group PBMC decreased compared to the control group and even lower than those of healthy individuals. **CONCLUSIONS:** Eventually, based on the observations carried out in this study, performing the spiritual therapy, along with other types of treatments in breast cancer patients' recovery process, seems promising. In addition, DRD2 gene expression changes carry considerable potential as a further marker for the diagnosis of breast cancer, together with other diagnostic markers of breast cancer.

Research Implications: The findings were of great significance in management and treatment of cancer because they revealed the possibility of using alternative treatments such as spiritual interventions apart from conventional medical treatments.

Practice Implications: The findings revealed the significance of spiritual therapy in improving biological status of breast cancer patients.

Acknowledgement of Funding: Special thanks extended to Cancer Research Center at Shahid Beheshti University of Medical Sciences.

P2-2

CARES Tool: An Acronym-organized End-of-Life Care Guide for all Levels of Caregivers

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BACKGROUND/PURPOSE: Providing evidence-based symptom management for the dying during the last days or hours of life requires a complex set of skills and interactions. The opportunity to provide for a peaceful, loving death that honors and values the dying can be jeopardized if good communication, understanding of a normal dying process versus suffering, and the ability to act in an anticipatory, compassionate manner specific to the dying individual's spiritual and psychosocial needs is not observed. **METHODS:** The CARES Tool is an acronym organized reference based on the most

common symptom management needs of the dying identified as Comfort, Airway management, Restlessness and delirium, Emotional and spiritual support, and Self-care. A case study will be presented that focused on the impact of the CARES Tool on all levels of caregivers, patients and families. **RESULTS:** Personal insight was achieved during education on EOL care and development of tool. Importance of reiterating and reinforcing teaching was identified. The need for a collaborative/team effort when providing EOL care was confirmed. **CONCLUSIONS:** A peaceful, loving, death was achieved that will greatly assist the families and staff with their grieving processes. EOL care is a skill and must be learned and encouraged. There is still much to learn about providing quality of EOL care in a hospital setting.

Research Implications: 60% of all deaths in the USA occur in a hospital setting and of these deaths as many as 80–90% are anticipated. The Institute of Medicine (IOM) just released their latest assessment of the quality of end-of-life care that is provided in a hospital setting and found it to be entirely inadequate. (1) Could implementation of the CARES Tool as a standard of practice based on a firm education foundation improve the quality of end-of-life care provided in the USA and perhaps the world? (2) Why don't healthcare providers value their humanity as much as any other technical skill? And, how can we as a culture become more attuned to providing a peaceful death that is patient and family specific. (3) Providing quality evidence-based EOL care was a skill identified as part of a needs assessment at our institution. Was this need met by the development and utilization of the CARES Tool? (4) The CARES Tool has obtained content and face validity. Mixed-method studies that provide qualitative and quantitative validation is needed to demonstrate a peaceful, loving, death can be achieved and EOL care can be improved within a hospital setting through the use of the CARES Tool.

Practice Implications: The use of the CARES Tool could greatly improve the delivery of evidence-based quality end-of-life care.

Acknowledgement of Funding: None.

P2-3

Guided Imagery Relaxation as a Psychological Intervention for Children with Cancer in Malaysia: A Pilot Study

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BACKGROUND/PURPOSE: The study aimed to pilot a newly developed guided imagery relaxation (GIR) audio

in Bahasa Malaysia to improve psychological functioning of children with cancer. **METHODS:** A single-group pretest and posttest design was used to measure the effectiveness of GIR audio listened to by children using an MP3 player at least two times per week for 4 weeks. Psychological functioning were measured using The Pediatric Quality of Life Inventory (PedsQL) 4.0 Generic Core Scale, PedsQL 3.0 Cancer Module (Varni *et al.*, 2001; 2003), Ottawa-Georgia Mood Faces Scale (Cheng and Ward, 2005), Wong-Baker FACES Pain Rating Scale (Wong and Baker, 1988), and researcher-developed physiological relaxation indicator. Multiple comparisons between pre-intervention and post-intervention was made using paired *t*-test and Friedman test with Bonferroni correction to detect the differences in scores across time. **RESULTS:** Eighteen ($N=18$) children undergoing cancer treatment were recruited from Hospital Universiti Sains Malaysia. Of these, 61% were female ($n=11$), with the mean age of 9 years (range 6–13). Majority were diagnosed for leukaemia (61.1%) and 50% were under intermediate phase of chemotherapy. Mean duration of illness was 9 months. Findings indicated significant differences in Ottawa-Georgia Mood Scale scores that include children reported sadness ($\chi^2(4)=13.52$, $p=0.009$), anxiety ($\chi^2(4)=12.29$, $p=0.015$), anger ($\chi^2=16.90$, $p=0.002$) and stress ($\chi^2(4)=17.73$, $p=0.001$), Wong-Baker FACES Pain Rating Scale ($\chi^2(4)=9.88$, $p=0.042$), as well as all physiological indicators scores namely calmness of heart beats ($\chi^2(4)=21.02$, $p<0.001$), feeling of comfortableness ($\chi^2(4)=24.80$, $p<0.001$), perception of no pain ($\chi^2(4)=16.20$, $p=0.003$) and feeling of perceived strength ($\chi^2=17.50$, $p=0.002$), between pre-intervention and post-intervention assessment. The mean rank for all the indicators showed improvement with time indicating better physiological response, mood and less pain. No significant differences in quality of life scores. **CONCLUSIONS:** The newly developed GIR audio in Bahasa Malaysia has shown potential benefit in inducing positive effects on physiological indicators of relaxation, mood and pain in children with cancer.

Research Implications: This pilot study demonstrated improvement of general emotions such as anxiety, stress, anger and pain in children with cancer, listening to series of GIR audio during hospitalization. Future randomized controlled trials are needed to confirm the present findings.

Practice Implications: This GIR audio is a simple, affordable and potentially efficacious psychological tool that could be offered to Malaysian children undergoing cancer treatment, in improving their present psychological functioning.

Acknowledgement of Funding: The project was funded by Universiti Sains Malaysia under Short-term Grant PPSP 316/61310038.

P2-4

Translation and Validation of the Persian Version of the Functional Assessment of Chronic Illness Therapy—Spiritual Well-being Scale (FACIT-Sp) among Muslim Iranians in Treatment for Cancer

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BACKGROUND/PURPOSE: The Functional Assessment of Chronic Illness Therapy–Spiritual Well-Being (FACIT-Sp) scale is a valid and reliable instrument to provide an inclusive measure of spirituality in research and clinical practice. The aim of this study was to translate and investigate the reliability and validity of the Persian version of the FACIT-Sp. **METHODS:** The 12 item spiritual well-being subscale of the FACIT-Sp Version 4 was translated into the Persian language, Farsi, using the FACIT translation methodology. The questionnaire was administered to a diverse sample of 153 patients in treatment for cancer. Internal consistency was assessed by Cronbach's alpha coefficient, confirmatory factor analysis (CFA) was applied to assess construct validity, and regression analysis was used to assess the predictor role of the FACIT-Sp in health-related quality of life (HRQOL). **RESULTS:** Cronbach's alpha reliability coefficient for the FACIT-Sp subscales ranged from 0.72 to 0.90. The CFA generally replicated the original conceptualization of the three subscales of the FACIT-Sp12 (Peace, Meaning, and Faith). All three subscales significant predicted HRQOL. **CONCLUSIONS:** Our study provides evidence that the Persian version of FACIT-Sp Version 4 is a valid and reliable measure to use with Farsi-speaking persons with cancer. Further research is necessary to replicate the findings in culturally diverse populations and among populations with other chronic diseases.

Research Implications: The FACIT-Sp was designed to be used in different settings of health-related research, not just in cancer-related research. Further assessment of the reliability and validity of this questionnaire should be undertaken among patients with chronic or life-threatening conditions other than cancer. As we did not find a relationship between the FACIT-Sp subscales and demographic and clinical data, the contribution of demographic and clinical factors to spiritual well-being among the Iranian population should be investigated in future studies.

Practice Implications: Several studies have indicated the important role of spirituality well-being on HRQOL. And spiritual care provided during the trajectory of cancer care may increase patients' sense of meaning. Our study introduced the Persian version of FACIT-Sp as a valid and reliable tool for clinicians to use to assess the spiritual well-being of patients in treatment for cancer and for evaluating the effectiveness of spiritual care interventions.

Acknowledgement of Funding: This manuscript is the first report of the dissertation project numbered 389319 founded by the research chancellor of Isfahan University of Medical Sciences.

P2-5

Identifying Survivors in High Need for Post-treatment Symptom Management

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BACKGROUND/PURPOSE: As patients transition from chemotherapy to immediate post-treatment survivorship, many continue to experience residual or new symptoms. This study is the first to identify two key evidence-based predictors of post-chemotherapy need for symptom management. **METHODS:** Patients with solid tumors who were undergoing chemotherapy at intake in two symptom management trials ($N=671$) received 8-week interventions delivered by either a nurse, non-nurse coach, or interactive voice response system. At 10 weeks since intake, a subset of $N=143$ have completed cancer treatment and were followed up for an additional 6 weeks. Patient and disease characteristics that predicted persisting symptoms, poor functioning and increased health services use were identified from linear mixed effects models with two repeated measures. **RESULTS:** Patients reporting two comorbid conditions (regardless of combinations of specific comorbidities) from a list of 13 conditions and patients with a Center for Epidemiologic Studies-Depression (CESD-20) score of 16+ at the end of chemotherapy ($N=87$, 65%) had significantly higher summed severity of 17 symptoms ($p=0.03$), worse physical functioning ($p<0.01$) and higher unscheduled health services use ($p=0.04$) at 2 and 8 weeks post-chemotherapy compared to other survivors ($N=56$, 35%). Persistent moderate or severe symptoms included fatigue (39% prevalence), pain (23%), weakness (21%), distress (22%), insomnia (21%), and dyspnea (20%). **CONCLUSIONS:** We define the group in high need for symptom management in the immediate post-chemotherapy period as those who have 2 or more comorbid conditions or 1 comorbid condition and CESD-

20 of 16+. These criteria are robust and are not influenced by specific comorbid conditions.

Research Implications: Symptom management interventions are needed for the identified group of patients whose symptoms do not resolve within months post-chemotherapy.

Practice Implications: For best allocation of available clinical resources, it is critical to identify patients whose symptoms persist beyond treatment period. This study provides easily verifiable criteria for identifying such patients.

Acknowledgement of Funding: R01 CA030724, Automated Telephone Monitoring for Symptom Management; R01 CA79280-09, Family Home Care for Cancer, A Community Based Model.

P2-6

Psychological Experience of Male Spouse Caregivers for Breast Cancer Patients

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BACKGROUND/PURPOSE: Breast cancer is the most common cancer in women worldwide with an incidence rate of 35~50 cases per 100,000 women. The spouse of the woman with breast cancer is under great pressure including physical and psychological effects.

The aim of this study was to describe the alternation of psychological experience during chemotherapy in patient-spouse caregiver. **METHODS:** A total of 100 breast cancer patient-spouse caregivers were recruited from our hospital. Fatigue Assessment Instrument (FAI) and State-Trait Anxiety Instrument scale were applied to measure caregivers' psychological experience during six courses of chemotherapy separately. **RESULTS:** The score in each item of the scale in the sixth course of chemotherapy was in average higher than the first course. The difference was statistically significant ($p<0.05$). The difference is not obvious in other course. **CONCLUSIONS:** With the extension of the period of chemotherapy, an increased adverse psychological experience was observed in patient-spouse caregivers. We will take measures individually and pertinently. This research will provide scientific evidence for improving their spouse's life quality.

Research Implications: It is important for researchers to understand breast cancer patient's spouse's psychological experience. It will fill in gaps in nursing research on male spouse caregivers for breast cancer patients.

Practice Implications: It will help our nurses to know their spouse's psychological experience, and then we will

take measures individually and pertinently. It will provide scientific evidence for improving life quality.

Acknowledgement of Funding: hospital funding.

P2-7

Administering Palliative Care through Family Members under a Rural Setting in India

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BACKGROUND/PURPOSE: Our goal is to give a pain free good quality of life in these advanced stage cancer patients. Objective of this study is to identify the main difficulties in achieving the above goal in a rural village setting in India. **METHODS:** The initial plan is to create a nodal centre at District Head Quarter, Tamruk, for the management of advanced cancer patients. Then we create different leaflets for each of the problems mentioned above in vernacular (Bengali). One on Constipation, one on Pain, one on Fever, one on Haematuria and so on with necessary advice on medications with their doses and procedure for administering them with the help of palliative care specialists and palliative care volunteers. All leaflets are to be given to the caretaking family members, who would be required to follow the written instructions. **RESULTS:** This allows the family members to give the needed care to the terminally ill cancer patients without presence of a medical professional or repeated visits to a medical centre saving their time and energy for giving care. **CONCLUSIONS:** There is a wide gap of trained manpower in the field of palliative care in rural areas of West Bengal, India. Dedicated groups from rural areas and the family members of the terminally ill patients need encouragement, education and proper training for tackling difficulties at home itself. The leaflets can be a valuable input in that direction.

Research Implications: Projected Intervention: Trying to relieve the patient's problems through home based medications and intervention by volunteers and family members; Re-orientating the attitude of family members through discussions and other methods of communication i.e. get-together of cancer survivors; Social effort to raise the awareness of neighbors and local people through discussion and other audio visual method (i.e. poster, leaflet, slide presentation, etc.).

Practice Implications: We believe that if we are able to continue our program for a long enough period the suffering of the terminal cancer patient and their families might be resolved to a large extent over time.

Acknowledgement of Funding: Needs for funding if selected my poster for present.

P2-8

Fathers with Cancer: Encouraging Communication and Awareness

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Orchid Cancer Appeal

BACKGROUND/PURPOSE: The purpose of this presentation is to provide the results of a qualitative study 'Psycho-social Concerns and Individual Anxieties for Fathers with Testicular Cancer' and to present the subsequent intervention developed based on the findings. The author will briefly describe the qualitative study conducted at the Royal Marsden Hospital in England with ten fathers. **METHODS:** The author will discuss her decision to employ two methodologies (Biographical Narrative Interpretive Method and Interpretative Phenomenological Analysis) to interview and analyze the data, and to incorporate psychodynamic theory in the discussion of the cases. **RESULTS:** The most common concerns, anxieties and coping responses that were identified will be outlined. These include: concerns for children and family, lack of information, finding meaning, challenges to masculinity and self-image, inadequate information about prosthesis and fear of death. The coping responses included relying on wife intellectualization, humor, maintaining a stoic façade and splitting. The concept of 'Masculine Way of Handling Illness' will be introduced. These findings were the impetus for the development of an awareness campaign at Orchid Cancer Appeal, a UK charity promoting education, awareness and research about men's cancers. The 'Fathers and Sons' campaign included an Internet Video introduced by Hollywood actor Alexander Ludwig encouraging communication and raising awareness about male cancers. The video was accompanied with a leaflet 'Talking to Children about Male Cancers' and website information providing specific information targeted at different age groups. The video will be shown and leaflets distributed. **CONCLUSIONS:** Fathers with testicular cancer struggle with their own individual concerns as well as how to talk to their children about their disease. Encouraging and assisting with age appropriate and sometimes humorous communication can be an extremely valuable intervention for patients and their families. **Research Implications:** Further research needs to be conducted regarding what type of interventions are most beneficial for families when a father has cancer and possibly why this patient population received limited information regarding prosthesis. **Practice Implications:** Practitioners should provide information and guidance about how fathers can talk age appropriately to their children about cancers and encourage testicular self-exams for teenage sons. Information should be provided to men about prosthesis regardless of marital status.

Acknowledgement of Funding: Orchid Cancer Appeal Royal Marsden Hospital.

P2-9

The Relationship of Resilience and Chemotherapy-induced Nausea and Vomiting in Cancer Patients

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BACKGROUND/PURPOSE: This research was performed to use the concept of resilience in the fields of chemotherapy side effects and study the relationship of resilience and chemotherapy-induced nausea and vomiting (CINV). **METHODS:** Clinical data of 286 patients who underwent chemotherapy during January 2014 and October 2014 were surveyed with Connor-Davidson Resilience Scale and CINV guideline. Patients were assessed by Connor-Davidson Resilience Scale before chemotherapy and were surveyed by the Rhodes Index of Nausea and Vomiting and Retching (INVR) during chemotherapy. **RESULTS:** The CINV reaction of patients with lower score of resilience was more severe. **CONCLUSIONS:** The resilience was negatively related with the degree of CINV ($p < 0.01$). The conclusion will compensate the research gaps of the relationship between resilience and CINV and provide a theoretical support for clinical psychological care research of cancer patients.

Research Implications: This research was performed to use the concept of resilience in the fields of chemotherapy side effects and study the relationship of resilience and chemotherapy-induced nausea and vomiting (CINV).

Practice Implications: The conclusion will compensate the research gaps of the relationship between resilience and CINV and provide a theoretical support for clinical psychological care research of cancer patients.

Acknowledgement of Funding: None.

P2-10

Existential Distress among Caregivers of Patients with Brain Tumors: A Review of the Literature

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BACKGROUND/PURPOSE: Informal caregivers of patients with brain tumors are at particular risk for extraordinary burden due to the devastating neurological and oncological sequelae of these diseases. A common theme among studies of such caregivers is the existential challenges they face, due largely to a rapid change in and loss

of the relationship with the patient for whom they provide care. As attention to spiritual and existential needs is a goal of palliative care, understanding these specific needs in this vulnerable group is necessary to provide them with comprehensive psychosocial care. The purpose of this systematic review was to synthesize the literature on spiritual and existential burden experienced by caregivers of patients with brain tumors. **METHODS:** A systematic review was conducted of studies relating to existential distress among caregivers of patients with brain tumors. Relevant studies were identified by searching online databases (PubMed, PsycINFO, Cochrane, CINAHL, Web of Science, and Embase). Inclusion criteria were quantitative and qualitative studies evaluating burden and existential or spiritual distress in adult caregivers of patients with brain tumors. **RESULTS:** Of the 10,772 studies retrieved in the search, 51 met inclusion criteria and were reviewed in their entirety. Five studies specifically sought to examine spiritual and existential distress; the remainder addressed such distress peripherally, yet identified it as a considerable area of unmet need. **CONCLUSIONS:** This review highlighted (1) existential distress as a critical challenge faced by caregivers of patients with brain tumors; and (2) the need for interventions that attend to this specific area of need.

Research Implications: The burden experienced by caregivers of patients with brain tumors is in large part driven by the existential distress they face. Future research should include rigorous, quantitative investigations of the potential mediating role of existential distress in caregiver burden.

Practice Implications: Psychotherapeutic interventions specifically targeting existential distress among caregivers of patients with brain tumors are needed. Such interventions should incorporate elements of established, empirically supported treatments for caregiver burden and capitalize on telehealth modalities to facilitate successful dissemination.

Acknowledgement of Funding: None.

P2-11

The 1000-survivor Study

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and Cancer Council Queensland

BACKGROUND/PURPOSE: While current estimates indicate that more people are surviving cancer than ever before, not all are surviving well. To address this, Cancer Council Queensland undertook to comprehensively assess the concerns and support use behaviour of people who

have experienced a cancer diagnosis and subsequent treatment in Queensland, Australia, and subsequently utilise the findings to inform service delivery. **METHODS:** Recruitment involved a multi-faceted marketing and media campaign inviting participation in an online survey about a range of physical and emotional post-treatment concerns. **RESULTS:** Participants were 1031 men (45.3%) and women (54.7%), and the mean age was 57.9 years ($SD=12.9$, range: 18–87). Median time since diagnosis was 4.6 years. Across the sample, 94.5% reported at least one physical concern, and 94.3% reported at least one emotional concern since they completed their cancer treatment. The three most frequently reported physical ailments related to energy, sexual function and concentration. Depression, grief and identity, and fear of recurrence were the most commonly reported emotional challenges. The percentage of respondents who received care for their concern was variable across the physical concerns reported but was consistently low for emotional concerns. Logistical regression analyses showed that those who live in rural or remote regions were less likely to receive care for their physical and emotional concerns. **CONCLUSIONS:** This important study quantifies an extensive range of concerns and help-seeking behaviour for all cancer types. The results indicate a large number of reported concerns were not addressed for this group, a finding that warrants deeper investigation into the reasons for the breakdown in post-treatment care.

Research Implications: This research contributes to the understanding of the experiences of those who have been diagnosed with cancer and who are in their post-treatment phase. It assesses a wide range of concerns and helps to clarify help-seeking tendencies and barriers to care.

Practice Implications: Practically, this research may help to inform, direct and target post-treatment service delivery for cancer patients.

Acknowledgement of Funding: None.

P2-12

Gender Differences in Quality of Life of Brazilian Patients Who Underwent Chemotherapy Treatment for Colorectal Cancer

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BACKGROUND/PURPOSE: Colorectal cancer affects male and females around the world. However, there are few consistent investigations concerning potential gender differences. So, we assessed the gender differences in quality of life of Brazilian patients underwent to chemotherapy treatment for colorectal cancer. **METHODS:** A descriptive, cross-sectional design was used to assess Brazilian patients in an ambulatory oncology clinic. One

hundred forty-four patients (72 male and 72 females) with colorectal cancer completed a demographic questionnaire and the European Organization for Research and Treatment of Cancer Quality of Life Questionnaires, version 3.0 (EORTC QLQ-C30) in conjunction with the disease-specific colorectal module (EORTC QLQ-CR29). For data analysis, we used the *t*-test for equality of means to compare the quality of life according to patients' gender. Cronbach's alpha was employed to examine the internal consistency of tools. **RESULTS:** The quality of life linked to cognitive function, body image and fecal incontinence was lower among female patients. On other hand, items of symptoms scale abdominal pain and dry mouth represented lower quality of life for male patients. There was not significant gender difference in global health status/QOL. **CONCLUSIONS:** The quality of life of females seems to be more affected for chemotherapy treatment. Male patients seem to be more affected for physical symptoms of disease while females suffer more with subjective illness-related issues.

Research Implications: Findings of this investigation are relevant to strength the knowledge about the influence of social issues on cancer treatment. However, other social issues need to be assessed for future investigations to improve the theoretical stem for clinical actions on that field

Practice Implications: Findings contribute for the development of cancer treatment programs focused on gender specificities.

Acknowledgement of Funding: We thank the São Paulo Research Foundation (FAPESP) for financial support (grant 11/02911-5) provided through the Regular Research Awards to the PhD. Ana Lucia Siqueira Costa.

P2-13

The Gate: A New Journey of Applying the Distress Thermometer in Palliative and Hospice Care

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BACKGROUND/PURPOSE: The palliative and hospice care team of a medical center in Taipei, Taiwan cares about average 15–20 patients with cancer per month. Because only one-third of hospice patients could still preserve the ability to express their needs or wishes, it is always an issue about how to detect or to satisfy efficiently most patients and their families' real needs. It is also a debate that if patients' emotions are normal or not. The Distress Thermometer (DT) had not been a standard screening tool for all cancer staging patients in this workplace, but the comprehensive evaluation categories of the DT seem to let it be an ideal gate to respond to the team's concern. Therefore, the palliative and hospice care team

plans to try it to find how it affects the original working style and to test if it could be a standard tool in this field of this workplace. **METHODS:** It is a prospective and qualitative study in this hospital, from December 2014 to May 2015. DT-Chinese-Version is authorized by IPOS and TPOS. Since the referral to the palliative and hospice care team, each hospice patient will receive the DT screening by the team nurses within 1 week. The DT will be assessed again after a new intervention is executed to deal with the patients' concern. When the DT score is 4 or more, the care team will discuss if consulting the psychotherapist or psychiatrist. If the patient does not have clear consciousness to answer the DT, the care team will invite the key caregiver to respond the DT. If the nurses do not offer the DT screening to some new referral patients, the care team will discuss what the concern is. The data is pooled in a meeting every 2 weeks. The participants include a psychiatrist, a psychotherapist, and two nurses all from the palliative and hospice care team. **RESULTS:** According to the data of December 2014, there were 16 patients referred to the palliative and hospice care, and 7 patients were clear to respond to the DT. No one responded twice. The average score of the DT was 6, but only one patient was referred to the psychotherapist, and was for approaching the patient's family. Currently, we have four findings: (1) it was not easy for the families to be a representative to answer the DT; (2) though patients often were in deep thought in the psychological dimension, the high score of the DT often reflected physical concerns; (3) the DT was helpful to make treatment plans fit for the patients' physical needs; (4) the nurses often felt uncertain about when was the good time to provide the first DT screen, even they believed the DT would help their clinical works. **CONCLUSIONS:** If we want to make the DT be the sixth vital sign in our workplace possible, to make the team members more comfortable to use the DT is important. According to the feedback from the first month study, the DT does offer another gate to get closer to patients' needs. It encourages the team to apply the DT continuously. We will keep exploration to get more findings about using DT as the sixth vital sign in advanced and terminally ill patients in our workplace. We will show the distress prevalence, the psycho-social-spiritual interventions, the prevalence of suicide risk and psychiatric concerns, and the feedback and concerns from patients, their families, the team, and other healthcare professionals who work with us. We believe the coming results will provide broader views in the palliative care, the communication between patients and treatment teams, and the consolidation of the cooperation between the palliative team and other departments in this medical center.

Research Implications: This study could provide a broader view about using the DT as a screen tool, and help to think of the roles and flexibility when using the DT.

Practice Implications: We will know more about the functions, limitations, and advantages of the DT as a screen tool and the sixth vital sign. The results would help us to upgrade the standard care for cancer patients and meanwhile, to relieve the routine work loading. It is also beneficial to modify the specialty of the palliative and hospice care in this medical center.

Acknowledgement of Funding: None.

P2-14

Assessing the Distress Level of Cancer Patients Using the Distress Thermometer

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BACKGROUND/PURPOSE: Though distress related to diagnosis and treatment are commonly experienced by cancer patients, healthcare professionals seldom screen for distress in their patients. This study was designed to assess distress in cancer patients receiving radiotherapy treatment in the University College Hospital Ibadan. **METHODS:** Data were collected by a nurse from 45 randomly sampled cancer patients while taking the cancer patients vital signs. Distress was assessed using the NCCN Distress Thermometer (DT). The instrument comprised an 11-point visual analogue scale rated on a 0–10 continuum with 0 indicating no distress and 10 indicating extreme distress as well as a 39 problems checklist grouped into 5 categories of practical problems, family problems, emotional problems, spiritual/religious concerns and physical problems. Participants in the study had a mean age of 50.57 with a SD of 11.04; 39 (86.7%) of them were female while 6 (13.3%) were male. Thirty-two (71.1%) participants were married while others were either separated, divorced, widowed or single. Twenty-two (48.9%) patients had breast cancer, 14 (31.1%) had cervical cancer while 9 (20.0%) had other types of cancers. The cancer stage for 27 (59.9%) of the participants were unknown while 2 (4.4%), 11 (24.4%), 4 (8.9%) and 1 (2.2%) had stages 1, 2, 3, and 4, respectively. **RESULTS:** The average score of the respondents on the DT was 2.98 (SD was 2.02). The problem most frequently indicated in descending order in each of the problem domains are: treatment decisions (31.1%), insurance/finance (28.9%), transportation (24.4%) and work/school (22.2%) in practical problems; dealing with partner (17.8%), family health issues (17.8%) and dealing with children (15.6%) in family problems; worry (62.2%), fear (31.1%), nervousness (28.9%), loss of interest in usual activities (26.7%) and depression 22.2%) in emotional problems; 11% of the patients

indicated having spiritual/religious concerns. In the physical problems domain, the mostly frequently ticked problems are eating (37.8%), fevers (28.9%), sleep (28.9%), fatigue (22.2%), appearance (20%), bathing/dressing (20%), tingling in hands/feet (20%) and changes in urination (17.8%). **CONCLUSIONS:** Though average score on the DT is low, the cancer patients experience varying levels of distress in the different problem domains and each of these should be addressed accordingly.

Research Implications: The correlates of psychosocial distress in cancer patients in our population should be the next research focus to aid the detection of at risk group.

Practice Implications: Distress should be assessed as a routine practice with special attention given to the individual items ticked on the different psychosocial domains.

Acknowledgement of Funding: None.

P2-15

Efficacy of Distance Educational Module for Nurses to Enhance Their Knowledge and Skills on Cancer Palliative Care

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BACKGROUND/PURPOSE: This study was designed to evaluate the efficacy of distance educational module on cancer palliative care for oncology nurses focusing on multimedia enhancement. **METHODS:** Qualitative and Quasi-experimental design was used. Two institutions were randomly allocated to Intervention group (National Institute of Cancer Maharagama (NICM) and Control (Teaching Hospital Karapitiya) with nursing staff also randomly selected. Intervention group ($N=38$) received a theory-based distance learning curriculum designed for palliative care nursing with multimedia enhancement, while control ($N=37$) received no intervention. **RESULTS:** Mean age of participants in both groups were 32 ± 6.3 and 31 ± 4.8 years, respectively ($p > 0.05$). There was no significant differences in demographic characteristics, total mean scores of knowledge, attitudinal dispositions and self-reported practices with regard to palliative care between the two groups at the base line ($p > 0.05$). Mean scores for Knowledge, attitudinal dispositions and self-perceived practices of the experimental group between baseline, and immediate-postintervention showed significant difference; while outcome evaluation at 20th week also showed significant differences for the three variables ($p < 0.05$). **CONCLUSIONS:** Distance Education intervention was more effective in enhancing nurses' knowledge, practices and attitudes regarding cancer palliative care.

Research Implications: Further researches are needed to implement intervention on palliative care for patients

family members, because in terms of quality of life of cancer patients family members have a major role.

Practice Implications: The study contributed to develop nurses knowledge on palliative care, skills on communicating, assessing and managing pain and skills of work as a member of palliative care team.

Acknowledgement of Funding: World Class University Project (Ph.D./06/2012) University of Sri Jayewardenepura.

P2-16

Screening for Distress: What Patient-reported Information Do Pediatric Oncology Providers Find Helpful?

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BACKGROUND/PURPOSE: This study aimed to explore what patient-reported outcomes (PROs) pediatric oncology providers (POPs) find helpful in caring for their patients (8–21 years). **METHODS:** 352 (43% male) POPs from 52 countries participated in an online self-administered 28-item questionnaire. POPs were recruited from different oncology societies. The questionnaire assessed POPs preferences regarding the use of psychosocial PROs. Responses on a 5-point scale were dichotomized into categories 1 and 2, 'not useful at all' and 'hardly useful', and 3–5, 'somewhat useful', 'useful', and 'very useful'. **RESULTS:** Almost all POPs (94%) reported standardized use of PROs to be useful. POPs emphasized PROs should include specific information on physical symptoms, and emotional, practical, social, school/cognitive, and spiritual difficulties. Perceived barriers to obtaining PROs were: time (57%), inadequate staff to address psychosocial issues raised (48%), and PROs not being available at their organization (33%). Most prefer to obtain results in the electronic record (97%), printed on paper (85%) and online environment (73%). Preferred time-points for assessment were: during treatment (87%), at diagnosis (86%), and follow-up (81%). Majority of POPs preferred child and parent report at ages 8–12 (92%) and 13–17 (88%); less than half felt parent report was necessary for ages 18–21 (47%). **CONCLUSIONS:** To our knowledge, this is the first study to assess what POPs would find helpful in a pediatric PRO screen. POPs report PROs could be clinically useful for children with cancer. In most organizations this information is not integrated in standard care. Using a family-centered care approach, PPOs support efforts to incorporate PROs in clinical practice.

Research Implications: From a research perspective, it is important to develop appropriate patient-reported

outcome (PRO) questionnaires that can be used in studies on children with cancer. Furthermore, when studying the effect of using PROs in clinical practice, it is relevant to know the perspective from the physician regarding the usefulness of specific (psychosocial) symptoms or difficulties.

Practice Implications: Joint decision making and active involvement of the patient during medical consultations are considered important these days. A way to promote patient-centred care is by using patient-reported outcomes (PROs). However, physicians experience barriers for effective communication regarding these topics. To facilitate use in clinical practice, developing PRO measures according to the perspectives of physicians is important. This study reports on what PRO measures pediatric oncology providers would find helpful when caring for their patients. The information provided by this study can be directly translated into clinical practice.

Acknowledgement of Funding: None.

P2-17

In Any Language: Creating a Heartfelt Narrative in Patient-centered Cancer Care

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Private Practice

BACKGROUND/PURPOSE: To present a narrative structure in a template format that provides a humanistic avenue of expression for cancer patients, their partners, families, caregivers and providers of services. Historically and cross culturally, personal stories are an essential part of how we communicate, interpret experiences and incorporate new information into our lives. Sharing narratives provides a powerful tool to deepen and expand cancer survivor's emotional healing from diagnosis through treatment and beyond. **METHODS:** Individuals and groups given verbal and written prompts based on specific templates to aid the articulation of their cancer experiences. Participants were encouraged to self-disclose as well as to witness and join with the experience of others. **RESULTS:** Participants reported voicing their stories was cathartic, meaningful, and supportive and provided an emotionally satisfying, deep and complex healing experience. **CONCLUSIONS:** 'There is no greater agony than bearing an untold story inside you'—Maya Angelou. A Humanistic approach: Validates the power of humanizing and personalizing survivorship care; Engages patients and involves them in their process of healing; Promotes open dialogue; Provides opportunity of expression for all involved with the patient.

Research Implications: Quality survivorship care involves the complexity of trauma and human interactions that can rarely be studied or explained in simple terms.

Including a narrative approach in health care and studying the benefits it provides can give us deeper understanding of patient needs.

Practice Implications: Personalizing care creates a way for more meaningful connection and opens a way to more humane, ethical, and effective survivorship care.

Acknowledgement of Funding: None.

P2-18

Exploration of Factors Relevant to the Quality of Life of Oral Cancer Survivors

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BACKGROUND/PURPOSE: Sunshine Social Welfare Foundation (SSWF) provides physical and psychosocial rehabilitation services to oral cancer survivors with facial disfigurement in Taiwan. During their service program, clients are surveyed to determine their quality of life (QOL) and identify influencing factors. **METHODS:** As part of the standard service process, the Traditional Chinese version of the University of Washington Quality of Life Questionnaire (UW-QOL) is administered to clients within 1 month of intake, every 6 months during service program, and finally once at discharge. **RESULTS:** 437 valid questionnaires collected by July 2014 showed that clients are mostly married men aged between 41 and 60, with high school education. Most had stage IV cancer located on the tongue, gums and buccal mucosa. Average time between cancer diagnosis and first survey was 4.03 months. Average scale score was 631.99 ($SD=201.07$) and overall average was 52.67 ($SD=16.76$). Clients scored well for pain and saliva; however, they scored poorly in swallowing and chewing, meaning that they are more affected by these physical function limitations. Scores showed a correlation between QOL, demographics and disease characteristics. University-level education, being under 30 years of age, or stage III-stage II cancer were three characteristics related to higher QOL scores. **CONCLUSIONS:** Education level, age and cancer stage were factors significantly affecting QOL scores. Age and time of diagnosis were particularly significant in relation to QOL physical domains.

Research Implications: Importance of tracking QOL over long-term period. Instead of assessing QOL and capturing a snapshot of QOL at a specific moment, assessment carried out over a long period of time can help track changes in QOL. Clients who took part in this research continue to receive services, and QOL assessment is ongoing. Data can be analyzed to understand changes of QOL over time. Low QOL scores in swallowing, chewing and speaking—offer rehabilitation to improve ability to open

the mouth. Restriction to mouth opening can severely affect health (reduced nutrition, poor oral hygiene) and reduce social participation (difficulty communicating with others, fear of stigma), but it can be improved through physical rehabilitation. Ensuring that rehabilitation services are easily available (outpatient basis or through home visits) and that proper follow-up is done can help patients regain better mouth functions. Negative impact on QOL of late detection—strengthen prevention strategies. The later the diagnosis is made, the later treatment starts, and the poorer the QOL outcome will be. Prevention education should raise awareness about identifying precancerous lesions so that people can be more vigilant and seek medical advice early. Screening programs are important for early detection but they should be designed to enhance convenience for users and address issues/worries of at-risk groups to increase their willingness to take part (e.g. reduce waiting times and bring screening to workplace). Follow-up after screening needs to be done in a more systematic way to ensure that people return to confirm diagnosis.

Acknowledgement of Funding: None.

P2-19

Stress, Anxiety, and Control Beliefs Correlate with Severity and Interference from the Pain, Fatigue, Sleep Disturbance Symptom Cluster in Advanced Cancer

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BACKGROUND/PURPOSE: Pain, fatigue, and sleep disturbance form a common symptom cluster in persons with advanced cancer. Psychosocial symptom theories suggest that emotional stress and maladaptive beliefs about the ability to control symptoms may exacerbate the overall symptom experience. The purpose of this analysis is to examine relationships among stress, anxiety, perceived control over symptoms, and symptom outcomes (severity and interference with daily life) in the context of a symptom cluster. **METHODS:** We analyzed baseline data from an ongoing RCT of a cognitive behavioral symptom management intervention. Twenty-six outpatients receiving chemotherapy for advanced cancer, and experiencing the pain, fatigue, sleep disturbance symptom cluster, provided data. Prior to initiating a cycle of ongoing chemotherapy, participants completed the Perceived Stress Scale, the anxiety subscale of the Profile of Mood States, ratings of personal ability to control pain, fatigue, and sleep disturbance, and the MD Anderson Symptom Inventory. **RESULTS:** Stress

and anxiety correlated positively with symptom cluster severity (stress $r=0.68$, $p=0.00$; anxiety $r=0.55$, $p=0.00$) and symptom cluster interference with daily life (stress $r=0.72$, $p=0.00$; anxiety $r=0.74$, $p=0.00$). Perceptions of control over pain, fatigue, and sleep disturbance correlated inversely with symptom cluster severity ($r=-0.54$, $p=0.01$) and symptom cluster interference with daily life ($r=-0.62$, $p=0.00$). **CONCLUSIONS:** As reported in previous literature, emotional stress, anxiety, and control beliefs are related to the symptom experience, both in terms of severity and disruption of daily activities. The current analysis suggests that such relationships hold true in the context of a specific symptom cluster.

Research Implications: Although the correlational findings do not imply causation, they indicate the potential of stress reducing interventions in controlling the pain, fatigue, sleep disturbance symptom cluster. The ongoing RCT will evaluate changes in psychological and biologic measures of stress and anxiety and changes in symptom control beliefs brought about by a cognitive behavioral intervention and their effects on symptom cluster outcomes.

Practice Implications: Interventions to improve symptom cluster control should address psychological variables including stress, anxiety, and control beliefs.

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P2-20

Identifying Spiritual Distress in Cancer Patients

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BACKGROUND/PURPOSE: Spiritual care is recognized as an important component of holistic care. However, there is little consensus about what constitutes best practice to identify patients suffering from spiritual distress. Existing tools are lengthy and unwieldy for use in busy clinical settings. The purpose of this project is to identify a simple question or questions that can be used by front-line healthcare providers which will accurately identify patient suffering from spiritual distress. **METHODS:** A total of 16 patients and 22 healthcare providers (social workers, physicians, nurses) underwent in-depth interviews regarding their perspectives about spiritual distress and ways of identifying it in their practice. Verbatim transcripts were subjected to qualitative descriptive analysis. **RESULTS:** Patients had little difficulty describing what

constituted spiritual distress for them and the impact it had on their lives. They perceived spirituality, whether based on traditional religious beliefs or wider universal views of the spiritual, as an important aspect of their recovery, dying, and overall well-being. In contrast, healthcare providers had difficulty describing spiritual distress and were not able to articulate one way of identifying it in their patient populations. A range of views were expressed about if, and when, spirituality was a component of their professional practice. **CONCLUSIONS:** This work emphasized the importance of spiritual care for cancer patients and underscored challenges healthcare providers experience incorporation of spiritual care in their daily practice. Overall, few healthcare providers felt prepared and comfortable in approaching the topic with patients.

Research Implications: There is an on-going need to identify a reliable, valid method for identifying spiritual distress in a busy clinical setting.

Practice Implications: There is a need for healthcare providers in cancer settings to clarify their roles in spiritual care and engage in appropriate preparation to assume the specified role.

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P2-21

Daily Life Issues of Ambulatory Cancer Patient in Northern Japan

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BACKGROUND/PURPOSE: Little is known about daily life issues of ambulatory cancer patients in northern Japan. Therefore, the purpose of this study was to describe daily life issues of ambulatory cancer patients in northern Japan as a process, the time of diagnose through the present. **METHODS:** In a cross-sectional study, subjects comprised a convenience sample of 165 ambulatory cancer patients receiving follow-up care at cancer care hospitals in northern Japan. Data were collected by using a self-report questionnaire about daily life issues of ambulatory cancer patients focusing on three time points: time of diagnose (Time I), during and after treatments (Time II), and the present time (Time III). Descriptive statistics were performed. **RESULTS:** In all three time points, the numbers of patients with strong concerns were consistently high. The top three concerns were psychological concerns, financial problems, and physical pain. Most subjects asked for help from family members, physician, friends and the others. However, other subjects were unable to ask for

help not knowing whom to consult and/or where, and the others decided to solve their concerns by themselves. **CONCLUSIONS:** Based on the results of this report, a new cancer care program for ambulatory cancer patients should be provided with improved quality. Further intervention studies on ambulatory cancer patients are required to evaluate the new program.

Research Implications: Based on the results of this report, a new cancer care program for ambulatory cancer patients should be provided with improved quality.

Practice Implications: Further intervention studies on ambulatory cancer patients are required to evaluate the new program.

Acknowledgement of Funding: None.

P2-22

Oxycodone-induced Mania in Myelodysplastic Syndrome

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BACKGROUND/PURPOSE: There is mixed evidence on the risk of mania secondary to opioids (Jaquadheesan & Muirhead, 2004; Manchia *et al.*, 2013), although patients with a history of bipolar disorder appear to be at higher risk (Schaffer *et al.*, 2007). Currently, there is no literature on the risk of mania with oxycodone, an opioid commonly used to treat pain in patients with cancer. **METHODS:** We present the case of a patient with myelodysplastic syndrome who developed manic symptoms after receiving immediate-release oxycodone. **RESULTS:** The patient was a 69-year-old female with myelodysplastic syndrome and history of mild anxiety and depression who was admitted to the general medical unit. Two weeks prior to admission, she was prescribed 5mg of immediate-release oxycodone every 4 h as needed for pain. A psychiatry consultation was requested due to family's concern about new onset of manic symptoms including increased spending on televised shopping networks, decreased sleep, rapid speech, and lack of insight into abnormal behaviors, which began 2 days after oxycodone was initiated. Although the patient was taking medications associated with increased risk of mania, including prednisone and sertraline, none of these had undergone dosage adjustments prior to the onset of her manic symptoms. Oxycodone was discontinued, and olanzapine was prescribed, after which improvement in the patient's sleep and mild decrease in spending were noted. **CONCLUSIONS:** Oxycodone may increase risk of medication-induced mania in cancer patients, particularly when combined with other medications with similar risk, such as steroids.

Research Implications: Opioids, including oxycodone, may induce manic symptoms, and it is unknown whether patients with cancer are at higher risk for this adverse effect.

Practice Implications: Opioids, and oxycodone in particular, are commonly used to treat pain in patients with cancer. Providers should be aware of the risk of mania due to these medications in patients with no history of bipolar disorder.

Acknowledgement of Funding: None.

P2-23

The Effects of Body–Mind–Spirit Support Group on Holistic Well-being and Cortisol Responses for Breast Cancer Patients in the Transition from Active Cancer Treatment to Survivorship Stages

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BACKGROUND/PURPOSE: This study aims to develop body-mind-spirit (BMS) support group for breast cancer patients who complete active treatment within 1 month and examine its impacts on patients' emotional distress (depression and anxiety symptoms), psychological well-being (attachment styles in close relationships, meaning in life, holistic well-being, quality of life), salivary cortisol levels and diurnal cortisol patterns. **METHODS:** This 5-month follow-up study adopts the randomized controlled trial (RCT) design. Breast cancer patients who are aged between 20 and 65 years old and complete active treatments within 1 month are recruited from outpatient department of surgery. The subjects in an experimental group receive 2-month time body-mind-spirit (BMS) support group while those in a control group receive one-session individual educational advice on health behaviors in the same period of time. The outcome measures include European Organization for Research and Treatment of Cancer Core Cancer Quality of Life Questionnaire (EORTC QLQ-C30) and its breast cancer specific complementary measure (EORTC QLQ-BR23), BDI-II depression scale, State-Trait Anxiety Inventory (STAI), Experiences in Close Relationships-Revised (ECR-R) scale, the meaning in life questionnaire (MLQ), Holistic Well-being Scale (HWS) and salivary cortisol levels. Salivary cortisol samples collected at waking, 30 and 45 min after waking, 12:00, 17:00 and 21:00. **RESULTS:** The GEE follow-up contrast for time interaction effect shows there were the greater increases of scores for the search aspect of meaning in life and emotional aspects of quality of life in the BMS group

compared to the control group. The greater decreases of the scores for symptoms of diarrhea and arm symptoms, and scores for emotional vulnerability, spiritual disorientation more likely occurred in BMS group than the control group. The participants in BMS group more likely appeared to have the greater reductions of cortisol levels than the participants in control group. **CONCLUSIONS:** BMS integrative Psychotherapy likely provides improvements in physical, psychological and spirit distress, and cortisol stress responses in breast cancer survivors.

Research Implications: This report will share with the researcher about how to design RCT and how to measure by including both subjective well-being and objective cortisol measure an effective supportive group for breast cancer patients in the period of transition between active cancer treatment and survivorship.

Practice Implications: This report will share with the clinical professionals about how to develop and provide body-mind-spirit (BMS) support group for breast cancer patients in the period of transition between active cancer treatment and survivorship.

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P2-24

Symptom Cluster among Breast Cancer Patients: Links to Self-compassion and Optimism

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BACKGROUND/PURPOSE: To assess the associative patterns of two psychological resources self-compassion and optimism with depression, fatigue, and cognitive difficulties, a well-known post-chemotherapy symptom cluster. **METHODS:** A total of 170 breast cancer patients, aged 24–82, stages I–III, 1–12 months post-chemotherapy filled out the Fatigue Symptom Inventory, Center of Epidemiological Studies-Depression Scale, Self-Compassion Scale, Life Orientation Test for optimism, and the cognitive difficulties scale. **RESULTS:** Levels of fatigue ($M=4.67$, $SD=2.39$, possible ranges 0–10), depression ($M=1.22$, $SD=0.9$, possible ranges 0–3), and cognitive difficulties ($M=1.52$, $SD=1.2$, possible ranges 0–3) were

moderate. Depression was associated with self-compassion and optimism, while fatigue and cognitive difficulties were only associated with optimism. Multivariate regression analyses showed that self-compassion and optimism explained 20%, 7.6%, and 8.8% of the depression, fatigue, and cognitive difficulties variances, respectively. **CONCLUSIONS:** Although often referred to as a symptom cluster, depression, fatigue, and cognitive difficulties are related to different psychological constructs. In addition, the current study highlights the importance of optimism, as a resource, within the context of this symptom cluster.

Research Implications: The study of the associations of self-compassion and optimism with cluster symptoms among cancer patients presents a novel look at the role of these psychological constructs. The different associative patterns of self-compassion and optimism with each of the symptoms should be further studied.

Practice Implications: Clinicians should be aware of the role of self-compassion and optimism as personal resources in cancer patients, and their effects on psychological and physical symptoms. The ways in which to enhance these resources in therapy need to be further developed.

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P2-25

Effectiveness of Meaning-centered Group Psychotherapy Targeting Cancer Survivors: Outcomes of a Randomized Controlled Trial

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BACKGROUND/PURPOSE: Meaning-Centered Group Psychotherapy (MCGP) was initially designed to help patients with advanced cancer to sustain or enhance a sense of meaning and purpose in their lives. We adjusted MCGP for a cancer survivor population (MCGP-CS) and conducted a randomized controlled trial (RCT) investigating the effectiveness of MCGP-CS. **METHODS:** Patients diagnosed with cancer in the last 5 years and treated with curative intent, were recruited via several hospitals in the Netherlands. A total of 172 participants were randomly assigned to one of the three study arms: 1. Meaning-centered group psychotherapy for cancer survivors (MCGP-CS) 2. Support group psychotherapy (SGP) 3. Care as usual (CAU). Baseline assessment took place before randomization, with follow-up assessments post-intervention and at 3 and 6 months. Primary outcome was meaning making, secondary outcome measures addressed quality of life, anxiety, depression, hopelessness, optimism, and

adjustment to cancer. **RESULTS:** The results will be analysed this spring, when all data are collected, and the results will be presented for the first time at the IPOS 2015 congress. **CONCLUSIONS:** Meaning-focused coping is key to adjustment to life after cancer; however, there is a lack of evidence-based interventions in this area. Many cancer survivors experience feelings of loneliness and alienation and have a need for peer support; therefore, a group method, in particular, can be beneficial. This study evaluates if MCGP-CS is effective for enhancing or sustaining a sense of meaning in cancer survivors and improving adjustment to cancer.

Research Implications: This is the first study that evaluates the effectiveness of meaning-centered group psychotherapy specifically targeting cancer survivors. This study contributes to filling these gaps of knowledge on effective meaning interventions for cancer survivors.

Practice Implications: For meaning-centered psychotherapy targeting cancer survivors, there are no evidence-based intervention protocols yet. Therefore, if the results of the present RCT on MCGP-CS are positive on effectiveness measures, the intervention protocol can be an important addition to evidence-based psychological care for cancer patients.

Acknowledgement of Funding: This study is funded by the Dutch Cancer Society/Alpe d'HuZes/KWF Fund.

P2-26

Factors Related to Sexual Distress among Cervical Cancer Survivors and Their Partners: A Cross-sectional Multicenter Observational Study

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BACKGROUND/PURPOSE: Indications are that sexual distress is higher among cervical cancer (CC) survivors than among controls, possibly related to vaginal changes. Population based studies show that sexual distress is also associated with psychological and relationship problems. This study investigated whether sexual distress among CC survivors and their partners was related to vaginal sexual complaints, body image, psychological distress, and sexual and relationship satisfaction. **METHODS:** A multicenter cross-sectional study was conducted among sexually active CC survivors, treated with surgery and/or radiotherapy ($n=120$, mean age: 46.0), and their partners ($n=120$, mean age: 49.7). Validated Dutch questionnaires assessed vaginal sexual complaints (tightened and shortened vagina, dyspareunia, diminished lubrication, and irritated vaginal

skin), body image (EORTC-QLQ-CX24), anxiety and depression (HADS), sexual (EORTC-QLQ-CX24, GRISS), and relationship satisfaction (MMQ). Multivariate linear regression analyses were conducted with sexual distress (FSDS) as outcome variable. RESULTS: Sexual distress was reported by 33% of the women according to the FSDS cutoff score. Among women, vaginal sexual complaints ($\beta=0.31$), body image concerns ($\beta=0.36$), sexual enjoyment ($\beta=-0.17$) and the partner's sexual dissatisfaction ($\beta=0.25$), were significantly related to experiencing sexual distress (p 's < 0.05 , total $R^2=56\%$, $F(4, 115)=35.21$, $p \leq 0.001$). Age, relationship duration, time since treatment, anxiety, depression or relationship satisfaction, were not related to sexual distress. CONCLUSIONS: During sexual rehabilitation, one must consider taking not only vaginal sexual complaints, but also body image, and sexual satisfaction of both patient and partner, into account.

Research Implications: When investigating sexual distress among CC survivors, it is important to take its multi-dimensionality into account and thus to consider not only vaginal sexual complaints after treatment but also body image and sexual satisfaction of both patient and partner.

Practice Implications: The results indicate how healthcare providers can provide appropriate support to CC survivors in case of sexual distress during rehabilitation, taking the (patient and partner) factors related to sexual distress into account.

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P2-27

Jumping over Hurdles: Palliative Care Pilot Project in Advanced Lung Cancer

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BACKGROUND/PURPOSE: The spectrum of support services in patients with advanced cancer is an emerging quality measure; however, resource limitations can be a barrier to service provision, especially in community settings. A pilot study was designed to determine the degree in which primary palliative services were provided to advanced lung cancer patients in our institution and to assess barriers to service provision. Screening questionnaires and a semi structured clinical interview were utilized to assess prognostic awareness, treatment understanding, symptom management and service utilization. **METHODS:** Ninety-

one patients were screened, 41 were eligible for study criteria and 10 were enrolled. Subjects completed the following assessments: Edmonton Symptom Assessment, PHQ-9, GAD, Fact-G, Fatigue Severity Scale and the NCCN Distress Thermometer, as well as a semi structured clinical interview. **RESULTS:** Implementation and accrual barriers existed from both patients and providers. Prognostic awareness was limited and most patients were receptive to further prognostic discussion. Study participants showed a higher trend towards earlier hospice referral. Pain was the most common symptom reported and also addressed by providers, other symptoms present but not fully addressed included insomnia, anxiety, fatigue and appetite disturbance. **CONCLUSIONS:** As a pilot quality project this information can serve as a potential stimulus for institutional culture change. Discussions within the oncology research council, cancer committee, tumor boards and oncology medical staff have heightened awareness and the need for earlier introduction of palliative care services including the role of primary palliative care and formal symptom monitoring.

Research Implications: Translating research across settings and geographical locations can show differences in both patient and provider acceptance.

Practice Implications: There is a clear need for support services that address prognostic issues, symptom management and medical decision making. There are barriers to service acceptance that have to be addressed. Oncologist perception of service provision and patient reports can show significant gaps.

Acknowledgement of Funding: NCCP.

P2-28

Screening for Distress in Community-based Settings

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University of Toronto

BACKGROUND/PURPOSE: The purpose of this study was to explore the use of distress screening with cancer survivors accessing community-based agencies. Based on person-centered care, efforts must be made to examine how screening for distress can be successfully translated from clinical environments to community-based agencies. **METHODS:** A review of the literature identified 34 distress screening tools that might be appropriate for use in the community setting. Of these, 5 were selected for presentation to cancer survivors in four focus group sessions. Subsequently, a new 18-item tool was designed to better reflect the needs and context of community-based agency settings. **RESULTS:** Focus group participants perceived the current approach of Screening for Distress as being too clinical and not appropriate for

community-based settings. However, in a proper format, accurately and routinely done, distress screening could be a great asset to cancer survivors. None of the tools presented during the focus groups satisfied requirements and a new screening approach was needed. The new approach included a screening postcard designed for members/clients along with an interview administered screening document. The piloting of this new approach was successful, facilitating the identification of survivor concerns and appropriate referral for assistance. **CONCLUSIONS:** Screening for distress as implemented in clinical settings needs to be adapted to use in community-based settings. Administration approaches to screening must be aligned with the philosophy of the agency and relevant to the needs of the survivors accessing the community-based services.

Research Implications: The newly designed tool and approach for screening for distress in community-based settings ought to be tested with a larger sample and a number of other community based settings.

Practice Implications: Screening for distress has the potential to be helpful to individual cancer survivors as well as the organizations themselves. Systematic implementation of an approach to screening for distress that is appropriate for a community setting with items of relevance to the survivor phase of the cancer journey is required.

Acknowledgement of Funding: Public Health Agency of Canada.

P2-29

Towards a Paradigm Shift: Psycho-social Stress in Cancer Patients Living in Rural Regions, Following Active Therapy, with Care Not Augmented by a Formal Survivorship Care Program

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BACKGROUND/PURPOSE: Patients are best equipped to function to their post-therapy potential when they are aware of how best to self-manage their illness following active therapy. Integrated into this awareness is management of common disease-related symptoms and common adverse effects along with their psychosocial countenances. Many factors work to affect quality of life including the use of coping strategies. Identification of vulnerable individuals for early and timely intervention efforts may influence the adjustment to life following therapy. **AIMS:** i. To describe distress, anxiety, depression, fatigue, physical functioning, sleep disturbance, satisfaction with social role, and pain amongst cancer patients following active cancer therapy; ii. To describe how the levels of distress, anxiety,

depression, fatigue, physical functioning, sleep disturbance, satisfaction with social role, and pain amongst cancer patients following active cancer therapy change over time; iii. To explore the coping mechanisms in patients diagnosed with either between prostate, breast and CRC patients following active therapy; iv. To make recommendations of what should be included in a 'Survivorship Care Plan' suited to the needs of rural patients following active cancer therapy (a potential intervention to be tested in a much larger study). **METHODS:** The research questions became the focus of selecting a phenomenological framework for the research design resolute on selecting and incorporating a design to guide the method and achieve the aims. This study is aligned with perspectives associated with the triangulation methodology to show the potential to discover areas of both convergence and divergence. The study involves two separate patient cohorts. Cohort one will complete a series of three paper questionnaires using the quantitative PROMIS-29 tool and the mini-MAC that appropriately respond to the research questions. A small subset of approximately 30 patients (or until saturation) in this cohort will also undertake semi-structured, recorded interviews. Cohort two includes 100 patients who completed therapy for one of the three malignancies 5 years previously to gain cross-sectional knowledge of issues over the longer term. This cohort will also complete the questionnaires. Demographic diversity in this study is relevant to outcome; and therefore, information on gender, tumour group, stage at diagnosis, marital/partner status and postcode will be included. **RESULTS:** Results to date: 123 patients have consented to participate in the study and all have now completed the first 2 questionnaires. The third questionnaire for cohort one and the questionnaire for cohort two are now the focus of the quantitative component as well as the commencement of the qualitative interviews for cohort one. Demographics Breast ($N=47$) age range was 34–78, Married 65%, Widowed 8% Divorced 14%, Single 13% Education included completed primary 9%, completed high school 49%, completed TAFE 30%, completed university 12%. Stage I 30%, Stage II 44%, Stage III 24% and Stage IV 2% Prostate ($N=31$) age range was 49–82, Married 70%, Widowed 5% Divorced 10%, Single 15% Education included completed primary 32%, completed high school 55%, completed TAFE 13%, completed university 0%, Stage I 12%, Stage II 33%, Stage III 33% and Stage IV 2% Lung ($N=13$) age range was 49–70, Married 49%, Widowed 8% Divorced 14%, Single 29%, Education included completed primary 9%, completed high school 9%, completed TAFE 63%, completed university 18%, Stage I 30%, Stage II 44%, Stage III 24% and Stage IV 2% CRC ($N=8$) age range was 49–70, Married 65%, Widowed 8% Divorced 14%, Single 13%, Education included completed primary 9%, completed high school 49%, completed TAFE, 30%, completed university 12%, Stage I 18%, Stage II 35%, Stage III 39% and Stage IV 18% **Research Methods**

triangulation (cross-sectional design) using quantitative questionnaires PROMIS-29 and mini-MAC, qualitative face-to-face interviews audiotaped and demographic data collection Results Females are significantly less satisfied with their physical ability immediately following therapy. There was statistical significant difference in Physical Ability, Sleep and Satisfaction with role when between-group analysis was performed Tests for normality will determine, more accurately, the direction for future statistical analysis once the populations have increased. CONCLUSIONS: Disparities between gender have been shown to encompass the physical effects of therapy. The degree of satisfaction with the ability to continue daily roles may become more evident as the study continues. The study has initially provided data on psychosocial differences following cancer therapy. Exploring the subgroups of the demographics such as differentiation of therapy within tumour groups as well as between tumour groups may explain some observed outcomes as well as effects of residential locality and juncture in time, although these will become more evident during the advancing study.

Research Implications: The results of this research show that the implications for management of psychosocial issues remain complex within and between tumour groups as well as the dynamics between changing society and cancer care. No one approach to the management of survivorship will provide improved outcomes and any approach will need to be revisited frequently to remain abreast of complex changes in therapy and society.

Practice Implications: Survivorship must be management with reference to patient demographics, family, social, work and supporting dynamics. Survivorship management cannot be successfully managed without consideration of individual coping mechanisms and the impact that these exert on survivorship the patient. Implications for practice mean that appropriate personnel must be available and equipped with the knowledge of these dynamics. This means that funds must be available for on-going education and training and a 'fluid' framework for quality practice should be developed.

Acknowledgement of Funding: None.

P2-30

Menopausal Symptoms in Younger Women with Breast Cancer a Year after Diagnosis

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BACKGROUND/PURPOSE: With 5-year survival at over 89% in young women diagnosed with early breast

cancer (BC), survivorship issues are of growing importance. Around 80% of patients experience menopausal symptoms, and these may have substantial negative impact on their life after cancer. Little is known about the nature and severity of menopausal symptoms in BC patients diagnosed at 40 years or younger. Understanding the experience of this group is crucial for appropriate healthcare and follow-up. **METHODS:** A community based sample of 93 women at 40 years or younger diagnosed with early BC 1 year post-diagnosis following definitive BC treatment were recruited through 19 Australian oncology clinics. Mean (m) Greene Climacteric Scale domain scores were compared to women in the general population, women attending a menopause clinic and women diagnosed with BC aged ≤ 64 years, reported in the literature. Predictors of menopausal symptoms were explored. **RESULTS:** Compared to premenopausal women, young BC patients ($m_{age}=33$) had significantly more psychological and vasomotor and less sexual interest symptoms. Sexual interest was also lower in young BC patients compared with women in the menopause transition. Compared to women aged 40–50 years, young BC patients described more severe psychological symptoms, similar to those in women aged 50–64 years. Receiving combined adjuvant therapy (chemotherapy and endocrine therapy) was significantly associated with less interest in sex. **CONCLUSIONS:** Young women with BC continue to experience vasomotor symptoms 12 months post-diagnosis, similar to women in spontaneous menopause transition but sexual interest is lower, particularly in those who have had both chemotherapy and endocrine therapy.

Research Implications: This research adds to the understanding of the experiences of younger women following diagnosis and treatment for breast cancer and addresses a gap in the literature

Practice Implications: By understanding the menopausal experiences of younger women with breast cancer, clinicians can better cater to the needs of patients in their follow-up care.

Acknowledgement of Funding: This research was supported by a grant from the Cancer Council of NSW.

P2-31

Palliative Care Needs of Young and Middle-aged Adults (20–59) with Cancer: A Pilot Study

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BACKGROUND/PURPOSE: Palliative and supportive care issues of oncology patients are most often associated with the elderly. However, last year 200,000 adults between the ages of 20–59 died of cancer related illnesses. Based on life span developmental model, specific and

unique age related issues and needs will be associated with this cancer diagnosis. What these needs are is not well described in the literature for this adult population. **The purpose** of this descriptive research pilot study is to explore and describe the palliative and supportive care issues and needs of young and middle age adults (20–29) with a potentially life limiting cancer diagnosis. Specifically, this study examines perceived changes relating to quality of life and functional status since diagnosis. **METHODS:** A convenience sample of 25 oncology patients was asked to complete a demographic survey and two questionnaires relating to quality of life and functional health status. In addition, they were asked seven open ended structured survey questions relating to personal descriptions of quality of life, available resources, and personal understanding of palliative care. **RESULTS:** The results of this data have not yet been analyzed. Analysis will include descriptive statistics and mean scores relating to quality of life. The qualitative data from the interviews will be critically analyzed looking for similar responses and trends related to identified issues and needs. **CONCLUSIONS:** This study will provide valuable information and direction for providing competent palliative and supportive care to this unique cancer population. **Research Implications:** Information from this study will provide direction for further data collection with other populations: cardiac, pulmonary, neurological patients of the same age group. **Practice Implications:** Ultimately, this information can lead to the development of community based palliative care teams.

Acknowledgement of Funding: American Nursing Foundation.

P2-32

Development of a Low-health-literacy Decision Aid about Reproductive Choices for Younger Women with Breast Cancer

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BACKGROUND/PURPOSE: Breast cancer is the most frequently diagnosed cancer in reproductive age women and for many, the potential consequence of infertility as a result of treatment is of enormous importance. In order to make an informed decision about preserving fertility, it is essential that younger women (40 years or younger) have access to high-quality information. Additionally, about 50% of women in this age group (15–44 years)

lack the skills and capacity to access, understand and use health information (Australian Bureau of Statistics data). Current information available is not suitable for low health literacy groups. Thus, there is an urgent need to develop tools that can be accessed by all patients equitably. **METHODS:** This presentation will report on the framework around developing low health literacy resources in this field, specifically in the context of developing a fertility related decision aid and on the methodology for the planned development and evaluation of a decision aid for younger women (40 years or younger) diagnosed with early breast cancer. **RESULTS:** There are many challenges in developing effective information materials for people with low health literacy. This will be the first study to develop and evaluate a low-literacy decision aid developed using models of health literacy in the context of breast cancer. It is anticipated that the decision aid will lead to better understanding of fertility-related issues and educated involvement in decision making. **CONCLUSIONS:** There is a need for a low-literacy fertility-related decision aid for young women with early breast cancer identified as having low health literacy.

Research Implications: This will be the first study to develop and evaluate a low-literacy fertility decision aid developed using models of health literacy in the context of breast cancer providing an important reference for research in the area of low health literacy.

Practice Implications: It is anticipated that the decision aid will lead to better understanding of fertility-related issues, educated involvement in decision making and increased consumer satisfaction in women with low health literacy.

Acknowledgement of Funding: This research is supported by a grant from the National Breast Cancer Foundation (ECF-15-005).

P2-33

Building an Online Infertility Prediction Tool for Young Women with Breast Cancer

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BACKGROUND/PURPOSE: The potential impact of cancer treatments on fertility is a high priority for young breast cancer patients. Whilst there is general information about the potential effects of breast cancer treatments on fertility, there is no mechanism for obtaining personalised information about likely fertility outcomes. Current

'calculators' only consider cancer type and treatment regimen, and do not take into consideration baseline fertility predictors. **METHODS:** This presentation will address the gap in current information about fertility prediction after cancer treatment and the framework for developing an individualised tool which takes into account both personal and cancer-related fertility information in the estimation of likely fertility after cancer treatment. **RESULTS:** Multiple factors predict fertility in women. These include age, ovarian reserve, previous fertility/time to conception, frequency of ovulation, history of pelvic surgery/gynaecological disease. These 'baseline' predictors then need to be considered in the light of planned adjuvant therapies. To inform decision making around fertility preserving interventions around the time of diagnosis a useful, accessible fertility risk calculator, for consumers and clinicians, will need to take into consideration intrinsic individual characteristics when providing evidence-based guidance about the likely impact of cancer treatment on fertility. **CONCLUSIONS:** There is an unmet need for information which considers both the individual baseline predictors of fertility with planned adjuvant therapies to provide an estimation of likely fertility at the end of definitive treatment for younger women with breast cancer to help younger women to decide whether to attempt to preserve their fertility prior to treatment for early breast cancer.

Research Implications: This research will address a high priority in breast cancer research internationally by developing a fertility prediction tool using the highest quality evidence to inform practice. This study addresses future fertility, one of the principal concerns of young breast cancer patients. It will do so by consolidating the extensive existing literature on fertility predictors with information about the impact of breast cancer treatments on fertility and translate this information into a predictive tool for use by consumers together with their healthcare providers. It will also identify gaps in knowledge (no previous studies have systematically reviewed gaps in current evidence about fertility after breast cancer treatment, but there is currently no systematic information about where these gaps are) to inform the design of future clinical studies to address these gaps to include baseline fertility measures, specific and agreed clinically relevant end points and adequate follow-up.

Practice Implications: This work will promote a change in clinical practice by providing consumers and healthcare practitioners with evidence-based and individualised information about fertility predictors and the impact of breast cancer treatment on fertility. It will facilitate health decision making. And promote greater understanding by consumers and healthcare professionals in cancer about factors regulating female fertility.

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P2-34

Blended Therapy for Fear of Cancer Recurrence: A Clinical Case Study

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BACKGROUND/PURPOSE: High levels of fear of cancer recurrence (FCR) are present in almost half of all cancer survivors, yet few FCR-specific interventions have been developed. Our aim is to describe the course and content of blended cognitive behaviour therapy (CBT) specifically targeted at high FCR. The case study of a 63-year-old breast cancer survivor treated for high FCR will be presented. **METHODS:** Blended cognitive behaviour therapy consists of six individual face-to-face sessions, two intermediate e-consultations (or contact by telephone) and a website (or workbook). Assessments took place before (T0) and after the 12-week intervention (T1), followed by 6- and 12-month follow-ups (T2 and T3). Pre-therapy and post-therapy measures assessed the severity of FCR (Cancer Worry Scale), quality of life (EORTC QLQ-C30) and distress (HADS). During the course of therapy, perceived control over FCR was assessed six times on a 0- to 8-point scale to monitor individual treatment progress. **RESULTS:** Perceived control over FCR increased during the course of therapy (score 4–8). Changes from T0 to T2 showed a notable decrease in FCR (Cancer Worry Scale 21–14–13). Cancer-specific distress decreased (Hospital Anxiety and Depression Scale 9: 2–5), while the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 scores for physical functioning (73–93–80) and emotional functioning (67–100–100) improved between pre-therapy and post-therapy. Results from the 12-month follow-up assessment are available soon. **CONCLUSIONS:** This case study shows that blended CBT, with a limited number of face-to-face sessions, is successful in decreasing feelings of FCR and increasing emotional well-being.

Research Implications: Blended CBT for FCR seems to be a promising intervention. Currently, the efficacy of this 3-month therapy is being evaluated in a randomized controlled trial with breast, colorectal and prostate cancer survivors.

Practice Implications: The beneficial effects found in this case study provide early evidence of the efficacy of blended CBT for high FCR in cancer survivors. If proven effective, a brief evidence-based intervention to manage FCR can become available in clinical practice.

Acknowledgement of Funding: Dutch Cancer Society.

P2-35

Quality of Life, Fatigue, Physical Condition and Nutritional Status in Tumor Outpatients

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BACKGROUND/PURPOSE: Besides psycho-oncological support, physical activity and nutritional guidance can improve the quality of life (QoL) and reduce fatigue in cancer patients. The aim of this study is to explore and describe the occurrence of fatigue and the QoL in oncological outpatients, and the association with their physical condition and nutritional status. **METHODS:** 113 subjects were recruited in a consecutive convenience sample of oncological out-patients. Data on QoL (SF 36) Fatigue (Multidimensional Fatigue Inventory, MFI 20), Karnofsky Index, body mass index (BMI), core stability (CS) and postural stability (PS) were collected. Phase angle (PA) was calculated from bioelectrical impedance analysis (BIA). **RESULTS:** PA, CS and PS are far below the norm. PA, CS and PS significantly correlate with SF 36 physical component summary scale and SF 36 'physical functioning' but not with SF 36 mental health component. PA significantly correlates with SF 36 'role limitations physical', 'general health perception' and MFI 20 'physical fatigue', MFI 20 'reduced activity', and Karnofsky Index. **CONCLUSIONS:** Physical condition and nutritional status (CS, PS, and PA) interact with physical QoL and fatigue of oncological patients.

Research Implications: There is a growing number of oncological out-patients demanding more comprehensive care. Physical condition, nutritional status, fatigue and QoL are strongly interrelated components of cancer outpatient treatment that should all be included in tailored multimodal intervention strategies. **Practice Implications:** Multimodal approaches that incorporate exercise, nutrition and psychological support may be more effective in adjuvant cancer outpatient treatment than unimodal approaches.

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P2-36

The Dilemma of Disclosing Cancer Diagnosis in Non-Western Cultures

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BACKGROUND/PURPOSE: The purpose of this abstract

is to shed the light on practices involving cancer diagnosis disclosure in Saudi Arabia, the cultural background, difficulties, and proposed solutions. **METHODS:** A review of literature was done involving cancer diagnoses disclosure in The Middle East, other eastern and western cultures. Historic articles were found addressing similar dilemmas in western cultures. **RESULTS:** Healthcare professionals face ethical dilemma when deciding how to disclose a serious cancer diagnosis and whether to share the information with family members. In the West, they overwhelmingly prefer direct communication with patients about their condition. However, this is not true in most Non-western cultures. These preferences are rooted in broader cultural divisions as patients have clear-cut individual rights and ultimate decision-making authority in medical matters. However, other cultures see the individual as part of a family and prefer to protect them from bad news by having a family member as the primary source of communications. This includes Arabic and Islamic cultures as well as other Asian and Hispanic countries who traditionally value family-centered decision making over patient autonomy. **CONCLUSIONS:** The right cancer disclosure approach for one cultural group can be quite wrong for another. The concept of medical truth telling varies significantly across diverse cultures resulting from variable bioethics and contrasting healthcare perspectives. As a team assembled from Western and Eastern healthcare providers, we feel that the best approach to disclosing cancer diagnosis requires an understanding of the patient culture. Cultural competency training is a must for western providers who serve in Eastern and Middle Eastern communities and providers who serve cultural minorities in the USA and other western countries.

Research Implications: Further cultural sensitive research is needed in the Middle East and for cultural minorities in the West. This will help to improve communications with patients and thus improve health outcomes.

Practice Implications: Cultural competency training is needed for western providers working in the Middle East or working with minorities.

Acknowledgement of Funding: None.

P2-37

Applying the Common Sense Model of Health and Illness Self-regulation to Perceptions of Persistent Cancer-related Fatigue after Treatment: A Focus Group Study

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BACKGROUND/PURPOSE: Physical and psychosocial challenges associated with cancer can often extend into long-term survivorship. Cancer-related fatigue (CRF) is a frequently reported and highly distressing symptom. CRF after cancer can have significant implications for quality of life. Evidence also suggests that CRF in some individuals may be linked to maladaptive cognitions. The Common-Sense Model of Health and Illness Self-regulation (CSM) is a theoretical framework that addresses perceptions and coping in chronic illness. This research analysed perceptions of CRF in cancer survivors using the CSM. **METHODS:** Focus groups were conducted to study the experience of 18 post-treatment survivors of various types of cancer. **RESULTS:** Participants addressed their symptoms with reference to both information and emotion processing. Findings from the groups fell within the following themes: interpretation; cognitive representation of health threat; emotional representation of health threat; coping and appraisal. Another theme related to how participants interacted with healthcare professionals about their cancer-related fatigue. **CONCLUSIONS:** This qualitative study indicated that the CSM was a useful model to frame and address the experience of CRF. The research assessed the perceptions of CRF, building on previous research that has often neglected long-term survivorship.

Research Implications: This was the first focus group study using thematic analysis to address the utility of the Common sense model for CRF when treatment has ended, indicating that Health Psychology theory may be relevant in addressing needs of individuals with CRF.

Practice Implications: This work is part of a larger study on the development of a theory-based online intervention to address the needs of those with post-treatment CRF.

Acknowledgement of Funding: This research is funded by the Cancer Care West Hardiman Scholarship at the National University of Ireland, Galway.

P2-38

Benefits and Challenges of Multi-site Trials: Models, Methods, and Outcomes

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BACKGROUND/PURPOSE: Multisite randomized clinical trials (RCTs) allow for achievement of statistical power by expediting data collection efforts to achieve the required sample size, but also present challenges in execution. This presentation will discuss approaches used and lessons learned from a multisite RCT of

reflexology among women with breast cancer. **METHODS:** The primary outcome of the trial, health-related quality of life (HRQOL) was conceptualized using the modified Wilson and Cleary model adapted by Ferrans. Biological, symptoms, functioning, and general health perception components of HRQOL in this model are influenced by the characteristics of the environment and individual. In multi-site trials, characteristics of the environment may vary across sites requiring strict protocol standardization to isolate the intervention effect. The hypothesis that reflexology would positively impact the symptom component of HRQOL was tested in a three group design: reflexology via practicing reflexologists, lay foot manipulation via study staff, and usual care control. A sample of size $N=385$ was necessary to test this hypothesis. **RESULTS:** Thirteen recruitment sites were used to achieve the sample size. The steps of reflexology and lay foot manipulation were documented in the manual and taught to providers. Reflexologists and lay providers were trained at each site by the lead study reflexologist or education coordinator, respectively. Standardization across multiple sites was successful: no differences in protocol completion or patient HRQOL outcomes were found among sites. **CONCLUSIONS:** Methodological challenges to testing of supportive care interventions can be overcome by study designs that include multiple sites and by ensuring protocol fidelity.

Research Implications: Achieving statistical power and standardizing protocols across multiple sites are important for achieving valid conclusions from trials. Testing supportive care interventions at multiple sites facilitates generalizability of findings to broader patient populations.

Practice Implications: Evidence base for supportive care interventions achieved at multiple clinical sites informs the approaches that can be used in clinical practice.

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P2-39

Illness-related Family Life Difficulty of Pediatric Brain Tumor Survivors at the End of Tumor-directed Therapy

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BACKGROUND/PURPOSE: Families of pediatric brain

tumor survivors (PBTS) continue to manage tumor-related issues as they transition off treatment. Understanding factors that relate to how burdensome families view these illness-related demands is important as these views may relate to outcomes over time. This study examines associations between family and survivor factors and illness-related family life difficulty (FLD) of PBTS within 4 months of the conclusion of tumor-directed therapy. **METHODS:** Participants included 47 PBTS (27 females; mean age=10.53, $SD=2.71$; mean time since diagnosis=1.37 years, $SD=1.70$) and their parents (45 mothers; mean age=41.17, $SD=6.08$). Survivors completed the WASI-II and selected WISC-IV subtests. Parents completed the Family Assessment Device (FAD), the Family Management Measure (FaMM), the BRIEF, the BASC-2, and the PedsQL 4.0. **RESULTS:** In Pearson bivariate correlations, greater levels of FLD were significantly associated with lower IQ, slower processing speed, poorer working memory, and worse family functioning (r 's ranging from 0.33 to 0.40). Survivor health-related quality of life (PedsQL), age at diagnosis, and indices of parent-rated executive (BRIEF) and psychological functioning (BASC-2) were not associated with FLD. **CONCLUSIONS:** Lower survivor neurocognitive functioning and worse family functioning, rather than parents' perceptions of survivor behavioral functioning, are associated with increased FLD as PBTS transition off tumor-directed treatment. Evaluating FLD is important due to the families' primary role in managing late effects of their PTBS. Screening for family difficulty in managing illness-related issues in survivors with greater neurocognitive impairment might facilitate appropriate referrals for family therapy.

Research Implications: As many PBTS develop neurocognitive late effects, it is important to understand the impact on the entire family system. Longitudinal research may help to better understand the long-term influence of family life difficulty on survivor and family outcomes as late effects arise. Additionally, future studies could evaluate interventions that teach families strategies to care for their PBTS while continuing to live a normal life.

Practice Implications: Many PBTS will be dependent on their families to care for and assist them as late effects arise. Families experience varying senses of burden as they manage illness-related demands. Teaching families effective management strategies may reduce the sense of burden they feel and enable them to better care for their survivor, thus improving both family and survivor outcomes.

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P2-40

Psychological Posttraumatic Growth in Head and Neck Cancer Survivors with Psychological Distress

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BACKGROUND/PURPOSE: The occurrence of psychological posttraumatic growth (PTG) in head and neck cancer (HNC) survivors has been clearly demonstrated. While PTG seems to be negatively associated with psychological distress, information on PTG in distressed HNC survivors is limited. Little is known about the relation between PTG and quality of life, mastery, a mood disorder, and substance abuse among distressed survivors. The aim of this cross-sectional study was to investigate which factors predict PTG best in HNC survivors with psychological distress. **METHODS:** Seventy-four HNC survivors with an increased level of distress (based on the Hospital Anxiety and Depression Scale) completed the Posttraumatic Growth Inventory (PTGI), as well as the EORTC Quality of Life Questionnaire and the Mastery Scale. They were interviewed on mood disorders and substance abuse (Composite International Diagnostic Interview). **RESULTS:** The mean PTGI score was 30.8 ($SD=19.7$, range 0–90). Univariate analyses revealed that female gender ($t(48.4)=2.101$, $p<0.05$) and absence of a mood disorder ($t(72)=2.122$, $p<0.05$) were significantly associated with PTG. A multivariate model consisting of gender and mood disorder predicted PTG best in distressed HNC survivors ($F(2,73)=4.77$, $p<0.05$, $R^2=0.12$). **CONCLUSIONS:** Among HNC survivors with psychological distress, PTG is associated with (female) gender and (absence of) a mood disorder. More research is needed to investigate the impact of psychological interventions on PTG and mood disorders among HNC survivors with a high level of distress.

Research Implications: This study expands the current knowledge of PTG in HNC survivors by focusing on survivors with a high level of distress and by investigating factors that have been shown to be associated with PTG, but that have not yet been examined in cancer patients, such as mastery and substance abuse. The results of this study contribute in developing and improving psychological interventions for HNC survivors. The next step is research on the influence of psychological interventions on PTG and mood disorders among HNC survivors with psychological distress.

Practice Implications: Based on this study, (male) gender and (presence of) a mood disorder are yellow flags that may help to identify HNC survivors who might benefit

most from psychological interventions that aim to stimulate positive psychological changes after cancer.

Acknowledgement of Funding: This study was funded by The Netherlands Organisation for Health Research and Development and the Dutch Cancer Society/Alpe d'HuZes/KWF Fund.

P2-41

Psychiatric Intervention for Hospitalized Patients in a Portuguese Cancer Center—2006 vs. 2011 vs. 2014

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BACKGROUND/PURPOSE: The Consultation-Liaison Psychiatry Service (CLP) of Lisbon Institute of Oncology (IPO) has been intensively working within multidisciplinary teams in order to ameliorate patients' distress screening and professional education in Psycho-Oncology. Authors analysed and compared CLP data from 2006/2007, 2010/2011 and 2014 to validate the Psycho-Oncology Program. **METHODS:** We obtained socio-demographic, oncological and psychiatric data from the IPO database, medical charts and CLP files, in three periods of 12 months: 2006/2007, 2010/2011 and 2014. Diagnosis was based in a non-structured interview and DSM-IV-TR/ICD-10 criteria. Statistical procedures included descriptive statistics, frequency accounts and correlations. **RESULTS:** Psychiatric referral rate rose from 2.5 to 4 and to 4.4%; the number of CLP requests per year rose from 249 to 446 and to 534 patients. In 2006/2007, CLP intervention mainly focused on medical wards (72%), in 2010/2011, the ratio of medical/surgical wards was more balanced (57% vs 43%), and in 2014, the intervention was mainly in surgical wards (52% vs 48%). Epidemiology, lag-time answer to first request, treatment and follow-up data show no significant variation but diagnosis varied significantly (2006/2007 vs. 2010/2011): Adjustment Disorders: 32% vs. 51%; Mood Disorders: 31% vs. 13%, *Delirium*: 13% vs. 17%. Last year's data are still under analysis. **CONCLUSIONS:** Surgical Departments continues a trend towards increased psychiatric referral rate. We are still expecting final results to confirm the ongoing trend to diagnose less severe psychiatric disorders. We hope to acknowledge that we are still achieving our Program main goals: rise of the psychiatric referral rate, earlier distress screening whether in

medical or surgical teams, while maintaining CLP excellence criteria.

Research Implications: Evaluation and validation of quality measures in a psycho-oncology program.

Practice Implications: Continue to improve psychiatric care to hospitalized cancer patients.

Acknowledgement of Funding: None.

P2-42

Inpatient Acute Medical Oncology Registered Nurses: Challenges and Sources of Support

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BACKGROUND/PURPOSE: Work-related stress among oncology nurses has been associated with distress, insomnia, and workplace attrition. This qualitative study explored the experiences specifically of inpatient acute medical oncology registered nurses (RN). We aimed to identify challenges and sources of support in providing care to seriously ill oncology patients. **METHODS:** We conducted qualitative interviews with 16 RNs working on the inpatient acute medical oncology unit at a large academic medical center. A semi-structured interview guide was used to elicit perspectives on challenges and sources of support in providing inpatient acute medical care. We used content analysis to identify themes. **RESULTS:** RNs regularly observed patient suffering and death. However, most nurses remained motivated to connect with new patients, due to perceiving that they could make a difference in patients' lives and make end of life more comfortable. Perceived sources of burnout instead included barriers to a) communicating with patients and families with varying goals of care b) collaborating effectively with patients' multiple other providers and c) navigating work-life balance in context of intensive shift schedules. RNs agreed that their primary supports were other nurses who could understand their unique, powerful experiences with patients/families. **CONCLUSIONS:** RNs were intrinsically motivated to connect with seriously ill patients and provide meaningful comfort care. Barriers to end-of-life discussions, team collaboration and self-care contributed to workplace stress.

Research Implications: Cross-team collaboration, goals-of-care discussions and self-care may be targets for intervention to further support inpatient oncology RNs.

Practice Implications: RNs valued their ability to connect with/care for patients experiencing intense suffering, and may benefit from specific practical and logistical support in performing this unique role.

Acknowledgement of Funding: This study was supported by a grant from the ESSCO-Massachusetts General Hospital Breast Cancer Research Fund.

P2-43

Efficacy of Dignity Therapy for Allogeneic Bone Marrow Transplant Patients: A Qualitative Pilot Study

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BACKGROUND/PURPOSE: Enduring an allogeneic bone marrow transplant (BMT) for the treatment of blood or bone marrow cancers is considered one of the most high-risk and stressful procedures in modern cancer care. Dignity Therapy (DT) is a brief empirically validated psychotherapy developed to address psychosocial and existential distress among terminally ill people. The purpose of this study was to assess the feasibility and relevance for this intervention with a non-imminently dying population of BMT patients. **METHODS:** 5 patients (2 women, mean age=54, all Caucasian and married) participated in DT. The primary investigator met with each participant over three visits; consent documents were signed at the first; the DT interview was conducted at the second, which was then transcribed and edited; and at the final visit, the narrative was read aloud, edits were solicited by the participant, and participants completed the Participant Feedback Questionnaire. The edited narrative was then mailed to each participant. In addition, content of the narratives were analyzed using a modified consensual qualitative research method. **RESULTS:** In general, participants found that the intervention was helpful, made their current lives feel more meaningful, gave them a heightened sense of purpose and dignity, lessened their sense of suffering, increased their will to live, helped their families, and changed the way their families and healthcare providers saw or appreciated them. Further qualitative results will be discussed in this presentation. **CONCLUSIONS:** The DT intervention appears to be a feasible, relevant, and meaningful intervention to this novel, non-terminally ill patient population.

Research Implications: This research will be relevant to the scientific community given that it is the first investigation of this kind to assess the feasibility and impact of the Dignity Therapy intervention on the BMT population. The outcomes of this study suggest that this brief, empirically validated psychotherapy may be widely beneficial to patients, families, and healthcare providers in the effort to reduce existential distress following transplantation. Qualitative analysis highlighted many areas of interest for further research to be conducted.

Practice Implications: Given the severity of this medical treatment as well as the increasing survival rates of BMT, it is imperative that psychosocial providers have a wide array of clinical tools to reduce suffering and foster the will to live more fully in the post-transplantation population. This unique clinical population has faced confrontation with their mortality and is now in the unique position of reorienting their lives in the wake of BMT. This relatively novel therapeutic model may serve to be one of the many clinical tools we can provide our patients at this stage of treatment.

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P2-44

Emotional Approach Coping in Colorectal Cancer Patients: The Role of the Interpersonal Context

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BACKGROUND/PURPOSE: Research on coping with colorectal cancer is limited. Coping through emotional approach involves processing (attempts to acknowledge and understand emotions) and verbal/nonverbal expression. Effects of emotional approach may depend on social context. This study examined whether there is an association between emotional approach coping and depression and whether this association is moderated by the level of intimacy in patients' intimate relationships. **METHODS:** Survey data from 121 married/partnered colorectal cancer outpatients were analyzed (mean age 57.1 [SD 13.3]; 62% male; 85% White; 70% colon; 50% metastatic disease). Measures included: Emotional Approach Coping Processing and Expression subscales (dispositional version), intimacy (MSIS), and depression (CESD-SF). First, processing and expression were tested as predictors of depression in separate multiple linear regressions alongside intimacy, controlling for demographic/medical covariates. Then, interactions between processing/expression and intimacy were added to models. **RESULTS:** Significant main effects of (1) emotional approach processing ($p=0.03$) and intimacy ($p=0.004$) and (2) emotional approach expression ($p=0.02$) and intimacy ($p=0.01$) were found on depression. When added to the model, the processing by intimacy interaction was significant ($p=0.05$) and the main effects lost significance. For those in high intimacy relationships, greater processing was associated with lower depression; by contrast, processing was unrelated to depression for those in low intimacy relationships. No significant interaction of

expression and intimacy was found. **CONCLUSIONS:** In a sample of colorectal cancer patients, effects of emotional approach processing on depression depended on the level of intimacy in the relationship. Enhancing relationship quality may facilitate patients' emotional processing and adjustment to cancer.

Research Implications: This study has implications for understanding models of coping with cancer-related stress. Specifically, results of this study suggest that the social context is potentially important to consider in models of emotional coping. The differences in the role of the social context for emotional processing versus emotional expression should be examined further in both experimental and intervention studies. In addition, interventions that target the patient's intimate relationship may facilitate patients' emotional processing and enhance patients' psychological adjustment.

Practice Implications: Clinically, it is important to recognize patients with poor quality intimate relationships as they may be at greater risk for depression and their coping efforts may be less effective. Such patients may benefit from clinical efforts at improving the quality of their relationship through empirically supported couple-based interventions including behavioral couple therapy or intimacy-enhancing couple therapies.

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P2-45

A Brief Yoga Intervention Implemented during Chemotherapy for Colorectal Cancer: A Randomized Controlled Pilot Study

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BACKGROUND/PURPOSE: Fatigue and other treatment-related symptoms (e.g., pain, distress) are critical targets for improving quality of life in patients undergoing chemotherapy. Yoga is a promising intervention for addressing such symptoms. This study aimed to establish the feasibility of conducting a randomized controlled study of a brief yoga intervention among patients receiving chemotherapy for colorectal cancer. **METHODS:** We randomized adults with colorectal cancer to a brief Yoga Skills Training (YST) or an attention control (AC; empathic attention and recorded education). Both interventions consisted of three fifteen-minute sessions, implemented individually while patients received chemotherapy, and recommended home practice. The primary outcome was feasibility (accrual, adherence, data collection, retention). Descriptive statistics were also

assessed for self-reported outcomes (i.e., fatigue, pain, distress) and inflammatory biomarkers to inform future studies. **RESULTS:** Of 52 patients initially identified, 28 were approached, and 15 enrolled (age $M=57.5$ years; 80% White; 60% Male). Reasons for declining participation were: not interested ($n=6$), did not perceive a need ($n=2$), and other ($n=5$). Intervention adherence to in-person sessions for both groups was 76% (intention-to-treat) or 97% (retained in study). Two participants were lost to follow-up in each group due to treatment changes. Thus, 75% of participants were retained in the YST and 71% in the AC arm. Participants retained in the study completed all measures (descriptive statistics will be provided). **CONCLUSIONS:** This study supported the feasibility of conducting a larger randomized controlled trial to assess YST among patients receiving chemotherapy for colorectal cancer. Data collected and challenges encountered will inform future research.

Research Implications: Results support the feasibility of a trial to determine if the YST effectively reduces fatigue and other treatment-related symptoms compared to an AC.

Practice Implications: It is feasible to implement the YST in the clinical setting while patients are receiving chemotherapy for colorectal cancer.

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P2-46

Systematic Review of Marijuana's Medicinal Aspects

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BACKGROUND/PURPOSE: To review the scientific evidence base for marijuana as a management strategy for symptoms and side-effects common in the oncologic setting. **METHODS:** Comprehensive literature review of medicinal marijuana clinical trials. **RESULTS:** (1) There are no published clinical trials supporting marijuana use in management of emotional traumatization, poor quality of life, seizures or tic (all purported indications cited in the literature). (2) There are open studies, surveys or case reports supporting its use for broncho-constriction, gastrointestinal inflammation and nausea/vomiting (including chemotherapy-induced). (3) There are more than one but less than four clinical trials supporting its use for mood disturbance, muscle spasm and poor

appetite. (4) The only clinical trial of marijuana as a treatment for parkinsonism demonstrated negative results. (5) There are six clinical trials supporting its use for pain, particularly neuropathic. **CONCLUSIONS:** (1) Registered marijuana dispensaries in the USA offer only non-pharmaceutical grade cannabis. (2) With the exception of neuropathic pain, the scientific evidence base in support of this product immature. (3) There is a concerning lack of coherence between scientific evidence base and regulations in several states. (4) The immature evidence base does not negate exciting medicinal potential of cannabis-based and cannabis-like products.

Research Implications: (1) Federal regulations should ease barriers to cannabis research (perhaps without changing marijuana's Schedule I status). (2) Well-designed research trials with adequate sample sizes and clinically relevant timeframes should be carried out investigating cannabis' beneficial and harmful effects.

Practice Implications: (1) Remember that, legally, healthcare providers are under no obligation to issue certifications. (2) Exhaust conventional symptom management approaches before considering non-pharmaceutical grade cannabis. (3) Use prudence with regard to patients with milder forms of qualifying conditions or with conditions without strong evidence base.

Acknowledgement of Funding: None.

P2-47

Impact of Psychological and Pharmacological Interventions in Cancer Patients Referred to Psycho-oncology Service in a Tertiary Care Cancer Centre in a Developing Country

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BACKGROUND/PURPOSE: Studies addressing effect of psychological interventions on patient outcomes in developing countries are few. Our study aims to evaluate the impact of psychotherapeutic and psychopharmacological interventions on the psychological problems reported by cancer patients referred to and reviewed by the psycho-oncology service in a tertiary care cancer institute in a developing country. **METHODS:** A retrospective analysis of prospectively maintained database and chart review of all cancer patients referred to the in-house psycho-oncology service of a tertiary care oncology hospital between January and June 2014 were conducted. Patients who were 18 years and above and had attended at least one review appointment were included for the analysis. Socio-demographic and clinical variables, psychological problems, number of follow-up appointments, psychotherapeutic and

psychopharmacological interventions used and clinical improvement (using Clinical Global Impression scale) were noted. Relevant statistical analysis using IBM SPSS version 20 was done.

Results: Among 157 patients included in the analysis, there were 89 males (62.7%). The mean age was 48.9 years. Patients mainly had head and neck ($n=32$, 20.3%), genitourinary ($n=25$, 15.9%) and gastrointestinal cancers ($n=24$, 15.2%). Distress was seen in 24 patients (15.2%) and adjustment disorder in 48 (30.6%). Psychotherapeutic interventions were used in all patients. Psychopharmacological medications were also used in 53 patients (33.8%). The number of reviews ranged from 1 to 25. Improvement on Clinical Global Impression scale was noted in 142 of 157 patients (90%), which was statistically significant. **CONCLUSIONS:** We conclude that appropriate psychotherapeutic and psychopharmacological management and review lead to objective clinical improvement in cancer patients referred to psycho-oncology service.

Research Implications: There is implication for research focusing on the mechanism of improvement in the cancer patients following psychotherapeutic and pharmacological interventions. Also, differences in outcomes depending on gender and site specific cancers and their impact on the strength of the outcome achieved should be looked at.

Practice Implications: The impact in positive outcome in terms of improvement of emotional states would translate to a better quality of life and greater patient satisfaction in use of psycho-oncology service. Further service enhancements keeping these issues in focus is necessary.

Acknowledgement of Funding: None.

P2-48

A Road Map for Implementing Touch Screen Technology for Distress Screening in a Diverse, Dispersed Cancer Population: Balancing Structure with Flexibility

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BACKGROUND/PURPOSE: The Josephine Ford Cancer Institute (JFCI) cares for 5000 new, 15,000 total patients annually, 1/3 underserved minorities. Ten regional clinics span a vast geographical area. Using our strengths—vision: 'Together We Can', system-wide electronic medical record (EMR), and multidisciplinary teams—we developed a road map for implementing comprehensive distress screening (DS) for a diverse, dispersed cancer population. **METHODS:** Form a highly engaged Implementation Leadership Team. Develop proposal from 2012 DS Task Force. Negotiate software contract maximizing ROI. Direct IT to address all aspects of DS Process. Build prescriptive screening

processes with flexible course corrections. Create options to insure screening despite barriers (literacy, language, culture, physical). Engage clinical teams through education and on-site beta testing. Recruit 'borrowed' talent and volunteers to increase capacity and minimize cost. Survey staff and patients to assess go-live experience. Monitor and support after go-live. **RESULTS:** Small implementation team better operationalized new processes. Embracing critiques and linking DS to meaningful outcomes decreased resistance. Proscribed appointment scheduling and documentation integrated into EMR facilitated implementation. Rapid go-live schedules with real-time course corrections created system-ness, helping clinics cope with burdens of change. Volunteers and 'borrowed' talent inspired clinical teams to do their best. Variations in quality of clinical skills and delivery systems were revealed. **CONCLUSIONS:** Successful implementation of Distress Screening in a diverse, dispersed Cancer Institute requires highly motivated leadership, persistent attention to detail, team members with a wide skill set, well-defined structure for the entire workflow, and gracious flexibility. Once implemented, Distress Screening provides a foundation for improving whole-patient care.

Research Implications: Further study is needed to determine which variables most contribute to efficient, effective, low cost, inclusive, comprehensive distress screening implementation.

Practice Implications: By following a methodical road map for creating a distress screening program, it is possible to efficiently implement effective, low cost, inclusive, comprehensive screening that facilitates patient care no matter where patients are being treated in a large healthcare system.

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P2-49

Efficient Differentiation: Detecting the Ones Clinically Distressed and Most in Need for Help with the Distress Thermometer

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BACKGROUND/PURPOSE: In the context of a more efficient organization of cancer care, the question is if we are able to detect patients who desire for help the most when screening for distress as recommended. Distress and needs assessment results were studied to answer this question. **METHODS:** With a survey containing questions on patient characteristics, the Distress Thermometer (DT) and the Cancer Rehabilitation Evaluation System (CARES) data of 184 adult oncology patients were

collected. A cutoff value of 5 was used for the DT. **RESULTS:** On average, participants were 50.54 years of age ($SD=7.21$), female (69.20%) and in a relationship (87.20%). The problems and concerns participants experienced mainly were situated in the domain of physical, psychosocial and sexual functioning. Of the CARES problem statements presented to participants (min 93–max 132), on average 44 problems were experienced ($SD=21.36$). Only for 11.04% of these problems help is desired. Median score on the DT was 4. According to the cutoff 78 participants (45.30%) were indicated to be moderately or highly distressed. These patients experience significantly more problems, a larger severity of problems and more desire for help than patients with low levels of distress (all p between 0.000 and 0.048). **CONCLUSIONS:** In this study all cancer patients experience problems on several life domains in a greater or lesser degree. However, only for a minority of these problems patients want help. According to the findings in this study the DT is a screening instrument not only able to differentiate between patients with low distress and higher distress, likewise patients experiencing more desire for help can be detected.

Research Implications: Internationally a lot of research is done on the validation of the DT and its cutoff values. This study adds insights about the distinctive ability of the DT, which likewise has the ability to detect patients with more desire for help.

Practice Implications: Since budgets in health care are limited efficiently tailoring of psychosocial care is needed. The DT seems to be a suitable screening instrument for a stepped-care approach, to detect distressed patients most in need for psychosocial care.

Acknowledgement of Funding: Limburg Sterk Merk (LSM) provided funding for this study.

P2-50

Sources of Support and Posttraumatic Growth in Childhood Cancer Survivors

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BACKGROUND/PURPOSE: Posttraumatic growth refers to positive psychological change in person's perspectives, life priorities and interpersonal relationships experienced as a result of the struggle with highly challenging life circumstances. Social support is the perception and actuality that one is cared for, has assistance available from other people, and that one is part of a supportive social network. The main goal of this study is to examine the relationship

between perceived social support and posttraumatic growth in childhood cancer survivors. **METHODS:** Participants were 45 cancer survivors aged 16 to 28 years. Mean age at diagnosis was 12.2 ($SD=4.69$) and they were all off of treatment for more than 1 year. Participants filled in Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996) and sources of support questionnaire constructed for this survey. **RESULTS:** Results have shown that participants perceived high levels of parental, family, sibling, physician and nurse support and moderate levels of psychologist, patient association, hospital and school teachers support during the treatment. Posttraumatic growth has been significantly associated with overall interpersonal support ($r_s=0.528, p<0.01$). When comparing different sources of support, posttraumatic growth has been significantly associated with support provided by psychologist ($r_s=0.505, p<0.01$), patient organization ($r_s=0.472, p<0.01$), hospital teachers ($r_s=0.475, p<0.01$), school teachers ($r_s=0.418, p<0.01$), physicians ($r_s=0.382, p<0.01$) and nurses ($r_s=0.306, p<0.05$). **CONCLUSIONS:** We can conclude that there is a significant association between social support during hospitalization and posttraumatic growth in cancer survivors.

Research Implications: Interventions that attend to the expansion of social support should be the focus of future clinical and research endeavors.

Practice Implications: Our results stress out the importance of establishing and providing multiple sources of support during childhood cancer treatment.

Acknowledgement of Funding: None.

P2-51

Quality of Life and Existential Anxiety in Adult Survivors of Pediatric Cancer

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BACKGROUND/PURPOSE: Studies show that many survivors of pediatric cancer have satisfactory quality of life (QOL) despite the disease and treatments in their past, but their suicide ideation is high. Since it is possible that they nevertheless experience distress, it was considered advisable to examine their existential anxiety and its impact on their QOL. Thus, the purpose was to examine the existential anxiety of adult survivors of pediatric cancer as experienced in the present and as reported retrospectively about the period of diagnosis and treatments, and to analyze the relations between these scores and QOL. **METHODS:** The participants were 91 adult survivors of pediatric cancer whose mean age was 26, and at diagnosis 13 years. The administered tools were a questionnaire of mental pain providing scores on nine factors

(Orbach & Mikulincer), and QOL providing scores on 15 scales (Kreitler & Kreitler). Demographic and medical data were extracted from the files. **RESULTS:** The scores on mental pain at present were lower than in the past and correlated negatively with it and with most of the QOL scales. Regression analyses showed that the factors of mental pain predicted all the QOL scales except cognitive functioning. High levels of mental pain reported about the past were related to lower QOL scores at present. **CONCLUSIONS:** Pediatric cancer survivors suffer from existential anxiety in the form of mental pain which affects adversely their QOL. The impact on QOL is pervasive.

Research Implications: The mental pain questionnaire can be considered as an instrument for assessing existential anxiety and as a complement to other tools commonly used for assessing the distress of cancer patients and survivors.

Practice Implications: Even when pediatric cancer survivors seem to be well adjusted, it is advisable to offer intervention and support targeted at reducing existential anxiety at present and helping them to elaborate the remnants of existential anxiety from the past period of disease and treatments.

Acknowledgement of Funding: None.

P2-52

The Impact of Head and Neck Cancer on Living an Everyday Life 2 Years Post-treatment—A Qualitative Prospective Study

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BACKGROUND/PURPOSE: Most studies of how the illness and its treatment affect patients with head and neck cancer (HNC) are quantitative and focus on assessment of a sample of patients at a single point in time during post-treatment. These studies are important but of limited value if we are interested in understanding more about head and neck cancer in a life context. The present study is a contribution. **METHODS:** A consecutive sample of 56 patients with HNC was followed up by means of repeated interviews about how they lived their lives during radiation therapy, and at 6, 12, and 24 months post-treatment. **RESULTS:** Four different groups of patients emerged reflecting different impacts that the illness had on their everyday life. In the first group ($n=15$) the patients expressed that the cancer was mainly seen as a parenthesis in their life. The second group ($n=9$) expressed that their life was almost as before, although some side effects still could be present. The cancer made a difference for the third group ($n=12$), in both positive and negative ways and seemed to reflect a seesaw

in reasonable balance. Finally, in the fourth group ($n=20$), the cancer and its side effects still affected their life in many aspects and had changed their life to the worse. **CONCLUSIONS:** Being diseased by HNC clearly has different impacts depending on how the patients live their life—it is very much a matter of transitions in a wider life context.

Research Implications: Our study shows the importance of understanding cancer in a wider life context and a need for further prospective qualitative studies that enables patients to share their individual processes and experiences of resuming everyday life.

Practice Implications: Clinicians should preferably not focus solely on biomedical factors but also consider and pay attention to the patients overall life situation in order to understand different transitions in life following HNC.

Acknowledgement of Funding: This study was supported by grants from the Cancer Research Foundation in Northern Sweden and the Swedish Laryng Foundation.

P2-53

Swedish Parents' Need and Opportunity to Talk to a Psychologist after End of Their Child's Cancer Treatment: A Longitudinal Study

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BACKGROUND/PURPOSE: We have previously reported that less than half of parents of children on cancer treatment who report a need to talk to a psychologist get such an opportunity. The purpose of this study was to investigate how many parents who report a need for and an opportunity to talk to a psychologist from shortly after to 5 years after end of the child's treatment. **METHODS:** Parents ($N=189$) of 102 children answered questions about need and opportunity to talk to a psychologist at 1 week/6 months (T1), 3/9 and 12/18 months and 5 years (T4) after the end of the child's treatment/stem cell transplantation. **RESULTS:** The proportion of parents who reported a need to talk to a psychologist decreased from 40% at T1 to 13% at T4 ($Q(3)=41.1, p < 0.0005$). At T4 40% of those who reported a need to talk to a psychologist got the opportunity to do so. **CONCLUSIONS:** A decreasing, however considerable, proportion of Swedish parents of children previously treated for cancer reports a need to talk to a psychologist from shortly after up to 5 years after end of the child's treatment. However, 5 years after end of treatment, less than half of those reporting such a need got the opportunity.

Research Implications: The findings indicate that there is a need to develop evidence-based, relevant, and easy-accessible psychological interventions for a subgroup of parents of children previously treated for cancer.

Practice Implications: The findings indicate that there is a need for the Swedish healthcare system to provide a substantial subgroup of parents of children previously treated for cancer with appropriate psychological support, even a considerable time since end of treatment.

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P2-54

Stress in Significant Relationships Is Associated with Lymph Node Involvement in Breast Cancer Patients

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BACKGROUND/PURPOSE: Life events were associated with breast cancer (BC) survival and mortality; however, it is not clear whether their influence is mediated by biological prognostic factors. Similarly, insecure parental attachment was related to cancer incidence, but its role in cancer progression has limitedly been explored. We investigated whether stressful experiences in early life or throughout the life-span may be linked to biological prognostic variables in breast cancer. **METHODS:** One hundred and fifteen women diagnosed with BC completed a questionnaire assessing parental bonding and an inventory of stressful life events during hospitalization for quadrantectomy or mastectomy. **RESULTS:** In a multiple logistic regression, an optimal relation with at least one parent was shown to decrease the risk of positive lymph node of one third ($p=0.020$). Repeated sentimental life stress events tripled the risk of having positive lymph nodes; however, this association was only borderline significant ($p=0.080$). **CONCLUSIONS:** We hypothesize that repeated stress experienced with attachment figures (as represented by parental bonding) may influence HPA dysregulations, inflammatory responses and suppressed immune surveillance (Quirin *et al.*, 2008; Sephton *et al.*, 2000), which in turn have a role in BC prognosis and in particular lymph node involvement. A similar mechanism may subtend the effect of stress sentimental relationships.

Research Implications: Further studies should evaluate with a larger sample size whether these variables also play a role also in disease-free and overall cancer survival.

Practice Implications: Our study suggests that non-optimal parental bonding and stressful events in the

sentimental area may represent a useful index to evaluate breast cancer prognosis.

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P2-55

Interventions to Enhance Return to Work for Cancer Patients: A Cochrane Review and Meta-analysis

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BACKGROUND/PURPOSE: The number of cancer survivors of working age is rapidly growing. The aim of this meta-analysis is to assess the effectiveness of interventions aimed at enhancing return-to-work in cancer patients. **METHODS:** We searched ten electronic databases including PubMed. We pooled study results reporting risk ratios (RRs) with 95% confidence intervals (CI). We assessed overall quality of the evidence using GRADE. **RESULTS:** We included 15 RCTs involving 1823 participants. All studies were conducted in high income countries and most studies were aimed at breast cancer patients ($n=7$) or prostate cancer patients ($n=2$). Two RCTs involved psychological interventions focussed at patient education including, stress and coping, and self-care behaviours reducing fatigue. Results indicated low-quality evidence of similar return-to-work rates compared to care as usual (RR = 1.09; 95% CI 0.88–1.35). No vocational interventions were retrieved. Very low evidence of one RCT suggested that physical training was not more effective than care as usual in improving return-to-work (RR = 1.20, 95% CI 0.32–4.54). We found low-quality evidence of similar return-to-work rates (RR = 1.04, 95% CI 0.96–1.09) of seven RCTs comparing the effects of less invasive, function-conserving to more invasive medical interventions. Five RCTs involved multidisciplinary interventions combining vocational counselling with patient education, patient counselling, biofeedback and/or physical exercises. Moderate quality evidence showed multidisciplinary interventions led to higher return-to-work rates than care as usual (RR = 1.11, 95% CI 1.03–1.16). **CONCLUSIONS:** A multidisciplinary approach of vocational, psychological and physical components is effective in enhancing return-to-work in cancer patients.

Research Implications: More high-quality RCTs aimed at enhancing return to work in cancer patients are needed. Clinical intervention studies should include work outcomes to increase knowledge on sickness absence in cancer patients.

Practice Implications: Employed cancer patients should be offered a multidisciplinary programme to support them in their return-to-work process.

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P2-56

Feasibility of a Sensitive Practice Tool for Breast Cancer Radiotherapy

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BACKGROUND/PURPOSE: For childhood sexual abuse (CSA) survivors, breast cancer radiotherapy (BCa RT) can be retraumatizing due to similarities to original abuse (e.g., being told to lie still, having breasts touched). To improve the sensitivity of care for these patients, we developed a multimedia tablet-based Sensitive Practice Tool (SPT). We implemented SPT as a ‘universal precaution’ for all new BCa RT patients, knowing that many CSA survivors do not disclose abuse, and that all patients can potentially benefit from increased treatment sensitivity. The goal of the present work was to evaluate SPT program feasibility. **METHODS:** SPT was completed by 144 consecutive BCa RT patients, from 12/2013 to 12/2014, on the day of Simulation (prior to Simulation). We evaluated feasibility, responses to the SPT survey items, and reactions to SPT. **RESULTS:** (1) Strong feasibility (97.7% of patients participated, 90% comfortable with tablets); (2) Clinically relevant information generated (69% reported at least 1 anticipated ‘trigger’, 88% indicated distress management preferences, >25% requested a psychosocial/integrative referral); (3) High patient satisfaction (SPT mean satisfaction = 6.7/7, mean SPT helpfulness = 6.4/7); (4) Initial efficacy for helping patients with stress, self-confidence, and peace of mind (all means, 5.5 to 5.9/7); and, (5) All participants would recommend SPT to new patients. **CONCLUSIONS:** SPT is a potentially useful new tool to improve the care received by CSA survivors, and indeed all patients, undergoing BCa RT. Consistent with sensitive practice guidelines, SPT allows patients to share unique needs, experiences, and preferences, and to have those needs responded to by their BCa RT team.

Research Implications: Results will inform the development of a larger trial to test the efficacy of SPT in reducing retraumatization and healthcare costs among CSA survivors, in improving the BCa RT experience among all patients, and in determining applicability of SPT to other cancers (e.g., gynecologic, GI), to men, and to other cancer treatment settings (e.g., surgery).

Practice Implications: This project is a critical first step in improving the sensitivity of radiotherapy delivered to all patients, including those who have experienced CSA. SPT is easily scalable, brief (less than 30 min including the tablet intervention and the meeting with the RT therapist), acceptable to both RT therapists and staff, and does not require any specially trained personnel. We believe that SPT could be readily implemented in other radiotherapy clinics as part of standard care.

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P2-57

Screening and Treatment of Psychological Distress in Patients with Metastatic Colorectal Cancer: The TES Trial

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BACKGROUND/PURPOSE: Psychological distress occurs frequently in patients with cancer. Psychological distress includes mild and severe forms of both anxious and depressive mood states. Literature indicates that effective management of psychological distress seems to require targeted selection of patients (T), followed by enhanced care (E) and the application of evidence-based interventions. Besides, it is hypothesized that delivering care according to the stepped care (S) approach results in an affordable program. The aim of the current study is to evaluate the (cost)-effectiveness of the TES program compared to usual care in reducing psychological distress in patients with metastatic colorectal cancer (mCRC). **METHODS:** This study is designed as a cluster randomized trial with 2 treatment arms: TES program for screening and treatment of psychological distress versus usual care. Sixteen hospitals participate in this study, recruiting patients with mCRC.

Outcomes are evaluated at the beginning of chemotherapy and after 3, 10, 24, and 48 weeks. Primary outcome is the difference in treatment effect over time in psychological distress, assessed with the Hospital Anxiety and Depression Scale. Secondary outcomes include quality of life, patient evaluation of care, recognition and management of psychological distress, and societal costs. **RESULTS:** We created optimal conditions for an effective screening and treatment program for psychological distress in patients with mCRC. This involves targeted selection of patients, followed by enhanced and stepped care. Currently already 15 hospitals are participating in the trial. **CONCLUSIONS:** We expect that our results will contribute to the continuing debate on the (cost-) effectiveness of screening for and treatment of psychological distress in patients with cancer.

Research Implications: We expect that our results will contribute to the continuing debate on the (cost-) effectiveness of screening for and treatment of psychological distress in patients with cancer.

Practice Implications: If proven to be effective, the TES-intervention will provide as a useful screening and treatment tool in oncology departments in daily clinical care.

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P2-58

Distress Screening: The Link between Implementation Strategy and Impact on Staff Attitude and Perception

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Mt. Sinai Medical Center

BACKGROUND/PURPOSE: While it is widely acknowledged that the introduction and management of distress screening pose challenges to institutions, there has been relatively little research on the link between particular strategies for the implementation and management of a new tool and their impact on staff attitude towards it. The Tisch Cancer Institute asked three separate committees of stakeholders from various disciplines, cancer clinics, and departments within Mt. Sinai Medical Center, NY, representing distinct areas of expertise, to approach each stage of the distress screening process, from choosing a tool to integrating it to the existing medical record system (EPIC) and staff workflow to managing, overseeing, and refining its operation. Although committee members were assigned specific tasks, they were involved throughout the process to ascertain their insights and feedback as well as to enhance communication about and commitment to the project. As a large urban medical center treating complex patient needs and managing high

volume, Mt. Sinai was presented with many challenges that it sought to anticipate in order to minimize the negative effects of and attitude towards a new assessment tool from staff and patients. **METHODS:** A survey with five open-ended questions will be distributed to participants via email. It will ask them to describe their involvement in the implementation process and their thoughts about the role of distress screening and psychosocial support for cancer patients. Open, axial, and selective coding methods for qualitative research will be used to identify themes and connections between them. All staff who have had participated in one of the three identified committees will be invited to participate and given the assurance of anonymity as their email addresses will be removed by one member of staff prior to data collection and analysis by another. **RESULTS:** The introduction, oversight, and expansion of a new screening tool require that staff from different disciplines with different work priorities, viewpoints, and objectives be involved. This presentation will share the perspective of those participants who chose the tool, Cancer Support Source, and/or faced the hurdles in implementing an electronic system to a large and diverse patient population. Lessons learned from the tool selection (Cancer Support Source) and implementation approach used will be shared, as will participants' opinions on opportunities were taken or remain. **CONCLUSIONS:** Receptivity to a new tool and service delivery system from staff is vital to its integration and success. Psychosocial support of patients requires collaboration among psychosocial service providers (social workers, psychiatrist, pain management, and financial services), hospital administrators, and medical staff. Each offers expertise that helps identify opportunities and preempt challenges; they also help navigate and minimize new difficulties as they arise. The use of an electronic tool posed specific challenges to workflow and compatibility with existing electronic documentation systems. Engagement in the process of selection of a tool and implementation appeared key to staff acceptance of this and other challenges that presented in pilot.

Research Implications: This research calls to attention the need for staff engagement and feedback throughout the distress screening implementation process. It suggests that such involvement may not only refine the process of rollout but also mitigate tensions that could arise from perceived and actual workload changes, additions, and setbacks affected by distress screening.

Practice Implications: Mt. Sinai's strategy for implementation focused on collaboration among multiple committees of stakeholders. Such attention to collaboration, adjusted to the particular composition of other institutions, speaks to the potential for others to more smoothly navigate the introduction of distress screening (than otherwise) and maximize gains and opportunities inherent in the process of screening patients comprehensively and uniformly

and collecting more data on their biopsychosocial health. It offers a blueprint from which other hospitals may build and adjust.

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P2-59

QOLOP: Quality of Life Longitudinal Study of Paediatric Oncology Patients

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BACKGROUND/PURPOSE: The QOLOP project is the first comprehensive longitudinal study of the quality of life childhood cancer survivors (CCS) in the Czech Republic launched in 2006. The purpose of this project is to study long-term trends in individual quality of life, identify the risk groups of survivors according to the type of cancer and its treatment, as well as to the presence or absence of late adverse somatic effects. **METHODS:** A total of 300 CCS (age 7–19) in remission of 2–5 years participated in the study at T1 and up to this point 82 of those CCS were assessed at T2 after 3 years. Participants completed MMQL, SAHA, SQUALA, BFSC, IES, CPTS_RI, CDI, KIDCOPE and other methods. Severity of late effect was evaluated in concordance with CTCAEv3.0. Comparison groups comprised from children with other chronic disease and healthy children. Data analysis was performed using SPSS. **RESULTS:** CCS report fewer depressive symptoms than comparison groups. Emotional well-being (T2) of CCS can be predicted by gender, consistency of parenting and severity of late effects (T1). Posttraumatic growth (T2) is influenced by parental warmth (T1) and PTSD (T2) by negative emotionality (T1). Social support is the most frequent coping strategy used by CCS and parents are the most important sources of support. **CONCLUSIONS:** Concerning all available result, the overall quality of life of CCS seems not to be significantly reduced in comparison with the control population, but there are special populations at risk (brain tumors survivors and recipients of autologous bone marrow transplantation).

Research Implications: The results from QOLOP project provide first insight into the situation of quality of life and risk factors in CCS in the Czech Republic. Further research is needed to analyze consequences of pediatric cancer and its treatment in the following developmental stages.

Practice Implications: Identifying at-risk population is essential in tailoring psychosocial care.

Acknowledgement of Funding: This study was supported by the Czech Science Foundation (Grant No.P407/11/2421) and the Czech Republic's support for long-term strategic development for research organizations (RVO: 68081740).

P2-60

Preparing Youth with Cancer for Amputation: A Systematic Review

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BACKGROUND/PURPOSE: Limb amputation for childhood cancer presents unique physical and emotional challenges to the child's development. As treatment efficacies and survival rates improve, there are an increasing number childhood survivors who now must learn to navigate the physical and emotional consequences following amputation. This review examined the literature to determine what psychosocial preparation is needed or recommended in order to prepare pediatric oncology patients undergoing limb amputation. **METHODS:** A comprehensive review of quantitative, qualitative, and mixed-method publications was conducted using relevant English-language databases from 1960 to present day. All three eligibility criteria must have been present for inclusion: Child/adolescent patients, cancer-specific amputations, and psychosocial preparation prior to amputation. All articles were subject to review by authors to assess compatibility with the aims and eligibility criteria. **RESULTS:** Despite such a large search, only six ($N=6$) articles met full inclusion criteria, indicating the limited number of studies conducted on this topic. Of these, one study reported quantitative survey results, but all others utilized reviews and case studies. Common recommendations for preparation included (1) developmentally suitable interventions, (2) therapies offered both pre-surgery and post-surgery, and (3) the involvement of medical and psychological teams. **CONCLUSIONS:** While psychosocial preparation is acknowledged as crucial for pediatric oncology patients undergoing amputation, the existing literature is scant, outdated, and rarely utilizes quantitative methodology. Future research should evaluate the implementation of disease-specific psychosocial interventions to support this vulnerable population.

Research Implications: The present findings demonstrate the lack of current research addressing the specific ways that psychosocial providers can prepare children and adolescents with cancer for amputation. Qualitative studies of those who underwent amputation as a child are needed, as well as quantitative research addressing the efficacy of targeted interventions in this population.

Practice Implications: The participant shall be able to identify the need for psychosocial involvement to prepare pediatric oncology patients undergoing limb amputation and the necessity for new, empirically measured effective preparatory interventions.

Acknowledgement of Funding: None.

P2-61

Implementation of an eHealth Application 'OncoKompas' Targeting Survivorship Cancer Care: A Feasibility Study

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BACKGROUND/PURPOSE: Although supportive cancer care can be effective, referral rates are low and many survivors have unmet needs. As a means of facilitating supportive care, we developed an eHealth application: OncoKompas. Cancer survivors can monitor their QOL by patient-reported outcomes (PROs), followed by automatically generated tailored feedback and personalized referral to supportive care. The purpose of this feasibility study was to investigate the adoption of (intention to use), implementation of (actual use), and satisfaction with OncoKompas. We also investigated which sociodemographic and clinical factors are associated with feasibility as well as barriers and facilitators related. **METHODS:** A pretest–posttest design was used, conducting a survey before providing access to OncoKompas, and 2 weeks after, followed by an interview by a nurse. Adoption was defined as the percentage of survivors that agreed to use and implementation as the percentage of survivors that actually used OncoKompas. Satisfaction was assessed based on 3 questions: general impression of OncoKompas, the user-friendliness, being able to use OncoKompas without assistance (10-point Likert scale) as well as on the Net Promoter Scale (NPS). **RESULTS:** OncoKompas was feasible with an adoption grade of 64%, an implementation grade between 70% and 91%, a mean satisfaction score of 7.25, and a positive NPS (1.92). Sociodemographic and clinical factors and HRQOL were not associated with satisfaction. Several facilitators and barriers related to feasibility were identified. **CONCLUSIONS:** In order to enhance feasibility and increase satisfaction, we have to balance the time it takes to use OncoKompas, measurement precision, and tailoring towards personalized advices.

Research Implications: By gaining insight into feasibility issues we assessed the potential for successful implementation of OncoKompas and supported the development of a randomized controlled trial to examine the (cost-) effectiveness of OncoKompas.

Practice Implications: Our results show that the eHealth application OncoKompas could be a valuable addition to supportive cancer care. Study results implicate that OncoKompas has the potential to enhance supportive cancer care by supporting patients in providing and obtaining optimal supportive care.

Acknowledgement of Funding: This study is funded by the Dutch Cancer Society/Alpe d'Huzes Foundation.

P2-62

Beyond Distress: A Fully Integrated Needs-based Model for Screening, Triage, and Care of Cancer Patients

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BACKGROUND/PURPOSE: In working towards implementation and adherence of the distress thermometer, a system was piloted that met the national standards while identifying specific psychosocial needs. The piloted screener has since been integrated throughout the cancer center including its satellite locations. The purpose of this study was to (1) assess emotional distress; (2) understand triage needs and coordination of care; and (3) give patients the opportunity to request services. **METHODS:** The Needs Assessment tool involves three steps: (1) distress scale, (2) assessment of psychosocial needs, and (3) patient requests. Patients were screened during their second cancer-related appointment. Trained medical assistants provided the Needs Assessment tool to patients, and recorded responses in the EMR. Nurse clinicians reviewed the completed tool and triaged patients to support services. **RESULTS:** Data from 1010 patients indicate an average distress rating of 3.14; however, 36.5% reported 4 or greater, and 20% reported 6 or greater. Triage criteria for patient concerns were identified by endorsing 2 or more items per need category: Practical (4.4%), Emotional (14.3%), Nutritional (23.5%), Spiritual (8.9%), and Physical (21%). Requested services included: Social Work (8.1%), Psychologist (4.5%), Dietitian (12.1%), Chaplain (1.3%), Financial Counselor (4.1%), Support Group (6.6%), Wellness Group (7.1%), and Educational Opportunities (2.8%). **CONCLUSIONS:** Assessing distress is necessary for comprehensive cancer care. However, distress is a somewhat vague and ambiguous term, often connected to needs of cancer patients. Results further demonstrate that a needs-based assessment in connection with distress screening can be used to identify and triage needs, inform patients' of available services, and engage patients in requesting services.

Research Implications: Future research may further assess the impact of cancer diagnosis, treatment plans, staging, and demographic variables impact initial distress scores. In addition, longitudinal data could be collected to assess the implications of distress on physical and psychological outcomes.

Practice Implications: Identifying patient's psychosocial needs will aid in the continued development of social support programs. This triage method will allow patients access to supportive care services early on in treatment and demonstrate the need for additional support service providers in order to provide holistic cancer care.

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P2-63

Differences in Distress between Patients Preparing to Undergo Chemotherapy and Radiation Treatment for Cancer

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BACKGROUND/PURPOSE: Emotional distress has been shown to affect functioning and quality of life in individuals with cancer. Chemotherapy and radiation are the most common types of cancer treatment; however, studies assessing differences in distress between individuals undergoing these types of treatments are limited. The purpose of this study is to (1) compare emotional distress between individuals preparing to undergo chemotherapy and radiation treatment for cancer and (2) evaluate differences in self-reported needs between these two groups. **METHODS:** Individuals preparing to undergo treatment were screened with the Needs Assessment tool which involves three steps: (1) distress scale, (2) assessment of psychosocial needs, and (3) patient self-referral option. Patients were screened at their second appointment across the enterprise of the NCI-accredited cancer center. **RESULTS:** The sample consisted of 1215 individuals preparing to undergo chemotherapy ($n=617$) and/or radiation ($n=598$) treatment for cancer. Results showed that individuals preparing to undergo chemotherapy reported significantly higher distress than those preparing to undergo radiation; average distress scores of 3.46 and 2.99 ($t(1107)=1.96, p < 0.01$). Further analysis showed no difference between chemotherapy and radiation individuals in terms of self-reported needs (i.e., practical, emotional, nutritional, spiritual, and physical) endorsed. **CONCLUSIONS:** Observed differences in self-reported distress may be attributed to greater perceived side effects of chemotherapy compared to radiation.

Research Implications: Future research should further examine the interaction between treatment type and distress.

Practice Implications: Additionally, this information will help physicians to proactively address distress and make appropriate referrals. Greater presence of supportive staff in chemotherapy visits could help to address the higher need among these patients.

Acknowledgement of Funding: None.

P2-64

Sexual Function Measures in Intervention Studies with Female Cancer Patients: Results from a Systematic Review

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BACKGROUND/PURPOSE: Sexual concerns are common for female cancer patients and remain undertreated. Measuring sexual function (SF) can pose a challenge to conducting and evaluating interventions. The objective was to evaluate how sexual function (SF) measures have been used in intervention studies assessing SF in female cancer patients. **METHODS:** Using 2009 PRISMA guidelines, we searched PubMed and Scopus for peer-reviewed articles published from 2008 to 2014 that used a dedicated self-reported SF measure or items on SF in women diagnosed with cancer. Search terms were: 'neoplasms OR cancer AND sexual function NOT HPV NOT HIV'; subsequently, terms were added to include SF scales, specific sexual function domains, and cancer sites. Two coders abstracted each article using a standardized template to assure quality and reduce bias. **RESULTS:** Of 171 articles meeting inclusion criteria, 16 described intervention studies (10 in breast cancer). Most interventions (12) were designed to reduce psychosexual distress or improve SF; 8 studies had SF as a primary outcome. Sample size is >50 in nine studies. Twelve studies used dedicated SF measures, the FSFI being most common. Five reported overall SF only, even when individual domains were assessed (e.g., FSFI). In 11 studies, SF was assessed more than twice. Formats were diverse but most (12) included education and counseling; three evaluated aids or devices (e.g., dilators). **CONCLUSIONS:** In the 8 years studied, intervention studies represented only 9% of studies using SF measures among women with cancer. The proliferation of measures makes comparisons of intervention

effectiveness difficult. Establishing common benchmarks for comparing intervention effectiveness would advance the field.

Research Implications: A primary implication of this study is that the number of intervention studies continues to lag behind that of cross-sectional or prospective studies assessing sexual function in women with cancer and are thus sorely needed. Further, because of the large number of sexual function measures used in interventions assessing sexual function in women with cancer, comparisons across studies is difficult for researchers. Consistent use of measures across studies would allow for comparisons of effectiveness of interventions.

Practice Implications: Understanding the relative effectiveness of various interventions on sexual function in women with cancer would allow clinicians to select from empirically supported methods to improve their patients' sexual function. Addressing the sexual concerns of women with cancer can have positive effects on their intimate relationships and quality of life.

Acknowledgement of Funding: None.

P2-65

Survivor Guilt: The Secret Burden of Survivorship

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BACKGROUND/PURPOSE: The 5-year observed survival rate for a stage IV non-small cell lung cancer patient is 1%. What if you are a stage IV lung cancer patient who has beaten those odds? Society implies that these now 'survivors' should feel relieved; lucky; ecstatic. Any negative emotions toward survivorship are commonly associated with depression or fear; however, many survivors feel a deep-seated sense of guilt. This feeling of objective guilt is a phenomenon known as survivor guilt. It was first noticed among Holocaust survivors, but is rarely discussed in the psychosocial oncology field. There has been little research correlating survivor guilt as the mediating element of depression and anxiety among cancer survivors. The study goal is to identify survivor guilt among lung cancer patients and discover the causes and effects. We hope to pinpoint effective coping mechanisms for those affected. **METHODS:** Both qualitative and quantitative methods were used to gauge survivor guilt. Twenty lung cancer survivors were interviewed on their experience with survivor guilt and one hundred questionnaires containing a subset of interview questions were completed via Survey Monkey. Demographic information was also collected to assess for generalizability. **RESULTS:** Results indicate that a significant amount of survivor guilt is experienced among lung cancer survivors. Personal predictors of survivor guilt are also evident. Lung cancer survivors

who volunteer to help others with the disease tend to alleviate their survivor guilt. **CONCLUSIONS:** The majority of lung cancer survivors experience a sense of guilt that needs to be recognized among healthcare professionals.

Research Implications: This study will develop the basis for future research directions in creating tools to identify and assess patients for survivor guilt. This research will extend far beyond the lung cancer population.

Practice Implications: This study will help healthcare professionals recognize and treat survivors' guilt which will result in a better survivorship for cancer patients.

Acknowledgement of Funding: None.

P2-66

Parent–Child Interactions in Children with Advanced and Non-advanced Cancer: Children's Perspectives during the First-year Post-diagnosis

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BACKGROUND/PURPOSE: Family communication and parenting play a critical role in child adjustment and may be particularly important in the context of an acute stressor, such as childhood cancer. We therefore examined child distress and perceptions of parent–child interactions in children with advanced (AdvCa) and non-advanced cancer (Non-AdvCa) as compared to healthy controls. **METHODS:** Pediatric cancer patients aged 10–17 ($n=178$) participated 1–2 months post-diagnosis (T1) and were approached again 1 year post-diagnosis (T2). AdvCa ($n=49$) was coded on the basis of relapse, poor physician-predicted prognosis (treatment success $<65\%$), or death on study. Healthy controls ($n=63$) were recruited from local schools. Participants completed established measures of distress, parenting behaviors, and parent–child communication. **RESULTS:** Child distress and parent–child interactions were largely comparable at T1. However, at T2, cancer groups reported elevated affective problems, and children with AdvCa consistently emerged as different from the other two groups, reporting better total father communication and warmth and less psychological control in parenting from both mothers and fathers. Multiple regression models revealed that AdvCa moderated the association between father communication and child distress, with poor communication associated with greater distress in children with AdvCa than Non-AdvCa ($\beta = -0.60$; $p = 0.01$). **CONCLUSIONS:** Children with AdvCa perceive father interactions more positively than healthy controls or children with Non-AdvCa, and the quality

of these interactions are of increased importance to distress. While cancer-related strain may impair parenting interactions for some, the threat of limited time with one's child may alternatively encourage parents to be more supportive and engaged.

Research Implications: This research provides novel insights into how childhood cancer can have differential implications for family dynamics and adjustment. Future research should further investigate contextual variables of family adjustment to cancer, such as family role adjustment, caregiving priorities, and familial division of labor in providing care for sick children.

Practice Implications: Clinical providers should continue to encourage parents, and especially fathers, to prioritize open communication and supportive dialogue with their children in order to help minimize their child's emotional distress.

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P2-67

Developing a mobile application to increase genetic counseling for women with ovarian cancer

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BACKGROUND/PURPOSE: Ovarian cancer is one of the most common hereditary malignancies. It primarily affects older women, is the leading cause of death from gynecologic cancer, and is associated with significant emotional distress for women and their families. While genetic counseling has been recommended for all women with ovarian cancer, uptake is low. The purpose of this study is to describe the development of a mobile phone intervention to increase genetic counseling for women with ovarian cancer. **METHODS:** Based on the Precaution Adoption Process Model and the Fogg model of persuasive technology, a multi-step process was used to design a 7-day phone intervention delivering daily txt and video messaging. Content/formatting was developed from results of focus groups with women with ovarian cancer who have/have not had genetic counseling or declined counseling; by a multi-disciplined expert team; and under review by a Community Advisory Board. Selected guides to content development and presentation included up-to-date, accurate information; interactivity; tailoring; counseling pros:cons; patient-specific barriers; distress; persuasion triggers; and supportive messaging. Usability testing will be conducted prior to a randomized control trial in which 100 women with ovarian cancer will be assigned to intervention versus control (usual

care) groups. Outcome measures include genetic counseling uptake, stage of readiness, self-efficacy, knowledge, and distress. **RESULTS:** A 7-day intervention presents five texts and one to two videos per day. Visual screen displays demonstrate examples of specific design guides (e.g., interactivity and tailoring) and user friendly design elements created with special attention to the needs of older adult users. **CONCLUSIONS:** Studies of mobile phone interventions with older adults with cancer to *change* behavior are scarce. Details documenting the content design framework are lacking. This study documents a process informing the design, implementation, and evaluation of a mobile health behavioral change application relevant to cancer clinical care.

Research Implications: Mobile cancer care health applications pay little attention to documenting study content design. This makes it difficult for researchers to assess the fit of a behavioral health intervention in one setting for implementation in another setting or to target another behavior. This study describes the detailed process used for developing the content framework for a mobile application that is based in theory, patient input, and specifically selected design guides.

Practice Implications: The developed mobile application is designed to support cancer care. It also is designed to go beyond supporting best practice clinical recommendations and patient decision making, the intent of most mHealth applications, and aims at empowering cancer patients and changing cancer survivors' behavior.

Acknowledgement of Funding: Department of Defense Grant.

P2-68

'Flying without a Net': Women's Experience with Triple-negative Breast Cancer (TNBC)

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BACKGROUND/PURPOSE: Approximately 15% of newly diagnosed breast cancer patients have the TNBC subtype. TNBC disproportionately affects African American and premenopausal women, as well as BRCA I mutation carriers. TNBC has limited treatment options, high recurrence rates, and poor prognosis. Psychosocial concerns of women with TNBC have not been previously described. This study aimed to understand the experiences of women with TNBC to establish a foundation for interventions to improve health outcomes. **METHODS:** An interpretive descriptive approach was used. A purposive sampling strategy identified qualified TNBC patients. US participants were recruited through a hospital and breast cancer support groups. Data were collected primarily through open-ended interviews. Data analysis used an iterative process and a constant comparative method to

extract common themes and individual meaning. Data collection continued until saturation of the dominant themes. **RESULTS:** The final sample was 22 participants diagnosed with non-metastatic TNBC. Fifty-five percent were White, and 45% women of color. The overarching theme was that participants saw TNBC as 'an addendum' to their breast cancer. Four subthemes emerged: TNBC is Different: 'Bottom line, it's not good'; Feeling Insecure: 'Flying without a net'; Decision Making and Understanding: 'A steep learning curve'; and, Looking Back: 'Coulda, shoulda, woulda'. Participants expressed a need for support with managing intense uncertainty with an aggressive cancer diagnosis and decision making. **CONCLUSIONS:** Women with all subtypes of breast cancer have typically been studied together. The findings of this study suggest that women with TNBC may have unique experiences and unmet psychosocial needs.

Research Implications: Future research could examine ways to facilitate adjustment to TNBC, the persisting uncertainty of the diagnosis, and the decisional regret many women experienced. Investigation into ways to assist with treatment decision making in an aggressive disease is also needed.

Practice Implications: The immediate practice implications suggest that providers of women with TNBC should be aware that these patients may need tailored support around decision making and managing the unique psychosocial concerns of an aggressive disease with limited treatment options.

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P2-69

Psychological Aspects of Targeted Therapies: A Systematic Review of the Literature

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BACKGROUND/PURPOSE: Advances in the biological mechanism of carcinogenesis has led to an increasing use of 'personalized' therapies. In contradistinction to the psychological implications of chemotherapy and testing of hereditary germline mutations, the psychological adjustment to targeted therapies is not been well described. **METHODS:** A two-step systematic review utilized PubMed and Web of Science on April 14, 2014. Step 1 searched 'cancer personalized medicine', 'novel cancer therapy', 'cancer targeted therapy' and were all combined with 'psychological' and 'psychosocial'. Step 2 searched 'psychological' and 'quality of life' combined with each targeted cancer therapy as designated by the NCI (39 drugs). **RESULTS:** Step one revealed 711 citation and 10 that were

relevant. Four studies reported symptoms, 3 evaluated patients' perception of personalized medicine, 2 were position papers on patient centered care, and 1 reviewed oral chemotherapy management. Step two revealed 75 'psychological' and 2262 'QOL' citations. Most dealt with a symptom (depression, rash, fatigue, cognitive function) or adherence. CONCLUSIONS: 'Personalized medicine' is poorly understood by patients and the psychological aspects of targeted therapies have not been widely published, perhaps with the exception of tyrosine kinase inhibitors and fatigue.

Research Implications: There is an urgent need to further understand the psychological implications of targeted therapies given their increasing use, for longer periods of time, and with reliance on patient adherence.

Practice Implications: Limited data on symptom management patient understanding of targeted therapy.

Acknowledgement of Funding: None.

P2-70

A Study of the Effectiveness of a Horticultural Therapy Group on the Emotional Health of Cancer Patients

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BACKGROUND/PURPOSE: Cancer not only induces physical stress but also psycho-social problems for patients. Additionally, patients have to face existential issues related to life's meaning and the possibility of death (Alder & Page, 2008). According to the American Horticultural Therapy Association (2007), horticultural therapy, using plants and gardening activities, improves the body, mind, and spirits of individuals. Evidence shows that horticultural groups can be used in psychotherapy or rehabilitation for different people (Perveen, 2013). Since 2013, a psychological group using horticultural therapy has been undertaken to address the psychological distress and existential issues of cancer patients. This study aimed to evaluate the effectiveness of the group in reducing psychological distress among these participants. **METHODS:** A group of 26 participants were invited to complete the Hospital Anxiety and Depression Scale (HADS) questionnaire and distress thermometer (DT) questionnaire to measure anxiety and depression levels before and after attending the group. Demographic characteristics and disease histories were also collected. Descriptive statistics and paired *t*-tests were employed to analyze the pre-test and post-test data. **RESULTS:** The findings demonstrated a significant decrease in the level of distress, anxiety and depression among participants after joining the group (DT: mean -1.308 , $p=0.002$; HADS: mean -4.115 , $p=0.000$; HADS-A: mean -1.962 , $p=0.000$; HADS-D: mean -2.154 , $p=0.000$). **CONCLUSIONS:**

The study demonstrated that participants experienced significant decreases in the level of distress, anxiety and depression after joining the horticultural therapy group. However, due to the limitations of the design and sample size, it is not possible to draw a causal relationship.

Research Implications: A control group should be included in future studies to increase internal validity and to provide a better understanding of the effectiveness of the intervention. The group impact on existential issues including life's meaning should be explored among participants using a qualitative design to gain an understanding of these issues.

Practice Implications: The unstable physical health of cancer patients frequently limits their participation in group activities. Horticultural therapy emphasizes the interaction between the person and plants (Aldridge & Sempik, 2002), which can exceed the 'physical boundary' of the group setting. It is therefore worth promoting the therapy to a range of cancer patients in all cancer stages.

Acknowledgement of Funding: None.

P2-71

What Is Successful Dying? A Review of the Literature

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BACKGROUND/PURPOSE: There is currently little agreement as to what constitutes 'successful' death and dying. Our aim was to examine the current literature for definitions of successful death and dying. **METHODS:** We conducted a literature search for published, English-language, peer-reviewed reports of quantitative and qualitative studies that provided a definition of successful death or dying. Participants in the reviewed articles consisted of terminally ill patients, pre-bereaved and bereaved family members, and healthcare providers. The authors identified 22 studies which met eligibility requirements. Author's EM and JG independently read all 22 articles and created a coding consensus to generate common themes of successful dying. **RESULTS:** The 11 identified core themes of successful dying are dignity, dying process, emotional well-being, family, life completion, pain-free status, religion/spirituality, relationship with healthcare providers, treatment preferences, quality of life, and other. The sample size of all participants ranged from 9 to 3061 with an age span of 16–89 years old. Eighty percent of the studies consisted of participants over the age of 60. The studies reviewed were conducted in the USA (6), UK (4), Japan (3), the Netherlands (2), Thailand (2), Iran (1), Nova Scotia (1), Saudi Arabia (1), South Korea (1), and Sweden (1). Studies were published between 2000 and 2013.

CONCLUSIONS: The results highlighted the core elements that are important for patients and their families at the end of life. These themes can guide future practices that may greatly improve patient satisfaction, quality of life, as well as emotional and spiritual well-being.

Research Implications: Findings from this review illustrate the need for further studies to determine clear and distinguishable concepts of successful dying. Further exploration of the topic can assist in establishing a protocol for end-of-life health care as well as producing effective screening measures and interventions for dying patients.

Practice Implications: Better understanding of what constitutes 'successful dying' aides physicians and clinicians in promoting patient-centered care at the end-of-life. Defined components of successful death can facilitate communication between patients and healthcare providers related to treatment and allow patients to discuss their hopes, fears, and concerns regarding their dying process.

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P2-72

Cognitive Orientation of Health as a Moderator of Side Effects of Chemotherapeutic Treatment

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BACKGROUND/PURPOSE: Patients vary in their reactions to chemotherapy. Some may have reactions that allow them to continue and terminate the treatment while others may have reactions of such intensity that it becomes necessary to reduce or even stop treatment. Previous studies showed that psychological factors assessed by the cognitive orientation questionnaire of health (COH) predict physical symptoms like fatigue and length of stay in an intensive care unit. The purpose was to examine the relations between the COH and the number and intensity of symptoms following chemotherapy. **METHODS:** The participants were 60 breast cancer patients (IDC), 23–71 years old, undergoing chemotherapy (AC Taxol or TC with or without Herceptin), once in 3 weeks, in a medical center in Northern Israel. All patients got the same number of treatments. The tools were the Rotterdam Symptom Checklist and the COH questionnaire which includes beliefs about self, general, norms and goals and was shown to be a reliable and valid tool for assessing the motivation for maintaining one's health. The COH was administered once before the treatments and the checklist four times following each treatment session. **RESULTS:** Regression analyses showed that the number and intensity of symptoms are related negatively to beliefs about self and general beliefs, referring to themes such as concern with emotions, self-control, and focusing on one's own needs and interests

in contrast to mainly pleasing others. **CONCLUSIONS:** Specific beliefs and attitudes of the patient may affect the number and frequency of side effects of chemotherapeutic treatments.

Research Implications: The results of the study provide confirmation for the still controversial theoretical claim about the relations of psychological factors to physical disorders. In addition, the study provides information about the cognitive orientation of health questionnaire that may have varied applications in further research.

Practice Implications: The study would enable identifying patients liable to suffer from severe side effects of chemotherapy and give them the necessary support even before they start the treatment so that the number and intensity of their symptoms may be reduced. The study also enables developing an intervention targeted for moderating the side effects of chemotherapy, based on promoting attitudes found to be related to reduced side effects.

Acknowledgement of Funding: None.

P2-73

Fear of Progression and Quality of Life in Patients with Hepatocellular Carcinoma

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BACKGROUND/PURPOSE: Hepatocellular carcinoma (HCC) is high incidence cancer and the second leading cause of cancer-related death in Taiwan. Most HCC patients experienced physical and psychosocial distress after diagnosed, especially the fear of progression. When the dysfunctional level of FOP may affects their quality of life. This study was to evaluate the fear of progression and quality of life from newly diagnosed to posttreatment. **METHODS:** We performed a prospective study. The and EORTC QLQ-C30 were used to assess the dependant variables before treatment and 4 weeks after treatment. This FoP-Q-SF was permitted to translate to Chinese version and to use it in Taiwan by Prof. Herschbach. **RESULTS:** A total of 59 patients were enrolled, 41(69.5%) were males. Thirteen (22.0%), 22 (37.3%), 6 (10.0%), 16 (27.1%), and 2 (3.4%) patients were classified to the Barcelona Clinic Liver Cancer (BCLC) 0, A, B, C, D stages. FOP decreased significantly in patients of BCLC 0, A and B stages, and increased in patients of BCLC C and D stages ($p=0.002$). There were significant differences in the role functioning, emotional functioning, cognitive functioning, financial difficulties, and global health status. But, there were no significant differences in symptoms scales, physical functioning and social functioning among different stages. The changes of

FOP was negatively related with global health status/QOL ($r = -0.32$, $p = 0.013$). **CONCLUSIONS:** Patients with early-stage HCC can undergo curative treatments with lower FOP and higher QoL. These findings suggest health-care providers not only provide curative treatments, also need to develop psychological care to reduce FOP and improve quality of life.

Research Implications: Advanced HCC patients who are at the greatest risk for a lower QOL. Future intervention studies are needed to help them.

Practice Implications: These findings suggest health-care providers not only provide curative treatments, also need to develop psychological care to reduce FOP and improve quality of life.

Acknowledgement of Funding: None.

P2-74

Power of the Past: The Efficacy of Life Review Therapy among Palliative Cancer Patients and Their Informal Caregivers

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BACKGROUND/PURPOSE: In clinical practice there is an urgent need for evidence-based psychosocial interventions targeting patients in the palliative phase of cancer. The aim of this study was to assess the effectiveness of structured life review therapy (LRT). **METHODS:** In this LRT comprises a 4-session home-based psychological intervention, led by specially training clinical psychologists, focusing on retrieving positive memories and generating a coherent and meaningful autobiography. This enables patients to re-evaluate life events and reconstruct the story of their lives, including the diagnosis of incurable cancer. After a pilot study, we carried out a randomized controlled trial (RCT). Patients in the intervention group received LRT and were compared to a control group (waiting list). Outcome measures included quality of life (EORTC QLQ-PAL15), ego-integrity (NEIS), specificity of autobiographical memory (AMT), and depressive symptoms (HADS; MINI). **RESULTS:** In this RCT 107 patients were included, of whom 54 received LRT and 53 were randomized into the control group. A total of 57 males and 50 females participated (mean age: 63; SD: 9.26, range: 31–86). The course of ego-integrity (NEIS subscale) over time was significantly different ($p = 0.007$) for patients in the intervention group compared to the control group. The course of the other outcome measures was not significantly different for the intervention compared to the control group. Results on the informal caregivers will be available July 2015. **CONCLUSIONS:** LRT focusing on retrieving specific positive memories is effective in enhancing ego-

integrity among cancer patients in the palliative phase of the disease.

Research Implications: Based on these results future research is needed to broaden the target group from palliative cancer patients to cancer survivors, to an eHealth format, and delivering the intervention by nurses.

Practice Implications: This evidence-based LRT protocol can be implemented in clinical practice.

Acknowledgement of Funding: This project is funded by The Netherlands Organisation for Health Research and Development (ZonMW).

P2-75

The Effect of Spiritual Interventions on Quality of Life of Cancer Patients: A Systematic Review and Meta-analysis

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BACKGROUND/PURPOSE: It is commonly believed that spiritual care is important for the welfare for patients with advanced cancer, yet there is little evidence to support this claim. Therefore, we conducted the first meta-analysis to examine the effect of spiritual interventions on quality of life of cancer patients. **METHODS:** We conducted our search on June 6, 2014, in Medline, PsycINFO, Embase and PubMed. All clinical trials were included which compared standard care with a spiritual intervention that addressed existential themes using a narrative approach. Study quality was evaluated by the Cochrane Risk of Bias Tool. **RESULTS:** A total of 4972 studies were identified of which 14 clinical trials (2050 patients) met the inclusion criteria and 12 trials (1878 patients) were included in the meta-analysis. The overall risk of bias was high. When combined, all studies showed a moderate effect (d) of 0.50 (95% CI = 0.20–0.79) 0–2 weeks after the intervention on overall quality of life in favor of the spiritual interventions. Meta-analysis at 3–6 months after the intervention, showed a small effect (0.14, 95% CI = -0.08–0.35). Subgroup analysis including only western studies showed a small effect of 0.17 (95% CI = 0.05–0.29). Including only studies that met the allocation concealment criteria showed a small effect 0.14 (95% CI = -0.05–0.33). **CONCLUSIONS:** Directly after

the intervention, spiritual interventions had a moderate beneficial effect in terms of improving quality of life of cancer patients compared to a control group. No strong evidence was found that the interventions maintained this effect up to 3–6 months after the intervention. Further research is needed to understand how spiritual interventions could contribute to a long-term effect of increasing or maintaining quality of life.

Research Implications: Further research is needed to understand how spiritual interventions could contribute to a long-term effect of increasing or maintaining quality of life.

Practice Implications: This study shows spiritual interventions have a positive effect on quality of life of cancer patients; therefore, they should be included in standard palliative care.

Acknowledgement of Funding: This study is funded by KWF, the Dutch Cancer Society/Alpe d'HuZes and Janssen Pharmaceutical Companies.

P2-76

Evaluation of the Prevalence of Sleep Disorders in Patients with Cancer under Treatment

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BACKGROUND/PURPOSE: Sleep disorders affect the quality of life of patients with cancer. They can be due to the anxiety generated by the disease and its prognosis, as well as the organic symptoms like pain, dyspnea or cough. Secondary effects of drugs and frequent hospitalizations can also be the origin of such trouble. Sleep disorders do not directly impact the vital prognosis, but they cause an emotional and psychological discomfort and significant fatigue. This may negatively impact the therapeutic process and the degree of involvement of the patient in the management of his disease. This study aims to evaluate the prevalence of sleeping disorders in patients under chemotherapy for cancer regardless of the type. **METHODS:** Until December 2014, the study included 112 randomly selected adult patients with cancerous disease under chemotherapy. The Pittsburgh Sleep Quality Index (PSQI) was used to evaluate the quality of sleep. **RESULTS:** Forty-eight of the 112 interrogated patients (43%) had a bad sleep quality with a PSQI score superior to 5. Some cancer localizations like breast and lung cancer were noticed to be more often associated to sleep disorders. Sleep quality was almost always reduced when the pain management was not optimal. **CONCLUSIONS:** According to the literature, only 14% of patients relate their sleeping problem to their doctor, and only 5% are

under medication for this trouble. The results of our study show the high prevalence of sleep disorders in cancerous patients and prove the need to systematically evaluate patient's quality of sleep.

Research Implications: There is a lack of data concerning sleep disorders in cancerous patient. This study tries to estimate the prevalence of these troubles.

Practice Implications: This study proves the high prevalence of sleep disorders in cancerous patients and shows the need to systematically evaluate sleeping quality and treat the sleeping troubles when diagnosed.

Acknowledgement of Funding: None.

P2-77

Resilience and Spiritual Growth of Chinese Recovering from Breast Cancer: The Mediating Role of Challenge Cognitive Appraisals and Positive Affectivity

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BACKGROUND/PURPOSE: Spiritual growth predicts well-being and longevity in cancer survivorship; while resilience has long been regarded as positive coping and post-traumatic growth. Nevertheless, little is known about how resilience is related to post-trauma spiritual growth. **METHODS:** 75 Chinese with breast cancer, attending the out-patient clinic, were invited to participate in the cross-sectional survey. They were surveyed on their trait resilience, cognitive appraisal styles, affect, and spiritual growth. Hierarchical regression analyses were adopted to identify the factors associated with resilience, and to explore how they relate and contribute to spiritual growth during cancer rehabilitation. **RESULTS:** Controlling on age, marital status, religiosity, and treatment modality, trait resilience was positively associated with spiritual post-traumatic growth ($\beta=0.22$, $p\leq 0.01$), challenge appraisal ($\beta=0.27$, $p\leq 0.01$), benign appraisal ($\beta=0.17$, $p\leq 0.01$), positive affects ($\beta=0.53$, $p\leq 0.01$), while negative related to threat appraisal ($\beta=-0.19$, $p\leq 0.01$), harm/loss appraisal ($\beta=-0.21$, $p\leq 0.05$), and negative affect ($\beta=-0.18$, $p\leq 0.01$). Challenge appraisal ($z=2.98$, $p\leq 0.01$) and positive affects ($z=2.58$, $p\leq 0.01$) partially mediated the relationship between resilience and spiritual growth at post-trauma. **CONCLUSIONS:** Resilient breast cancer patients reported spiritual growth partly because they perceive the illness as a challenge and their ability to experience positive emotion in a trauma, while counter-intuitively, the absence of maladaptive appraisals and

negative affects do not explain why resilient individuals reported spiritual growth in times of trauma.

Research Implications: The present study attempts to explore the psychological process of how resilient individuals thrive despite of breast cancer, with emphasis on the role of cognitive appraisal plays. Additional research in other type of cancer would our understanding of the underlying coping process of people recovering from life-threatening physical illness.

Practice Implications: The findings of the present study lean support to the development of strength-based intervention modalities, focusing on the development of coping resources and resilience to help people with cancer cope.

Acknowledgement of Funding: None.

P2-78

Rethinking Social Support and Post-traumatic Growth: A Cross-sectional Study of Chinese with Breast Cancer

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BACKGROUND/PURPOSE: Social support is regarded as catalyst of thriving for people recovering from cancer. Nevertheless, little research has been dedicated to explore how different aspects of social support may benefit psychological growth in trauma. **METHODS:** 75 Chinese women with breast cancer, attending out-patient clinic, were surveyed using a questionnaire packet composing of validated scales in Chinese on post-traumatic growth, perceived social support, and relevant demographics. Regression analyses were conducted to explore the associations between aspects of social support and dimensions of post-traumatic growth. **RESULTS:** Controlling on age, marital status, religiosity, and treatment modality, positive social interaction was associated with post-traumatic growth of self ($\beta=0.08$, $p\leq 0.05$), interpersonal connectedness ($\beta=0.06$, $p\leq 0.01$), life orientation ($\beta=0.04$, $p\leq 0.05$) and spirituality ($\beta=0.06$, $p\leq 0.01$). Emotional-informational support was associated with growths in connectedness ($\beta=0.05$, $p\leq 0.05$), life orientation ($\beta=0.03$, $p\leq 0.01$) and spirituality ($\beta=0.05$, $p\leq 0.05$). In addition, affectionate support was associated with self ($\beta=0.11$, $p\leq 0.01$) and interpersonal growth ($\beta=0.05$, $p\leq 0.01$), while tangible support only associated with interpersonal growth ($\beta=0.04$, $p\leq 0.01$). **CONCLUSIONS:** Perceived social support is positively associated with post-traumatic growth for Chinese recovering from breast cancer; whereas different dimensions of social support appeared to contribute differently to post-traumatic growth. Perceived positive social

interactions appeared to be a prominent factor associated with all dimensions of post-traumatic growth.

Research Implications: Very few studies explore the impact of different kinds of social support on promoting positive coping outcomes among people with cancer. Results in the present study suggested that different kind of social support might contribute to a different aspect of post-traumatic growth, future research studies may consider exploring the relationships of different type of social support and other coping outcomes, so that specific intervention models could be developed to help family with cancer cope.

Practice Implications: Findings of the present study highlighted the importance of family-based interventions in helping people with cancer cope in the Chinese community. It appeared that interpersonal connectedness be the catalyst for all aspects of post-traumatic growth, while the impact of tangible support appeared benign. The findings lean support to family-based intervention models focusing on open-communication, mutual respect, and compassion.

Acknowledgement of Funding: None.

P2-79

Compassion Satisfaction and Burnout in Volunteers Working in a Tertiary Cancer Hospital-based Palliative Care Clinic in a Developing Country

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BACKGROUND/PURPOSE: Burnout is a serious problem faced by staff working in oncology and palliative care. Compassion satisfaction is useful for people in helping professions, especially volunteers in palliative and hospice care. There are few studies in developing countries like India on burnout and compassion fatigue, mainly in medical and nursing professions. Our study aims to detect the presence and level of compassion satisfaction and burnout and the association of compassion satisfaction with burnout and other variables in volunteers working in palliative care clinic in a tertiary care oncology centre in a developing country. **METHODS:** In a cross-sectional questionnaire survey, consenting volunteers working in palliative care clinic in a tertiary care cancer centre completed forms for demographic and experience related information and Professional Quality of Life Scale. Descriptive statistics for age group, years of experience, degree of compassion satisfaction and burnout and chi square tests for association between compassion satisfaction and other variables were used. **RESULTS:** Ten out of twenty volunteers returned the questionnaires. Among the ten, nine participants were female and eight were above

50 years of age. Eight participants had worked less than 10 years in palliative care department. Seven participants reported average scores on items related to compassion satisfaction. All volunteers had low scores on burnout. There was a significant association between level of compassion satisfaction and number of years of experience and no association with burnout. **CONCLUSIONS:** Most participants in our study had average levels of compassion satisfaction. All had low level of burnout. There was no association noted between compassion satisfaction and burnout.

Research Implications: There is implication for research to evaluate the socio-cultural determinants of compassion satisfaction in volunteers working in palliative care with economically deprived patients and their families in a developing country perspective.

Practice Implications: It will be important to understand the role of factors, other than compassion satisfaction, which might contribute to low burnout in the palliative care volunteers. The impact of compassion satisfaction on patients and their families should be evaluated.

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P2-80

Predictors of Well-being in Cancer Survivors

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BACKGROUND/PURPOSE: The objective of the present study is to identify psychosocial predictors of well-being in people that survive cancer, are in stable condition, and a diagnosis of longer than 3 years. **METHODS:** Participants are 106 surviving cancer patients, with more than 18 years of age, a mean age of 48 years ($SD=9.71$), 79.2% female, with a diagnosis between three and 41 years. All returned to normal daily life after diagnosis and treatment. They answered a demographic questionnaire (age, gender, civil status, school level), spirituality, stigma perception, health transition, perception of severity of disease, and the number of years since the diagnosis, and a 'well-being component' of SF-36—a 36-item self-reporting questionnaire about health perception, which includes eight dimensions grouped into three components: well-being, mental health and physical health. Data were collected in a medical care setting and all participants filled the informed consent form, in accordance with the Helsinki declaration rules and local law. A stepwise regression analysis with well-being as a dependent variable was performed. **RESULTS:** Results show that 'health transition', 'stigma', 'school level',

'spirituality', 'gender', 'perception of severity of disease', and 'age' are statistically significant predictors of well-being, from the highest to lowest predictor. 'Civil status' and 'number of years since diagnosis' are not predictors. **CONCLUSIONS:** Results suggest that best well-being in cancer survivors is explained by an important combination of demographic, disease and psychological variables, suggesting psychological aspects that professionals need to consider to help cancer survivor in their adjustment to life.

Research Implications: Results identify socio demographic variables, disease variables and psychological variables that contribute to adjustment to disease. Information is relevant for researchers that study cancer survivors

Practice Implications: Professionals that intervene with cancer survivors can consider the variables that best explain adjustment to disease.

Acknowledgement of Funding: None.

P2-81

Psychologists' Views of Inter-disciplinary Psychosocial Communication within the Cancer Care Team

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BACKGROUND/PURPOSE: Little is known about how psychologists working in cancer care centres communicate clinical information to other members of the multidisciplinary team or what information is communicated. This study surveyed Australian cancer care psychologists regarding their communication practices and their views on essential elements of communication with referrers, as well as barriers to and facilitators of effective interdisciplinary communication. **METHODS:** Psychologists were invited to complete an online survey via an email distributed by peak professional bodies. The online survey contained purpose-designed close-ended and open-ended items that addressed study aims. **RESULTS:** Forty-four psychologists completed the survey. Psychologists' most common method of recording initial consultations was in the patient medical record, with 69% of respondents recording notes in these 'most of the time' or 'all of the time'. Twenty-two per cent of psychologists said they did not regularly feedback the results of an initial assessment to a referrer, and more than 40% used verbal or email communication to do so. Eighteen topics were identified as *essential* or *important* elements to include in a referrer feedback letter by 75% or more of respondents.

CONCLUSIONS: This study is the first to provide information on Australian psychologists' current communication practices within the cancer care team and their views regarding the optimal inter-disciplinary communication.

Research Implications: The results of this study can be used to assist in the development of guidelines for cancer care psychologists' inter-disciplinary communication.

Practice Implications: The results of this study have informed the development of a template letter for psychologists communicating with other members of the cancer care team.

Acknowledgement of Funding: NSW Psychologists' Registration Board Education Grant.

P2-82

Telephone Health Education and Counseling with Latinas Improve Psychological Distress

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BACKGROUND/PURPOSE: The purpose of this study was to compare a telephone delivered 8-week supportive health education intervention (SHE) with an 8-week telephone interpersonal counseling intervention (TIP-C) to improve QOL with 106 Latinas with breast cancer. Latinas with breast cancer experience health disparities in cancer treatment. **METHODS:** Latinas with breast cancer experience significant health disparities in cancer treatment. This study used an RCT design with Latinas and their supportive partners randomly assigned to either SHE or TIP-C. Measurement occurred 4 times over 6 months, baseline (1), immediately post-intervention (T2), and at 4 and 6 months post-T1. All study related materials, assessments and sessions were conducted in English or Spanish, depending on patient preference. Average session time ranged from 21.11 to 28.63. TIP-C sessions were longer by about 5 min. **RESULTS:** Latinas in the SHE ($n=44$) and TIP-C ($n=62$) were not significantly different for demographic characteristics, except for education, employment and income. Women in the SHE had lower incomes and education, with women in TIP-C more likely to be unemployed. For illness characteristics, no significant differences were found for stage, type of treatment, other chronic illnesses or current medications. Significant differences were found for women in TIP-C for recurrence, anxiety and anxiety treatment. There were significant differences found between groups for depression, anxiety, perceived stress, symptom number and

symptom distress. Latinas in the TIP-C demonstrated greater improvement than the SHE group in these outcomes over time. **CONCLUSIONS:** Telephone delivered counseling interventions may be a cost-effective and effective method to provide psychosocial interventions with global populations.

Research Implications: Telephone delivered counseling interventions may be a cost-effective method to provide psychosocial interventions with global populations.

Practice Implications: Telephone delivered counseling interventions may be a cost-effective method to provide psychosocial interventions with global populations.

Acknowledgement of Funding: American Cancer Society.

P2-83

Effect of Yoga on Post-chemotherapy Cognitive Impairment in Breast Cancer Patients: A Systematic Review

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BACKGROUND/PURPOSE: Limited research suggests that yoga may be a viable gentle physical activity with a variety of health related quality of life, psychosocial and cognitive symptoms management benefits. The objective of this study is to assess the findings of selected articles regarding the therapeutic effects of different forms of yoga on the post-chemotherapy cognitive impairment and to provide a comprehensive review of yoga. **METHODS:** Participants of interest were females age between 40 and 65 years, diagnosed with breast cancer, and undergone chemotherapy or receiving chemotherapy at least since last 2 months. Intervention of interest was various forms of yoga to improve cognitive function. Included study designs were randomized control trials, quasi-experimental trials, and qualitative observational studies. A stepwise search strategy was utilized to identify studies published through December 2014 from a wide range of databases. Findings were analyzed using Cochrane Review Manager Program. **RESULTS:** Of the 15 studies selected (including 2 studies done in Indian settings) 12 reported significant improvements in cognitive functioning by having at least 6 weeks of yoga practice after chemotherapy treatment while 3 studies did not show consistent results in favor of yoga. No adverse effects were reported with exception of fatigue and breathlessness in breast cancer participants in some trials. **CONCLUSIONS:** In summary, this review finding suggests that yoga can effectively reduce breast cancer survivors' cognitive complaints and improve psychological health. Due to small number of studies, results should be regarded as preliminary and treated with caution.

Research Implications: This systematic review will help researchers identify new ways for using yoga intervention to cure the cognitive impairment symptoms in breast cancer patients and to explore psychosocial and cognitive effects of yoga for other types of cancer in order to improve methodological qualities of future research and nourish the area of psycho-oncology.

Practice Implications: Our preliminary findings provide psychosocial oncology clinical practitioners with important information that yoga may be a no cost possible alternative therapy for breast cancer patients to help them manage day-to-day functioning by improving their cognitive functioning after chemo brain.

Acknowledgement of Funding: Funding for the present review study is under process as author's PhD project in Banaras Hindu University, Varanasi, India.

P2-84

Psycho-social and Physical Condition in Italian Advanced Cancer Patients

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BACKGROUND/PURPOSE: The experience of advanced cancer has a profound psychosocial impact on patients and their families. Patients with advanced cancer are at particular risk for psychological distress including depression and anxiety, because of the debilitated health, symptoms associated with disease progression, and the threat of death. The psycho-social and physical functioning of advanced cancer patients in Italy is in need of critical research that guides clinical practice. The aim of this study was to explore the physical and emotional concerns and the coping styles of Italian advanced cancer patients. **METHODS:** Two hundred sixteen advanced cancer patients (*Mean* = 60.2; 35–86) from three Italian cancer centers participated; 143 (66.2%) were female, and 161 (77%) were married. The prevalent diagnosis was breast cancer (44.4%), the time from diagnosis was <1 year for 60 patients (28.7%), 1–5 years for 91 patients (43.5%), >5 years for 58 patients (27.8%); for most (199 patients, 92.6%) the ECOG-Performance Status grade was 0–2. They completed the CCL (Concerns Checklist), CBI-B (Cancer Behavior Inventory-Brief), EORTC (European Organization for Research and Treatment of Cancer) QLQ-C30, HADS (Hospital Anxiety Depression Scale), and the Mini-MAC (Mental Adjustment to Cancer). **RESULTS:** On the CCL, 84.9% showed more than 4 concerns and women reported more worries than men ($p=0.0087$); nevertheless, on CBI the majority was

'totally confident' in maintaining the independence and a positive attitude (54%). EORTC QLQ-C30 Global Health Status ($p=0.0012$), Role Functioning ($p=0.0006$) and Physical Functioning ($p=0.0007$) were significantly lower for ECOG grade 3 patients. Regarding the Mini-MAC, patients with age ≤ median (62) had significant higher scores on fighting spirit ($p=0.0002$); women present more fatalism ($p=0.0006$) and cognitive avoidance ($p=0.04$) than men. HADS analysis show females are more anxious than males ($p=0.0181$). **CONCLUSIONS:** These results provided an interesting picture of Italian advanced cancer patients: adults, newly diagnosed and capable of self-care, had significant psycho-social and physical issues but were coping well in terms of maintaining independence and positive attitudes. Women, particularly with breast cancer, show a more critical psycho-social condition. At the completion of the study, the results should provide implications for policy and clinical practice.

Research Implications: Availability of adequate tools able to give more objectivity to the complex issues and global needs of advanced cancer patients. Need to utilize population based surveys in order to identify and understand the specific socio-cultural attitudes. Opportunity to move in the direction of greater individualization of care.

Practice Implications: It is crucial today to receive information directly from patients about their physical and psychological condition (PRO, patient-reported outcomes). Identifying patients' problems means having more information in order to guide psychosocial interventions towards a more personalized approach to care. The present study show a critical psychosocial state of female patients, particularly with breast cancer, and of <1 year diagnosis patients. Possible intervention areas are: expressive skills and social support through targeted approaches to the promotion of active coping styles, based on awareness and self-efficacy, and not passive, associated with fatalism or avoidance of problems. In this way, we aim to improve the quality of care to advanced cancer patients in Italy.

Acknowledgement of Funding: None.

P2-85

The Effect of Music Therapy Done with Traditional Turkish Music upon the Psychological and Physical Status of Cancer Patients Receiving Chemotherapy

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BACKGROUND/PURPOSE: Despite the recent advancements in cancer treatment; the negative meanings attributed

to the disease and the intense treatments provided cause many problems among the patients. Pharmacological and non-pharmacological methods can be used in order to eliminate these problems. Together with psycho-pharmacological treatments; music therapy, a non-pharmacological method, may result in positive outcomes among the cancer patients as a part of comprehensive treatment approach. The current study was undertaken in order to determine 'the effect of music therapy done with traditional Turkish music upon the psychological and physical status of cancer patients receiving chemotherapy'. **METHODS:** The cancer patients who were treated at the chemotherapy unit of Istanbul Medipol University Hospital, were diagnosed with cancer with solid tumor and who did not have any organic mental disorders, neurological problems, hearing-listening and speaking impairments were included in the study. To the patients; a music therapy composed of Maqam Mahur songs (Maqam Mahur is a kind of traditional Turkish music mode) was played live by expert academicians using musical instruments for 30 min while they were receiving chemotherapy. All the songs were sung by a soloist. The reason why Maqam Mahur was chosen was the idea that this music mode may be beneficial to such problems often seen among the cancer patients as anxiety, worry and exhaustion and to some physical discomforts caused by these problems because Maqam Mahur provides joy and relief feelings and vitality and liveliness thanks to its stimulant effect. Before and after the music therapy; to the patients Emotional thermometer and Visual Pain Scale were administered and their some physical parameters (blood pressure, heart beat, oxygen saturation, etc.) were assessed. **RESULTS:** Our study is still in progress. According to the processed data; stress, anxiety, anger, depression scores of the patients decreased significantly after music therapy. **CONCLUSIONS:** We are of the opinion that music therapy done with traditional Turkish music songs played live may help eliminating some physical and psychological problems of the cancer patients receiving chemotherapy not only in our country but also in other countries with cultures similar to ours (like Mediterranean countries).

Research Implications:

Practice Implications:

Acknowledgement of Funding: None.

P2-86

Cancer and Work: Predictive Factors of Fatigue and Work Ability in Cancer Survivors beyond 2 Years of Sick Leave

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BACKGROUND/PURPOSE: Due to the growing number

of cancer survivors, an increased attention for their work ability exists. Fatigue has been stated to influence return to work and the work perspective of these survivors. However, there is a lack of systematic research into the long-term influence of fatigue on the work ability of cancer survivors. In this study, we aim to identify predictive factors for fatigue and work ability in cancer survivors, beyond 2 years of sick leave. **METHODS:** In this longitudinal cohort study, sick-listed workers, registered at the Dutch Social Security Agency due to a cancer diagnosis, were included when they approached 24 months of sick leave. Questionnaire data and register data of work disability assessments were gathered both after 2 years of sick leave and at 1-year follow-up. Data were analyzed using univariate and hierarchical multivariate linear regression models. **RESULTS:** At baseline, 392 respondents were included; at follow-up the cohort held 332 respondents. Higher age, being single, lower score on depression, lower score on fatigue, less physical complaints and absence of comorbidity were associated with less fatigue. Female gender, higher education, less physical complaints, better global health, higher score on work ability and white collar job were positively associated with work ability. **CONCLUSIONS:** This study identifies sociodemographics, health-related and work-related factors to be associated with fatigue and work ability in cancer survivors beyond 2 years of sick leave. The factors disclosed may help to identify cancer survivors in need of support of their work perspective beyond 2 years of sick leave.

Research Implications: The identified factors explain fatigue and work ability in cancer survivors beyond 2 years of sick leave. Further research on factors associated with fatigue and work ability in cancer survivors on long-term absence, i.e., 5–10 years posttreatment, is to be considered. Also, in enhancing work participation of cancer survivors beyond 2 years of sick leave, we suggest further research related to employer support and support by other stakeholders.

Practice Implications: The identified factors may help to develop interventions that aim to support cancer survivors in a vocational rehabilitation trajectory. This may enhance work participation of cancer survivors beyond 2 years of sick leave.

Acknowledgement of Funding: This study was funded by the Research Center for Insurance Medicine, Amsterdam, The Netherlands.

P2-87

Psychophysiological Pathways of Fatigue in Lung Cancer Patients

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BACKGROUND/PURPOSE: The etiology of lung cancer-related fatigue is poorly understood, but may involve complex psychophysiological dysregulation. We investigated the contribution of psychological distress and endocrine/immune physiology to fatigue in a sample of lung cancer patients. **METHODS:** Patients ($N=62$) reported on cancer-related distress, depression, and fatigue. Patients collected saliva samples over 2 days and provided blood samples. We examined the psychological, endocrine (salivary cortisol levels, diurnal slopes), and immune (RBC and WBC counts, IL-6, IL-1b, TNF-alpha) pathways predicting fatigue. In hierarchical regressions controlling for age at diagnosis, stage, and income, variables were entered in separate regressions examining three aspects of fatigue: intensity, duration, and interference with daily life. **RESULTS:** Most patients (65.6%) endorsed clinically meaningful levels of fatigue. Cancer-specific distress and depression were associated with greater fatigue intensity, duration, and interference with daily life (all p 's < 0.01). Depression accounted for the most variance in fatigue outcomes ($R^2=0.338$, $R^2=0.342$, $R^2=0.398$, respectively). Higher WBC were associated with greater fatigue intensity ($p=0.002$) and duration ($p=0.012$), but not interference with daily living. Cortisol, RBC, and cytokines were not associated with fatigue. **CONCLUSIONS:** These data support those of other studies suggesting distress and depression may be more strongly related to fatigue in lung cancer patients than some physiological variables previously linked to fatigue in other cancers. Elevated WBC counts here may suggest heightened immune activation among more fatigued patients.

Research Implications: Research should continue to investigate the unique psychophysiological contributions of fatigue to clinical outcomes in lung cancer.

Practice Implications: Lung cancer patients experiencing fatigue should be assessed for clinical symptoms of depression.

Acknowledgement of Funding: This study was funded by the Kentucky Lung Cancer Research Board.

P2-88

Assessing Basic Knowledge of Existing Supportive Care Services among a Large Interdisciplinary Cancer Center Team

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BACKGROUND/PURPOSE: Supportive care services (SCS) for cancer patients and their families are often misunderstood, go unrecognized, and therefore may be underutilized. Conducting a system-wide survey is an

essential step in building, implementing and evaluating supportive care programs. We conducted a staff survey to assess knowledge of existing SCS and methods of referring patients to these services at a large NCI-Designated Comprehensive Cancer Center. **METHODS:** A seven-question survey was emailed to staff at the UC San Diego (UCSD) Moores Cancer Center (MCC). Questions assessed knowledge of existing SCS and methods of making referrals to these services. Additionally, the survey asked for suggestions of how SCS could be improved or added at MCC and how to improve the referral process for these services. **RESULTS:** One hundred twelve individuals responded to the survey (physicians 21.95%; nurses 59.76%; psychologists 2.22%; social workers 7.32%; NP/PA 8.54%). Most responded, 'Yes' (97.39%) when asked if SCS existed at MCC. However, responses varied regarding knowledge of specific SCS with most recognizing certain services (social work services 94.64%; psychology services 88.39%; support groups 94.64%) and less so for other types of SCS (palliative care 88.39%; wellness classes 75.89%; alternative/complementary therapies 42.86%). Knowledge also varied in regard to knowledge of how to refer patients and families to one or more SCS ('refer infrequently but can figure it out' 24.11%; 'don't know how' 17.86%). **CONCLUSIONS:** Future directions include utilizing this data to inform further enhancement and evaluation of current SCS and target services that are still needed.

Research Implications: This information is relevant to researchers as it provides quantitative data demonstrating basic knowledge of supportive care services and qualitative data (i.e., narrative responses) of suggestions given by a cancer center staff on how to enhance supportive care services.

Practice Implications: Results of this data will help inform further enhancement and evaluation of current supportive care services and target services that are still needed to improve cancer patient and family experiences. This information may be useful for other institutions also looking to build, implement, and evaluate supportive care services for their patients.

Acknowledgement of Funding: None.

P2-90

Biopsychosocial Screening: Exploring How Genitourinary Cancer Patients Experience the Chemotherapy Treatment Phase

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BACKGROUND/PURPOSE: Genitourinary cancers (GU) are common and represent a frequent cause of death. Disease and treatment can have profound effects on

patients' life. Given the lack of distress data in GU, we explore biopsychosocial aspects of being treated for GU. **METHODS:** 29 male patients ($M=65.5$ years) newly diagnosed with GU (37.9% prostate, 31% bladder, 20.7% renal) consented to and answered the Distress Thermometer, HADS and FACT-G. They were assessed at the first infusion (T1) and at two follow-ups: mid-point (T2) and last day of planned chemotherapy (T3). **RESULTS:** Moderate to severe distress was reported by 48.3% (T1), decreasing to 4.3% (T3); renal cancer showed the highest average at T1 and prostate at the follow-ups. For problems-related distress, a major frequency was reported by prostate cancer overtime. Clinically significant anxiety was reported by 41.4% (T1) reducing to 3.4% (T3); prostate reported the highest average overtime. Depression also decreased overtime (24.1% to 3.4%); kidney showed a higher average at T1, bladder at T2 and prostate at T3. QoL increased overtime, from an average of 86.2 (T1) to 94.8 (T3); kidney led the average at T1 and bladder over the follow-ups. **CONCLUSIONS:** Our findings highlighted the importance of biopsychosocial screening, considering the overall prevalence rate for distress, the specific characteristics of GU and the fact that men have a strong inclination to turn inward, avoiding share emotional concerns. This results also suggest the benefit of an intervention before the first infusion, to elaborate a plan of care, focus on matching resource to patient's needs.

Research Implications: These preliminary findings provide a basis for further research on GU, considering the lack information in the literature about distress in GU patients during the treatment. More research is also need on the long-term impact of treatment side effects on distress and QoL.

Practice Implications: The screening program showed to be an important step in the identifications of patients who are suffering with this diagnosis and treatment. The results also suggest the benefits of a psycho-educative intervention before the first chemotherapy infusion.

Acknowledgement of Funding: None.

P2-91

Utilization of a New, Self-guided, Internet-based Psychoeducational Intervention Aimed at Distress Reduction in Women Newly Diagnosed with Breast Cancer

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BACKGROUND/PURPOSE: Psychological distress affects millions of cancer survivors worldwide. Significant

distress migrates along a continuum toward worsening psychological and physical health. Approximately 30% of women with breast cancer experience significant psychological distress. To address the need for low-cost, accessible, early intervention to reduce psychological distress in these women, an innovative, self-guided, Internet-based psychoeducational program was developed and tested. **METHODS:** Randomized pilot study of women within 3 months of a first diagnosis of Stage 0–2 breast cancer. Intervention subjects were instructed to use the Internet-based program for 20–30 min, 2 times/week, for 3 months. Weekly system-generated emails and monthly scripted phone contact maintained intervention fidelity. Participants' program use was tracked by a custom data analysis system recording user activity on the site. **RESULTS:** Complete program-use data is available for 28 intervention subjects, mean age 54.4 years and average Distress Thermometer score of 5.4 ($SD=1.68$) at Baseline. Subjects engaged in the program between 11.1 and 697.9 total minutes ($M=297.6$ min); means=158.7 min (mo. 1), 52.9 min (mo. 2) and 64.2 (mo. 3) ($SD=78.3, 102.8, 45.2$, respectively). Over 3 months, participants averaged 80.1 min viewing educational modules, 53.9 min viewing survivor videos and 43.0 min exploring program resources. Minutes of use and history of family/friends with breast cancer correlated negatively ($r=-0.648, p=0.000$). **CONCLUSIONS:** Women newly diagnosed with breast cancer and experiencing distress will engage independently with a self-guided, Internet-based psychoeducational program aimed at distress reduction. Past experience with breast cancer among family/friends influences program engagement.

Research Implications: This study informs future research though identification of self-guided, psychoeducational program use patterns among women newly diagnosed with breast cancer and demonstration of the feasibility of a low-cost, easily accessible Internet-based program. Additionally, further research is planned to establish this program's efficacy in reducing distress and supporting psychological adjustment longitudinally in a larger sample.

Practice Implications: US cancer centers are now required for accreditation to assess psychological distress in their patients. This pilot study demonstrated that women newly diagnosed with breast cancer that experience distress will engaged independently with a psychoeducational program aimed at reducing their distress. Thus, this program has the potential to provide a low-cost, easily accessible, evidence-based intervention for implementation in clinical practice.

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P2-92

Exploring the Effect of Eating-related Side Effect on Distress, Anxiety/Depression, and Quality of Life

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BACKGROUND/PURPOSE: Nutrition plays an important role to help patients to deal with chemotherapy side effects. Intense research was conducted on the impact of nausea, fatigue and alopecia. It would be also important to study how eating problems can affect patient's life. This study investigated the extent to which eating-related side effect can predict distress, anxiety/depression and low QoL over chemotherapy treatment. **METHODS:** We analyzed longitudinal data from 642 cancer patients, undergoing chemotherapy at a Brazilian cancer center. Assessments were obtained at the first infusion (T1) and at two follow-ups: mid-point (T2) and last day of chemotherapy regimen (T3), using Distress Thermometer, HADS and FACT-G. Descriptive statistics were used to characterize the sample, logistic regression to identify predictions variables and RM-ANOVA to check the variance/covariance matrix of the data. **RESULTS:** Eating problems showed to favor high scores of distress (T1, T2, T3), and depression (T1, T3) and low scores of quality of life (T1, T2). A significant interaction was found between eating and high level of distress, anxiety and depression; and between eating and low quality of life. **CONCLUSIONS:** Eating-related problems can be considered an important side effect that can impact on distress and QoL. Develop a nutrition program in which cancer patients receive evidence-based and individualized recommendations from a nutrition expert, based on their type of cancer, stage of disease, planned treatment, nutrition and weigh history and lab values, can be an effective strategy to decrease this side effect. Future studies should be conducted to evaluate this strategy.

Research Implications: Further research is required to clarify how eating-related side effects can influence outcomes in patients undergoing cancer treatment, and also to identify how relevant is this symptom in the trajectory of the illness, affecting the patient's coping with this journey.

Practice Implications: The present findings suggest the importance of a nutritional program over the treatment, helping patients to deal with the chemotherapy side effects, the disease symptoms and the sequelae of treatment.

Acknowledgement of Funding: None.

P2-93

Mental Health Care in Oncology Settings in South-eastern Europe (SEE): Perspectives of Patients, Oncology Clinicians and Mental Health Practitioners

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BACKGROUND/PURPOSE: **BACKGROUND/INTRODUCTION:** In medium to high income countries, 33 to 50% of cancer patients routinely report significant distress. However, fewer than 10% are referred for mental health care. Our aim is to improve the quality of mental health services in oncology care in SEE (Albania, Bulgaria, Moldava, Romania and Serbia), low income countries. **METHODS:** In each study settings we interviewed 7 oncology clinicians and 2 mental health practitioners. Interviews were transcribed, coded, and analyzed using constant comparative methods. The distress thermometer, referrals for care and demographic characteristic were completed by 150 patients in each setting and were analyzed using standard statistical methods. **RESULTS:** Two settings had to refer patients for mental health care outside the oncology setting and in the others were overloaded. Outside referrals were difficult. Providing services is a concern in all, but more enthusiasm was found in Romania, perhaps, due to a recent IPOS workshop on this topic. Distress data were higher and referral data were lower than outside of SEE. **CONCLUSIONS:** While distress is similar to findings elsewhere, provision of services is even more rudimentary.

Research Implications: Worldwide and, in Europe, psychological services in oncology are deficient; only available for a few cancer patients. This study provides information the current status of mental health care for oncology patients.

Practice Implications: Barriers and suggestions for improving the mental health referral system for oncology care in south-eastern Europe are discussed.

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P2-94

A Preliminary Investigation of the Cancer Consultation Support Center Availability Improvement Program

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BACKGROUND/PURPOSE: The peer counseling is counseling performed as the same patient with similar environment at an equal situation. However, there are few patients using peer counseling. This study explored the strategy for improving the availability of the cancer consultation support center. **METHODS:** Participants of the research were a peer counselor belonging to the NPO cancer patients support organization in Japan. They are performing peer counseling in the cancer consultation support center of A or B hospital according to the consignment from Tokyo-to. This exploratory study used a qualitative design. We qualitatively and inductively analyzed the semi-structured interview data of six participants. **RESULTS:** Participants were all women and breast cancer survivor. Data were categorized to the three main themes in which the view of the peer counselor towards effective use of the cancer consultation support center is reflected: (1) enhancement of the counseling environment and services; (2) expansion of peer support activities for members of the medical team; (3) beliefs that are necessary for peer counseling. **CONCLUSIONS:** The result showed the directivity of the strategy for improving the availability of a cancer consultation support center. Therefore, it is required to establish the suitable intervention which supports the environmental improvement of peer counseling and counselor's growth.

Research Implications: Further research is needed with larger samples and the development of effective strategy.

Practice Implications: Our findings based the cancer consultation support center availability improvement program.

Acknowledgement of Funding: None.

P2-95

Effect of Depression on Adjuvant Chemotherapy-induced Nausea and Vomiting in Breast Cancer

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BACKGROUND/PURPOSE: Age, gender, alcohol consumption and motion sickness are well known patient

related risk factors for chemotherapy-induced nausea and vomiting (CINV). However, little is known about the effects of depression on CINV. **METHODS:** In this prospective observational study, we recruited early-stage breast cancer patients who recovered from surgery before receiving the first cycle of chemotherapy with anthracycline and cyclophosphamide. Candidate factors associated with CINV were assessed before chemotherapy: Pittsburgh Sleep Quality Index (PSQI), Insomnia Severity Index (ISI), Epworth Sleepiness Scale (ESS), Fatigue Severity Scale (FSS), Hospital Anxiety and Depression Scale (HADS), and Impact of Event Scale-Revised (IES-R). The CIN and CIV were defined as nausea ≥ 3 and vomiting ≥ 1 after chemotherapy on a 0 to 10 numeric rating scale (NRS), respectively. **RESULTS:** Between February 2012 and May 2014, data from 198 patients were collected. CIN occurred in 35.4% of patients and CIV in 31.3%. CIN was significantly associated with depression (OR, odds ratio [OR], 2.23; 95% CI, 1.21–4.12) and nausea (OR, 4.07; 95% CI, 1.54–4.12) before chemotherapy. CIV was significantly associated with fatigue (OR = 3.19, 95% CI, 1.65–6.14; $p = 0.001$) and nausea (OR = 3.18, 95% CI, 1.25–8.10; $p = 0.015$) before chemotherapy. **CONCLUSIONS:** With pretreatment nausea, depression appears to be a significant risk factor for CIN in breast cancer patients and fatigue for CIV. Depression should be assessed and considered a risk factor for CIN.

Research Implications: Because depression is much more prevalent in women than in men, the increased risk for CINV among women might have been due to depression. However, depression is not well analyzed in the study of psychological factors associated with CIN.

Practice Implications: Because a prior history of CIN is the strongest risk factor for CIN after the first cycle, clinicians should emphasize the treatment of depression prior to the start of chemotherapy.

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P2-96

Do Cancer Patients Understand What Is Said to Them?

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BACKGROUND/PURPOSE: Head and neck cancers (HNCs) are the eighth most common cancers in the world. Although the literature shows the importance of information provision in cancer care, the informational needs of HNC patients often remain unmet. The intention of this study was to

describe and compare the experiences of HNC patient receiving information at two academic hospitals under the same jurisdiction. **METHODS:** This qualitative study was a part of our larger mixed-methods research project that was conducted at two academic hospitals. We randomly selected 11 HNC patients from the larger study to participate in this qualitative part. Data were gathered by semi-structured interviews with the participants and by observing information provision at both hospitals. **RESULTS:** In one hospital, a multimedia based information disseminating tool was used to provide information to HNC patients and at the second hospital, the information was provided in ad hoc manner. We found that those patients who received information through multimedia based information disseminating tool had better understanding of their illness and treatment, a good information provision experience and appreciated the information they received. The patients at the second hospital who received information in ad hoc manner did not understand their illness and treatment well enough, and expressed dissatisfaction with the information they received. **CONCLUSIONS:** Our findings suggest that HNC patients prefer and appreciate multimedia based information provision.

Research Implications: Our findings need to be validated using better designs and larger samples.

Practice Implications: Patients have difficulty in understanding their illness and treatment. It is necessary to provide them with information that is understandable to them.

Acknowledgement of Funding: None.

P2-97

How Do I Keep My Job? Factors Associated with Maintaining Employment after Breast Cancer

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BACKGROUND/PURPOSE: Returning to work and maintaining employment are critical for quality of life among breast cancer patients. The aim of this study was to explore various factors associated with maintaining employment after breast cancer. **METHODS:** This study used subgroup of 422 non-metastatic breast cancer cohort study conducted from July 2010 to July 2011 and followed at 2 weeks 3, 6, 12, 24, and 36 months after surgery. After excluding patients who did not work at baseline and who did not report working status at each time point, total 123 were contacted at 3 years after surgery. To assess specific reasons for stop working, changing job, or maintaining working, telephone interview by a trained nurse was conducted. Descriptive statistics and thematic analysis were used to report outcomes. **RESULTS:** Among 123, 69.1% were contacted and all of them agree to have interview. Among them, 72.9% were working and 27.1% discontinued working at 3 years after surgery. Financial necessity

(44.1%) was prior reason for patients to return to work following by self-satisfaction (23.7%) and company request (22%). Meanwhile, self-satisfaction (33.9%) and support from family (33.9%) and colleagues (25.4%) were the reasons to maintain the work. Yet, working patients experienced problems related to lack of social support (19.3%), altered appearance (17.7%), difficulties of gathering with coworkers (17.7%), and cognitive dysfunction (11.3%). **CONCLUSIONS:** Support from family and society is necessary for patients who are willing to return to work and maintain it after cancer treatment in a systematic way.

Research Implications: Further studies are necessary with larger sample and patients with various occupations.

Practice Implications: It is necessary to inform family and coworkers as well as patients about realistic information how to help and support breast cancer patients.

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P2-98

Psychosocial Screening and Predictors of Mood Disturbance in Parents of children with Cancer

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BACKGROUND/PURPOSE: Governmental and professional organizations recommend routine screening for distress in oncology populations. The Psychosocial Assessment Tool 2.0 (PAT) is a well validated measure for screening families of newly diagnosed pediatric patients. This study explores the PAT as a predictor of parental mood disturbance, which may be related to child behavioral and emotional outcomes, and which can be targeted with specific parent interventions. **METHODS:** English-speaking parents of children 2–18 years with newly diagnosed cancer were recruited. Within 2 weeks of diagnosis, parents completed the Psychosocial Assessment Tool (PAT), and between 4 and 6 weeks post-diagnosis, they completed parent proxy reports of child Quality of Life (Peds-QL), and parent Profile of Mood States (POMS). Correlations between PAT subscales and parent POM were assessed, and the potential role of Peds-QL as a mediator between the PAT and POMS was tested using linear regression models. **RESULTS:** 99 parents completed measures (83% female, mean age 41 year). Children were 43% female, mean age=9 years (range 2–18). Oncology diagnoses were: Heme-malignancy (63%), Solid Tumor (30%), Brain Tumor (7%). Higher levels of parent mood disturbance at 4–6 weeks post-diagnosis were significantly correlated with elevated PAT subscale scores: Caregiver Stress Reactions, and pre-existing Caregiver, Patient and Sibling problems

($p < 0.01$). Peds-QL parent proxy reports were not shown to be a significant mediator of parent mood. **CONCLUSIONS:** Screening with the PAT at the time of pediatric cancer diagnosis identifies parents at greatest risk for mood disturbance, who may benefit from more intensive psychosocial intervention during early phases of treatment.

Research Implications: This study provides a unique validation of the Psychosocial Assessment Tool as a screening measure specifically for parental mood disturbance in pediatric cancer.

Practice Implications: This study provides clinicians with a valuable screening tool to identify parents who are at greatest risk for mood disturbance in the early phases of pediatric cancer treatment, and who might benefit from specific psychosocial intervention to improve family and child emotional outcomes.

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P2-99

The Psycho-oncology Model in Hospital Mexico, Costa Rica: A Unique Collaborative Work in Central America

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¹CCSS

BACKGROUND/PURPOSE: In Costa Rica the Hospital Mexico has been pioneer for implementing a Multidisciplinary Psycho-Oncology Model. The aim of this description is to show how this Model has been executed in our Institution. **METHODS:** Based on an extensive review of the Literature, and the expertise of two former psycho-oncologists, along with the Medical Oncology and the Palliative Care Services, a collaborative Psycho-Oncology group (POG) was created, to support cancer patients. **RESULTS:** The POG belongs administratively to Hemato-Oncology Department; four psycho-oncologists (PO) constitute the POG. They provide psychological support to cancer patients and caregivers during the treatment continuum regardless the treatment intention (palliative or curative). All the cases are discussed during multidisciplinary Tumor Boards, where always a PO is present, the patient is known before is booked at the Clinics, and the psychological and the oncological plan is predetermined, the patient is seen with a clear intend of treatment, this facilitates the management. Also during the Inpatient rounds, the PO participates with the Multidisciplinary group analyzing the patient necessities, if a psychological crisis intervention is needed this is provided immediately. The PO is part of the Cancer Care Units; also it is in charge of family therapy, crisis interventions, psychoprophylaxis, bereavement support groups, and Clinics. There is a constant feedback

with the Multidisciplinary Team. **CONCLUSIONS:** This is a unique psycho-oncology model in Costa Rica where the PO is working side by side with the clinicians in rounds, clinics, tumor boards, and so on.

Research Implications: With this Psycho-Oncology Model, where there is a constant interaction with patients, caregivers and clinicians, we can provide an unlimited source of information for future research. Furthermore this model can help us to understand better unmet needs of the Costa Rican Cancer Care System.

Practice Implications: The Costa Rican Psycho-Oncology Model can help psycho-oncologists, clinicians, social workers, and even more all the parts involved in cancer care for mapping needs and weaknesses in the treatment management in different stages and scenarios of the disease in a multidisciplinary context.

Acknowledgement of Funding: None.

P2-100

The Effectiveness of a Fatigue Management Program among Hong Kong Chinese Cancer Patients: A Pilot Study

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BACKGROUND/PURPOSE: Prevalence rates for cancer-related fatigue among patients undergoing chemotherapy and/or radiotherapy are approximately 80% (Henry *et al.*, 2008). Amongst Chinese patients receiving chemotherapy and radiotherapy, 36% and 53% respectively reported negative effects on their daily routines (Chan & Moliastosis, 2000). The aim of this study was to assess the effectiveness of a program developed to enable patients to manage their fatigue during cancer treatment. **METHODS:** Eleven patients receiving treatment were recruited from a cancer support centre. Participants enrolled in a 'Fatigue Management Program' consisting of a total of four sessions. Participants were invited to complete the Chinese version of the Brief Fatigue Inventory (BFI-C; Wang *et al.*, 2004) before and after the program. The inventory consists of three items measuring fatigue severity and a six fatigue-related interference items. Descriptive statistics and paired t-tests were used to analyze the results. **RESULTS:** Cancer treatments included hormonal therapy (36%), chemotherapy (27%), target therapy (18%) and a combination of therapies (36%). Cancer types included breast (82%), colorectal (9%) and lung (9%). A comparison of the findings from the pre-program and post-program inventories indicated a significant difference among three fatigue severity items: current ($M=1.81$, $SD=2.22$, $p < 0.05$), usual ($M=2.09$, $SD=2.07$, $p < 0.05$) and worst ($M=2.27$, $SD=2.10$, $p < 0.05$). All Six fatigue-related interference items were also significant difference ($p < 0.05$).

CONCLUSIONS: This study demonstrated significant decreases in fatigue severity among participants attending the program. The study suggests the need to further investigate interventions to manage fatigue among patients attending cancer care service models in the community.

Research Implications: Although this study is limited by a small, self-selected sample, it indicates that strategies can be help to reduce fatigue severity in patients during cancer treatment. Such findings support those of earlier research and suggest the need for a longitudinal study to assess the effectiveness of interventions to achieve optimal strategies to manage fatigue.

Practice Implications: The findings contribute to an understanding of strategies to effectively manage cancer-related fatigue (Mitchell *et al.*, 2014). With the high prevalence of fatigue and the affect on patients' quality of life, it is suggested that coping strategies should be made available to cancer patients to improve the quality of their life.

Acknowledgement of Funding: None.

P2-101

Effect of Communication Skills Training Program for Oncologists on Their Burnout and Psychiatric Disorder

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BACKGROUND/PURPOSE: A communication skills training (CST) program for oncologists has been developed and shown to be effective for both their communication performance during simulated consultation, their confidence in communicating with patients and patients' psychological distress. The aim of this study was to identify the effects of the CST program on oncologists' burnout and psychological distress. **METHODS:** Thirty oncologists were randomly assigned to either an intervention group (IG; 2-day CST workshop) or control group (CG). Participants were assessed regarding their burnout using the Maslach Burnout Inventory (MBI) and their psychological distress using the General Health Questionnaire 12-item version (GHQ-12) at baseline and 3 months after CST as a follow-up. The MBI consists of 22 items grouped into three factors: emotional exhaustion (EE, 9 items), depersonalization (DP, 5 items) and personal accomplishment (PA, 8 items). The GHQ-12 consists of 12 items. Time change in the baseline and follow-up surveys of the factors related to MBI and the GHQ-12 were analyzed using one-way analysis of variance (ANOVA) with controlled baseline data. **RESULTS:** At follow-up, the mean scores (\pm SD) of the EE, DP and PA factors of MBI and the GHQ-12 were 20 ± 14 , 4 ± 4 , 29 ± 9 , 2 ± 3 in IG and

19 ± 9 , 4 ± 4 , 27 ± 12 , 1 ± 2 in CG, respectively. The prevalence of them was 10–40%. There were not significant differences between groups by one-way ANOVA in the mean difference scores (\pm SD) of the factors of MBI (EE: $\Delta = 1 \pm 12$ in IG; $\Delta = 0 \pm 7$ in CG, DP: $\Delta = 1 \pm 2$ in IG; $\Delta = -2 \pm 4$ in CG, PA: $\Delta = 0 \pm 8$ in IG; $\Delta = -1 \pm 6$ in CG) and the GHQ-12 ($\Delta = 1 \pm 3$ in IG; $\Delta = 0 \pm 3$ in CG). At follow-up, low scores of EE, DP, and GHQ-12 were associated with older and low scores of them at baseline, and high score of PA was associated with higher confidence in communication skills, high score of it at baseline and female. **CONCLUSIONS:** A CST program for oncologists is not shown to be effective in decreasing the level of burnout and psychological distress at 3 months after CST.

Research Implications: Future study needs to explore the communication related factors associated with burnout and psychiatric disorder of oncologists.

Practice Implications: There is a need for showing that a CST is not effective in decreasing the level of burnout and psychological distress at 3 months after CST to oncologists who participate in CST.

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P2-102

Expectations and Nausea: The Use of Information and Classical Conditioning Processes To Reduce Nausea in the Clinic

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BACKGROUND/PURPOSE: Nausea is a complex, unpleasant and common reaction to many chemotherapy regimens. Expectations have been found to significantly affect the development of anticipatory and reactive nausea during chemotherapy, and appear to be influenced by both information and classical conditioning. The current study used a novel model of chemotherapy-induced nausea, namely Galvanic Vestibular stimulation (GVS), to test a) whether prior exposure to the treatment context reduces conditioned nausea and b) whether information, conditioning, or their combination can reduce nausea. **METHODS:** In the first study, healthy volunteers were randomised to receive conditioning with GVS and a subsequent test with and without pre-exposure to GVS. In the second study, another group or health volunteers were randomised to receive different combinations of information and conditioning concerning a placebo treatment to reduce nausea. Nausea was assessed over 3 days using symptom report, electrogastragram and behavioural impairment. **RESULTS:** The first study found that conditioned nausea developed to the GVS, and a suggestion that this

conditioning could be impaired through pre-exposure. The second study found that that accompanying a placebo treatment with both information conditioning lessened nausea on test, but that this was differentially effective across genders. **CONCLUSIONS:** These findings indicate that nausea can be reduced through expectancy-based intervention. The first study suggests that pre-exposing patients to the chemotherapy context may reduce conditioned nausea. The second study suggests a way that clinicians can utilise expectancies to reduce nausea without deceiving patients. A randomised clinical trial aimed at translating these findings to the clinical context is presented.

Research Implications: The current research validates a new method of examining the development of nausea in healthy individuals that is highly controlled, but with ecological validity, which may offer other researchers an avenue through which to explore other features of nausea and vomiting relevant to the psycho-oncology context. This research also suggests that gender is an important variable in placebo responding, which may have important implications for other research as well as the clinician-patient relationship. Finally, we discovered that as well as clinicians being able to reduce expectations using information, there is an important role for classical conditioning processes. This is the first study to show directly that the use of classical conditioning procedures can reduce the development of nausea.

Practice Implications: These findings can be applied directly to the psychosocial oncology context, as is described in the prospective randomised clinical trial design. The first study suggests that undertaking a patient's consultations and pre-chemotherapy testing in the context in which chemotherapy is to occur may reduce the development of conditioned nausea, which is particularly important in reducing anticipatory nausea. The findings from second study can be used to enhance the efficacy of complementary treatments or placebo agents in reducing the development of nausea during multiple infusions, without compromising patient autonomy. The findings suggest that endorsing the use of these agents, or introducing them in conjunction with a potent antiemetic can significantly reduce nausea during subsequent sessions.

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P2-103

Effect of the Native Spiritual Group Therapy on Depression in Women with Breast Cancer

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BACKGROUND/PURPOSE: Chronic disease such as cancer increases the patients' spiritual needs and may accelerate the patient problems. Therefore, spirituality has a significant role in adapting to cancer and coping with its consequent mental disorders such as depression. Since the root of spirituality lies in the culture, we made a method of spiritual therapy based on Iranian native culture and assessed its effect on depression in women with breast cancer. **METHODS:** This study compared the efficacy of the native spiritually focused group therapy (NSFGT) ($n=9$) for women diagnosed with breast cancer plus giving the educational brochure to a control group who received only educational brochure ($n=7$). Women who were diagnosed with breast cancer in a governmental hospital were randomly assigned to one of two groups. The experimental group was participated in 90 min weekly sessions for 8 weeks. The Beck Depression inventory was used as pretest and posttest. **RESULTS:** data analysis showed 51% of all participant had mild to severe depression and depression decreased significantly after NSFGT ($p < 0.05$). there was not significant correlation between depression and stage of cancer. **CONCLUSIONS:** Our spiritual care program could successfully decrease depression level in patients with cancer and more attention must be paid to satisfy spiritual needs in cancer patients based on their cultural needs

Research Implications: To decrease depression in cancer patients in order to cope better with this disease

Practice Implications: To satisfy spiritual needs of Iranian cancer patients based on their own cultures

Acknowledgement of Funding: None.

P2-104

The Role of Spirituality and Mindfulness in Promoting Hope and Optimism in Newly Diagnosed Asian Cancer Patients

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BACKGROUND/PURPOSE: Hope and optimism are protective factors against depression and anxiety—symptoms common in cancer patients; their importance is further emphasized by the growing interest in interventions steeped in positive psychology and mindfulness approaches, particularly in the West. In Asia however, the influence of interventional targets, such as spirituality and mindfulness, on psychological well-being, is unclear. Therefore, this study examined their impact on hope and optimism, and the sustained effects over time. **METHODS:** At baseline (T1),

221 newly diagnosed (≤ 5 months) outpatient cancer patients completed the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being (FACIT-Sp-12), short form of the Five Facet Mindfulness Questionnaire (FFMQ-SF), Adult Hope Scale (AHS), and the Revised Life Orientation Test (LOT-R; measuring optimism); with a repeat of the AHS and LOT-R at 3 months (T2). **RESULTS:** Regression analyses showed that while Spirituality-meaning (subscale of FACIT-Sp-12) and Mindfulness at T1 significantly predicted hope and optimism ($p < 0.000$) at T1, they did not significantly predict Hope ($p < 0.511$) and Optimism ($p < 0.891$) at T2. Though marginally significant, an interaction between Spirituality-meaning and Mindfulness predicted Optimism ($p = 0.100$) at T1. Having both higher Spirituality-meaning and Mindfulness scores conferred the highest levels of Hope. **CONCLUSIONS:** Spirituality, specifically in making sense of life events, together with mindfulness, promote hope and optimism, though the sustained effect over the illness course should be further investigated. Since hope and optimism are linked to lower levels of depressive and anxious symptoms, instilling a more positive outlook in patients would guard against psychological distress.

Research Implications: The effectiveness of interventions conducted in Asia should be further explored, particularly those that target spirituality and mindfulness, and the consequent impact on patient hope and optimism over time.

Practice Implications: These findings support the designing of interventions—suitable for use in Asia—that are not only intended to cultivate mindfulness, but also encourage patients to form interpretations of their illness coherent with their self-concept and worldview.

Acknowledgement of Funding: National University of Singapore Seed Grant.

P2-105

Systematic Genetic Testing of Women Recently Diagnosed with Epithelial Ovarian Cancer: A Mixed-method Investigation of Acceptability and Psychological Impact

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BACKGROUND/PURPOSE: Rapid genetic testing (RGT) for *BRCA1/2* is increasingly used to identify mutation carriers soon after ovarian cancer diagnosis and enables directed treatment and provision of appropriate

information for families. Little is known on the psychological impact of RGT in this patient group. **METHODS:** One hundred fifty-nine women participating in a feasibility trial of integrating RGT into routine oncology services (The GTEOC Study) were invited to complete a questionnaire upon receiving their *BRCA1/2* testing result. This included the Depression Anxiety and Stress Scale (DASS) and the Impact of Event Scale (IES) and 13 questions on RGT acceptability. Eighty-one completed questionnaire responses have been received (50.9% response). Twelve participants were interviewed on their experiences of RGT. **RESULTS:** IES and DASS scores in response to RGT specifically were significantly lower than equivalent scores in response to the psychological impact of cancer diagnosis ($p < 0.001$). Correlation tests revealed a negative association between age and IES ($p < 0.05$) but not DASS outcomes. Though descriptive analysis indicates high acceptability, interpretative phenomenological analysis of interview data highlighted the sensitivity of the timing of discussions about RGT. **CONCLUSIONS:** These results show RGT to be an acceptable but sensitive procedure: these women have much emotional work to do as they confront their diagnosis, mortality, and the impact on family members. Our data show that RGT does not increase distress or traumatic response significantly beyond that already experienced following cancer diagnosis. Older age was a protective factor against traumatic response, but not distress. Though RGT is welcomed, the burdens and complexities are acknowledged.

Research Implications: RGT for *BRCA1/2* is a relatively new clinical development which may have important implications for the clinical care of cancer patients. However, there may be ethical and practical concerns. Feasibility and pilot testing are essential prior to implementation for RGT, and robust research evaluation alongside this is imperative. Our work addresses some of the important questions, but a focus on the longer-term impact of testing, particularly in those identified to be a mutation carrier, is needed. These women have the difficult task of communicating this sensitive information to their families which could have profound consequences. Demographic and clinical mediators of psychological response—for example, age and attachment style with family members—should be investigated.

Practice Implications: Our broader work contributes to current discussions about the introduction of genetic testing in mainstream medicine, and this paper reports specifically on the patients-centered perspective. The results suggest the process and purpose to be acceptable to women newly diagnosed with epithelial ovarian cancer and demonstrate that RGT does not increase distress or traumatic symptoms beyond the existing psychological impact of cancer diagnosis. The GTEOC study is also investigating the practical feasibility of RGT; provided that data from these concurrent studies are favorable too, they

will have established the clear value and feasibility of RGT in the clinical oncology setting.

Acknowledgement of Funding: Target Ovarian Cancer.

P2-106

Ten Seconds to Understand Psychological Health of Breast Cancer Patients

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BACKGROUND/PURPOSE: Distress is ‘an unpleasant experience of an emotional, psychological, social, or spiritual nature’. And distress among cancer patients that interferes with their ability to cope with cancer treatment and beyond. The Distress Thermometer (DT) is the most widely used rapid screening tool for assessing psychological distress in people affected by cancer. This study aims to assess level and types of distress and its association with quality of life and psychological health during breast cancer treatment continuum. **METHODS:** 432 patients expecting surgery were recruited for a prospective cohort study from 2 cancer hospitals in Seoul, Korea from July 2010 through July 2011. The level of distress and problems were assessed using one page NCCN DT with problem list (PL) before surgery, 2 weeks, and 3, 6, and 12 months after surgery. Quality of life, depression and anxiety was assessed using EORTC-C30 and BR23 and HADS respectively. Association between distress and quality of life was assessed using multivariate linear regression and STATA 12 was used for all the analysis. **RESULTS:** Patients reported highest distress before surgery (5.3, $SD=2.7$) and almost everyone (95%) checked at least one problem. Patients commonly reported worry, fatigue, pain, and depression across treatment continuum. Patients had distress from altered-appearance (3.4, $SD=2.9$) and skin-change (1.5, $SD=2.1$) at 2 weeks and 3 months after surgery. Patients with lower distress (-2.871 , $SE=0.225$) had less problems checked (-2.131 , $SE=0.130$) reporting better quality of life. Lower distress was also associated with better social supports, and it was statistically significant. **CONCLUSIONS:** Distress level has a strong correlation with the overall number of problems and patients had different problems at each time point. One page DT helps to understand patients’ psychological health status and concerns that may affect patients’ distress level. Routine screening of DT would help health professional to find problems patients had and appropriate intervention and support is required after DT screening at regular clinic.

Research Implications: It is necessary to find the best way to apply and connect appropriate intervention to patients with high distress. It is necessary to optimize the

use of the distress screening tool when delivering the most appropriate supports for breast cancer patients during treatment.

Practice Implications: Routine screening of the distress screening tool will help health providers to assess the level of distress and the trends of distress for each breast cancer patients, and it can be used to interpret the patients’ psychological health status when needed. It is more practical to use distress screening tool with problem list to find out what may trigger distress and to apply appropriate intervention and supports for breast cancer patients.

Acknowledgement of Funding: None.

P2-107

Resources in Adolescent Cancer Treatment (REACT) Study: Positive and Negative Psychosocial Impact

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BACKGROUND/PURPOSE: Little is known about the negative and positive psychosocial impact of being diagnosed with cancer as an AYA. The AYA HOPE study wants to fill up this gap. Coherently, the objective of the current research was to identify the negative and positive impact of cancer on developmental aspects of adolescence. **METHODS:** REACT study was a longitudinal study on psychosocial impact of newly diagnosed adolescent of cancer (age 14–19 years). To date, 21 adolescents have been recruited at both t0 (within 6 months from diagnosis) and t1 (10–12 months later). Participants completed a modified version of the Life Impact checklist jointly with other measures of resilience. **RESULTS:** Respondents on average were aged 17 years and all patients were receiving treatment. The most prevalent areas impacted both at t0 and t1 were the relationship with family, friends, body image, daily pleasure, emotions, autonomy, health self-efficacy. The family relationship was positive both at t0 and t1, while friends, objectives, emotions, school, desires and daily pleasure only at t1. Body image, and daily pleasure were negative only at t0. **CONCLUSIONS:** React was the first Italian study on this topic. The results indicated that there were many different impacts on AYA patients both positive and negative and that they were different during the period of treatment.

Research Implications: These results were interesting to a comparison between Italy and USA about the psychosocial impacts of cancer on adolescents.

Practice Implications: The results highlighted that there will be future need for interventions tailored on the special issues the adolescent patients.

Acknowledgement of Funding: None.

P2-108

Comprehensive Systematic Review of Insomnia Treatments for People Being Treated for Curable Cancer

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BACKGROUND/PURPOSE: Insomnia is prevalent in cancer patients and may result from treatment side-effects or as a consequence of psychological distress. Varied treatment options have been reported, each aiming to reduce negative impacts on patient-reported outcomes, such as distress and quality of life. We systematically reviewed literature evaluating the effectiveness of behavioural and alternative therapies for the treatment of insomnia in this patient group. **METHODS:** Consistent with PRISMA guidelines we searched PsycINFO, PubMed, and Web of Science databases for literature published between 1980 and 2014. For inclusion, participants had to have been undergoing active treatment with curative intent (for any cancer type), and assess both sleep behaviour and a self-report psychological outcome. Following deduplication and independent double inclusion screening of 3386 database hits, 38 articles were retained for review. **RESULTS:** Articles meeting inclusion criteria reported the use of cognitive behavioural therapy (CBT-I), mindfulness, physical exercise, acupuncture, herbalism and massage therapy. Of these, the strongest evidence base was for CBT-I. Methodological quality was systematically assessed; findings were problematic in some of the studies reporting the effects of alternative therapeutic approaches. **CONCLUSIONS:** Previously performed systematic reviews of insomnia for cancer patients have focused on single treatments: our review differs by comprehensively including a range of insomnia treatments. The results indicate that insomnia remains prevalent in cancer patients and that CBT-I is a moderately effective intervention. An exploration of the efficacy of third-wave behavioural therapies is lacking, and may be beneficial. Robust methodologies would further advance this field, with attention paid to the accurate reporting of TAU.

Research Implications: The findings provide support for the importance of identifying and addressing insomnia and sleep problems in cancer patients. Through a comprehensive review, this work has produced an objective assessment of the efficacy of a wide range of existing treatments aimed at reducing insomnia in oncology

patients, and their effects on psychological outcomes. Though CBT-I is most effective, effect sizes are moderate at best. This review highlights the need to develop more clinically and cost effective interventions for insomnia; third-wave behavioural therapies show promise and should be explored.

Practice Implications: Insomnia is an often overlooked symptom in cancer patients. Even where it is identified, there is an inconsistent evidence based about how best to treat it. The findings of this review will enable clinicians make informed decisions on the best treatments available to oncology patients suffering from insomnia. By appropriately treating insomnia, both the physical and psychological burden of cancer treatment may be reduced, improving quality of life and other important patient-reported outcomes.

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P2-109

Posttraumatic Growth and Psychosocial Aspects: Among Breast Cancer Survivors

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BACKGROUND/PURPOSE: The potentially traumatic nature of breast cancer has received considerable attention over the last decade. Literature reviewed also addresses the study of posttraumatic growth may enable professionals to promote more positive psychosocial outcomes after the cancer experience. The posttraumatic growth (PTG) in breast cancer survivors is a result of the struggle with life threatening illness. The present study examined the growth over 2 years following breast cancer diagnosis and social context variables associated with growth. **METHODS:** 35 Women diagnosed with breast cancer (part of ongoing study), age range 28–81 years, mean time of diagnosis 11 years. To assess the effects of psychosocial variables and social support on posttraumatic growth (PTG) measured by the Posttraumatic Growth Inventory (PTGI) and multidimensional perceived social support (MPSSS). **RESULTS:** Total 35 women were accrued (mean age 51.77 ± 12.52), 18 married, 8 single and Widow and rest 3 were separated. The PTGI scores on interpersonal relationship, increased appreciation for life, feelings of increased personal strength, greater spirituality and positive changes in goals of life, were found to be associated with associated with younger age, marital status, education, long time since diagnosis and family and significant others social support. **CONCLUSIONS:** The younger

age, education, marital statuses and income are related to positive psychological changes in breast cancer patients. The Growth is associated with family support, significant others support and good adaptive coping strategies.

Research Implications: The PTG is positive psychological changes as a result of life threatening illness. The demographic and psychosocial variables associated with the positive changes can be identified and emphasized in future research.

Practice Implications: The PTG in breast cancer survivors will help in intervention to promote psychological and emotional well-being in the survivors. The PTG can be seen in caregivers also.

Acknowledgement of Funding: None.

P2-110

Screening for Psychological Problems and Nutrition States in People with Cancer over a 6-month Period

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BACKGROUND/PURPOSE: It is often to see nutrition and psychological problems in cancer patients while little is known about the interrelationships between those two symptoms. Several small sample surveys reported that there may be a potential relationship between them. It is often to see nutrition and psychological problems in cancer patients while little is known about the interrelationships between those two symptoms. Several small sample surveys reported that there may be a potential relationship between them. **METHODS:** We used the Distress Thermometer to examine the level of psychosocial distress in 466 cancer patients. The nutrition status was examined by the Patient-Generated Subjective Global Assessment and Nutritional Risk Screening 2002. Relationships among malnutrition, psychosocial distress and socio-demographic characteristics was determined by correlation analysis and chi-square tests. **RESULTS:** The study group included 209 men and 257 women [mean age: 50.6 ± 11.9 years (range: 13–81 years)]. One hundred eighty-four patients (39.5%) reported psychological distress (cutoff scores ≥ 4). The correlation between DT and PG-SGA scores was significant $r=0.148$ ($p < 0.001$) while it between DT and NRS2002 scores was significant $r=0.142$ ($p < 0.001$). The same result was demonstrated by a series of chi-square test results determined by the clinical cutoff values for distress and malnutrition. The same case occurred when we took both PG-SGA and NRS2002 into consideration. The strongest correlation appeared when parallel tests of nutrition were used ($p < 0.001$). The factors with effects

on DT scores of patients were old age ($p < 0.01$) and pain ($p < 0.01$). **CONCLUSIONS:** Malnutrition was strongly related to distress in cancer patients. Our results suggest that the need for further research into the complex relationship between nutrition status and distress and into the management of both nutrition and distress in cancer care.

Research Implications: Malnutrition was strongly related to distress in cancer patient. Giving the appropriate psychological intervention might be a factor to solve the nutrition problem in the future.

Practice Implications: Malnutrition was strongly related to distress in cancer patient. Giving the appropriate psychological intervention might be a factor to solve the nutrition problem in the future.

Acknowledgement of Funding: None.

P2-111

Evaluation of the Quality of Breast Cancer Patient Care in Early Post-operative Phase after Implementation of Memorial Symptoms Assessment Scale (MSAS) Questionnaire in Clinical Setting

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BACKGROUND/PURPOSE: Advanced breast cancer treatment can significantly improve the survival rate of patients. However, these treatments very often caused different levels of distress to patients. Early discharge practice is implementing in Kwong Wah Hospital. Discharge education on self-care to patients before discharge. Patients would then come back to Breast Centre weekly for postop rehabilitation program. **Objective:** To evaluate the effectiveness of early rehabilitation program for post-operative breast cancer patients. **Aim:** To explore the physical, psychological concerns experienced by breast cancer patients after surgery by using the MSAS questionnaire. **METHODS:** Target sample: (1.) Early postop breast cancer patients. (2.) Chinese speaking (Cantonese). (3.) Mentally sound. (4.) Patients assessed once a week for 3 weeks over 1 month with self-completed MSAS questionnaire. (5.) Breast care nurse (BCN) used the MSAS to make enquiry onto patients. (6.) For items score > 3 , BCN would provide corresponding intervention immediately to address problems and prevent future development of complications. (7.) The data were analyzed by SPSS. **RESULTS:** Over 6 months, > 100 patients were assessed. Results indicated the distress level progressively decreased along the evaluations: T1 (post-op first week), T2 (post-op second week) and T3 (post-op 1 month) with timely and effective problem solving. **CONCLUSIONS:**

Results suggested that MSAS helped to identify patients' immediate problems and timely nursing intervention could effectively reduce patients' distress. Result also supported the breast cancer patient rehabilitation program could provide tailored treatment and supplemented a better recovery journey of breast cancer patients.

Research Implications: The MSAS questionnaire is a useful tool for distress screening.

Practice Implications: The MSAS questionnaire helps the healthcare providers to screen the potential distress patients earlier and provide early intervention to prevent psychological complications.

Acknowledgement of Funding: None.

P2-112

The Effects of MBSR (BC) on Sexual Distress and Body Image Disturbance in Breast Cancer Survivors

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BACKGROUND/PURPOSE: Sexual distress and body image disturbance are common problems after treatment among younger breast cancer survivors for which there are few identified interventions. The purpose of this study was to evaluate the efficacy of the MBSR(BC) program in improving the psychological symptoms of sexual distress and body image disturbance in post-treatment breast cancer survivors (BCS). **METHODS:** As part of a larger R01, a sub study of 91 BCS were randomly assigned to either a: (1) 6-week MBSR(BC) program ($n=50$); or (2) Usual Care (UC) ($n=41$). Demographic, clinical history and data on measures of sexual distress and body image disturbance were collected at baseline, 6 and 12 weeks to determine the impact of the MBSR(BC) program on sexual distress and body image. **RESULTS:** The mean age was 57 years and 74% were White, non-Hispanic. Linear Mixed Model (LMM) analyses implemented to assess sexual distress found a significant main effect (ME) of time $F(2, 85.96)=9.53$, $p < 0.000$ and a trend towards significance for the time by assignment interaction $F(1, 85.96)=2.33$, $p=0.104$. The LMM analyses for body image disturbance resulted in a significant ME of time $F(2, 85.67)=15.55$, $p < 0.000$ and an interaction that approached significance, $F(2, 85.67)=2.73$, $p=0.071$. **CONCLUSIONS:** Although the MBSR(BC) program was not tailored for integrating sexuality, results showed that the MBSR(BC) group benefited from this stress reducing program indicating that these symptoms improved over time, with a trend towards

significance for the interaction of time and randomization assignment for both variables.

Research Implications: This was a sub-study within a larger trial, and further research is indicated to examine a larger sample and also to consider development of stress reducing interventions targeting the distress associated with sexuality due to treatment effects among breast cancer survivors.

Practice Implications: This study showed that there is a need for stress reducing interventions addressing problems related to sexuality and the distress associated with being a BCS. In addition it identified that clinically, BCS should be assessed for sexual distress and body image disturbance post-treatment, and this should be incorporated into their plan of care.

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P2-113

Pilot Study: The Development of a New Psychosocial and Memory Screening Tool for Use with the Paediatric and Teenage and Young Adult (TYA) Oncology Population

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BACKGROUND/PURPOSE: Up to 40% of childhood cancer survivors may experience psychosocial and/or cognitive 'late effects' (Krull *et al.*, 2008). This study aimed to develop and pilot a brief psychosocial and memory screening tool (distress thermometer) for use within the paediatric and teenage and young adult (TYA) oncology setting, to be used as a repeated measure, throughout the disease trajectory. **METHODS:** The National Comprehensive Cancer Network Distress Thermometer (NCCN, 2009) was adapted into five age-appropriate versions (under 5, 5–7, 8–12, 13–17 and 18+) with parent proxies. A cross-sectional questionnaire-based postal design was used to assess the usability of the psychosocial and memory screening tool. A random sample of patients and parents ($n=45$) attending outpatient clinics were invited to complete the screening tool in addition to an acceptability questionnaire. **RESULTS:** Descriptive analyses revealed that 94% of parents and 86% of patients found the developmentally appropriate psychosocial screening tools easy to complete. Eighty-four percent of parents and 93% of patients felt the tools accurately captured problems they may have experienced. However, 8% of parents and patients felt improvement could be made in design and content, suggesting

alterations for the visually impaired, the removal of time constraints and more open questions, the tool was then adapted in line with these suggestions. **CONCLUSIONS:** A psychosocial and memory screening tool was developed with five age-appropriate versions to be used throughout the treatment trajectory. Feedback from parents and patients informed appropriate amendments to the tool, which was found to be usable, effective and accurately identified problems. The tool will now be validated against appropriate gold standard measures.

Research Implications: The pilot and the subsequent validation will produce a usable screening tool, covering both psychosocial and neuro-cognitive problems, and with the addition of positive coping items will provide a reliable and valid tool for use in clinical research and budget planning.

Practice Implications: The pilot of the new distress thermometer for the paediatric and TYA oncology population will ensure once the validation has been completed, the creation of a new user friendly repeated measure of psychosocial and cognitive problems, which will meet the standards as set down by the National Institute of Clinical Excellence as a holistic needs assessment. The tool can then be used to identify those who want and need further help or support, and also to act as an enabler of conversation in clinical use.

Acknowledgement of Funding: National Cancer Survivorship Initiative (NCSI UK) and Royal Marsden Children's Department Steering Cancer Fund.

P2-114

Developing and Pilot Testing a Web-based Genetic Testing Decision Aid for Young Women Diagnosed with Early-stage Breast Cancer: A Protocol

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BACKGROUND/PURPOSE: Younger women diagnosed with breast cancer are more likely to have inherited a mutation in a breast cancer susceptibility gene. Despite modern treatment, younger women are more likely to die from breast cancer than older women. Treatment directed genetic testing at the time of diagnosis is not standard practice but is becoming more common in the UK. Genetic

testing has far reaching implications for women identified as gene carriers, such as deciding whether or not to have risk-reducing bilateral mastectomy. However, information about genetic testing aimed specifically at these women is often unavailable outside of specialist regional genetics services. Information to support treatment decisions has been identified as a priority for research in familial breast cancer. **METHODS:** Informed by the MRC guidance for developing and evaluating complex interventions we will conduct a meta-synthesis of empirical literature to systematically collate information about genetic testing at the time of diagnosis. In-depth semi-structured interviews with 30 young women with early-stage breast cancer and an online survey of health professionals will help inform the content of the decision aid. A prototype will be developed in collaboration with patients, health professionals and academics. Focus groups and think aloud interviews with patients will further refine the tool. **RESULTS:** A decision aid to support decision making about genetic testing at breast cancer diagnosis will be developed **CONCLUSIONS:** Development of a Web-based decision aid will provide women with the additional support they require when making a choice about whether or not to have genetic testing at the time of diagnosis.

Research Implications: This study will synthesise the literature regarding decision-making tools for young women considering genetic testing as the point of breast cancer diagnosis. It will also provide novel data on clinicians' attitudes towards such testing, as well as the informational needs of women

Practice Implications: It is hoped that the new decision aid will enhance understanding, reduce uncertainty and support joint decision making by outlining the risks and benefits of genetic testing that are not yet available for this group.

Acknowledgement of Funding: This study is funded by Breast Cancer Campaign.

P2-115

Associations with Surveillance Behaviors in Melanoma Survivors: Does Communication Matter?

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BACKGROUND/PURPOSE: Melanoma survivors and first-degree relatives (FDR) are advised to perform regular sun-protective behaviors and skin self-examinations (SSE). Several factors, including perceived risk of recurrence and self-efficacy, have been associated with these

practices. Although previously unexplored, survivor-family communication about melanoma may also promote such behaviors. This study examined associations between communication and sun-protective behaviors and SSE in melanoma survivors. **METHODS:** Melanoma survivors ($N=170$) drawn from a population-based, state cancer registry completed a brief survey regarding their current melanoma prevention behaviors, perceived risk of recurrence, and communication with doctors and FDR about familial melanoma risk and screening. Survivors were, on average, 56 years old; 51% were male, 93% reported their skin color as 'fair', 75% completed at least some college, and 22% reported a family history of melanoma. **RESULTS:** Survivors reported varying levels of regular sun-protective behaviors: wearing sunscreen (79%), shade-seeking (61%), wearing hats (54%), and wearing long-sleeve shirts (30%). Only 28% performed thorough SSE regularly. Survivors who were female, ≤ 60 years, and had a higher perceived risk of recurrence were more likely to endorse melanoma communication (p 's < 0.05). Communication with FDR was associated with increased sunscreen use and more frequent SSE (p 's < 0.01). In adjusted analyses, communication with FDR was only related to sunscreen and long-sleeve shirt use ($p < 0.05$). **CONCLUSIONS:** Melanoma survivors report good, but not optimal, sun-protection practices and SSE. Family communication appears to play a role in the performance of key prevention behaviors in survivorship. Encouraging family communication may be a useful strategy in melanoma prevention interventions.

Research Implications: The area of risk communication and prevention in melanoma survivorship as it relates to surveillance behaviors is understudied. To date, this is the first study to examine the unique associations between melanoma risk communication and sun protective behaviors and screening. The present findings warrant further investigation to tease apart the directionality of the relationships found, and identify potential mediators that may be driving these relationships. As a modifiable behavior, family communication may be one important target for prevention interventions.

Practice Implications: Communication within melanoma-affected families about melanoma risk and screening may promote compliance with surveillance behaviors in survivors and relatives alike, possibly preventing or facilitating early detection of new and recurrent malignancies. As such, interventions with survivors that aim to increase surveillance behaviors may want to target melanoma-specific communication within the family system.

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Prostate Cancer Patients with Stronger Spiritual Beliefs Have Greater Confidence in Their Prognosis

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BACKGROUND/PURPOSE: Spiritual beliefs may help cancer patients appraise their diagnosis in less threatening ways and feel supported by a higher power. As such, spiritual beliefs may function as a coping resource, including coping with prognosis uncertainty. We investigated whether prostate cancer patients' spiritual beliefs are associated with confidence in their prognosis at the time of their treatment decision and 6 months after treatment. **METHODS:** Participants were 963 PCa patients (83% White, 10% Black, 7% Hispanic; mean age=63.0 ($SD=7.8$)), who completed a measure of spiritual beliefs (FACIT-Sp) shortly after diagnosis and of confidence in cancer control after they made their decision and again 6 months after treatment. Covariates included education, race/ethnicity, marital status, age, Gleason score, and recruitment site, and baseline confidence in cancer control when modeling post-treatment confidence in cancer control. **RESULTS:** Stronger spiritual beliefs was associated with greater confidence in cancer control at the time of the treatment decision ($b=0.45$, $p < 0.001$) controlling for optimism and resilience, which were also associated with greater confidence in cancer control ($b=0.77$, $p < 0.001$ and $b=3.22$, $p=0.008$, respectively). Stronger spiritual beliefs also independently predicted confidence in cancer control 6 months post-treatment ($b=0.26$, $p=0.006$). Resilience and optimism did not. **CONCLUSIONS:** The literature has been mixed on whether spiritual beliefs help patients cope with a cancer diagnosis. Findings provide evidence that beliefs measured with the FACIT-Sp (beliefs about peace and meaning and faith during illness) can be adaptive for prostate cancer patients, given that greater confidence in one's prognosis can reduce anxiety and stress during survivorship.

Research Implications: Future research should investigate potential mechanisms whereby spirituality works to increase confidence in cancer prognosis, thereby reducing anxiety posttreatment decision.

Practice Implications: Supportive care should include discussion of spiritual beliefs during this acute period of decision making and adjustment posttreatment in prostate cancer care.

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Designing a Web-based Decision Aid: Information Requirements of Young Women Diagnosed with Early-stage Breast Cancer

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BACKGROUND/PURPOSE: Young women who are offered a surgical choice between mastectomy (MRM) and breast-conserving surgery (BCS) for the treatment of early-stage breast cancer face a decision which they may not feel prepared to make. Evidence suggests that treatment associated concerns of younger women differ to those of older women resulting in specific information needs. We report the findings of a qualitative study to determine what types of information young women require at the moment of making a surgical choice. These findings will inform the development of a surgical decision aid to help young women better understand different treatment options and outcomes. **METHODS:** Thirty-two patients who had a diagnosis of breast cancer ≤ 40 years old were recruited from three UK hospitals. Information required by women during the time of treatment decision making was identified in twenty in-depth, semi-structured interviews and further explored in two focus groups. **RESULTS:** Thirty-two women participated in the study. Thirty-seven percent of the women had BCS and 63% MRM, 75% with reconstruction. Information that young women identified as important to support treatment decision making were implications of the different types of breast cancer tumours, cosmetic outcomes of surgery, reconstruction and all aspects related to consequences of clinical and hormonal treatments. Areas identified where information is inadequate included timing and option for reconstructive surgery, effects of treatment on fertility and genetic predisposition. **CONCLUSIONS:** Information resources tailored for young women which considers age-related information to support surgical treatment decisions for breast cancer are required and would be supportive to this group.

Research Implications: This research suggests that young women have specific information needs, not met by currently available resources. Evidence-based tools to support such decision making must be developed and tested.

Practice Implications: Providing such a Web-based decision tool will help young women make difficult choices regarding surgical treatment. Such a resource could be used in the clinical setting to supplement information provided by the clinical team. It is hoped this will enable women to fill adequately informed and thus reduce decisional conflict

Acknowledgement of Funding: This study was supported by the National Institute of Health Research, Research for Patient Benefit (RfPB) Programme. We would also like to thank the women who took part in the study and Breast Cancer Campaign for supporting recruitment.

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Shoulder-to-Shoulder Support: Using Walking Interviews To Understand the Significance of a Peer-led Walking Group Intervention for Breast Cancer Survivors

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BACKGROUND/PURPOSE: Promoting physical activity can aid recovery and rehabilitation after cancer diagnosis. Peer-led walking groups have been established to encourage physical activity and enhance social support among cancer survivors. This paper reports findings from walking interviews conducted outdoors and on the move that examined the experiences of women with breast cancer and volunteer walk leaders participating in a peer-led walking group intervention (Best Foot Forward) in four sites in the North of England. **METHODS:** Walking interviews were conducted with four Walk Leaders, and fifteen women with breast cancer between April and July 2014. Interviews were loosely structured to encourage participants to consider significant conversations, emotions and places experienced during walks. Interviews were audio-recorded and transcribed verbatim. Thematic analysis was conducted and data integrated across sites. **RESULTS:** Three themes emerged. First, the combination of walking and talking enabled conversations to move freely between topics and individuals during a walk, encouraging both everyday and deep cancer-related conversation. Second, physical activity released emotional energy and heightened physical awareness of treatment side-effects facilitating support around shared cancer experience. Third, walking outdoors in nature provided a sense of freedom and a renewed sense of perspective that enabled participants to take stock and move on after cancer. **CONCLUSIONS:** Peer-led walking groups provided restorative and therapeutic benefit to breast cancer survivors. Specifically, walking interviews revealed a form of 'shoulder-to-shoulder support' made possible through walking that was considered distinct from sedentary 'face-to-face support' routinely experienced following cancer diagnosis.

Research Implications: Peer-led walking groups have the potential to assist recovery from breast cancer. The walking interview methodology can provide researchers with a richer understanding of the cancer experience.

Practice Implications: Healthcare professionals should be made aware of the therapeutic benefits of peer-led walking groups for breast cancer survivors and should act as advocates to signpost patients to similar services.

Acknowledgement of Funding: This research study was a collaboration between UK Charity Breast Cancer Care and the University of Stirling. The study was funded by the Health and Social Care Volunteering Fund, England.

P2-119

Organizational Buy-in in Distress Screening

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BACKGROUND/PURPOSE: The cancer community has made great progress in Distress Screening to better address psychosocial needs of patients. Implementation can be a challenge. When our ambulatory cancer center surveyed patients for distress the completion rate varied, dropping at one point to 19%. Our evaluation suggested that buy in was a barrier with significant impact on patient compliance. Preventing patients from the opportunity to receive support can lead to poor outcomes in coping, overall function, and compliance. The purpose of this research is to give oncology staff the opportunity to express their thoughts and understanding about distress screening. Subsequent clarification and guidance will allow them to be better equipped to provide optimal care to cancer patients by addressing both physical and emotional needs. **METHODS:** A survey was administered by email to 196 staff members from various disciplines involved in Distress Screening at our ambulatory cancer center. The survey was prefaced by a written explanation that the anonymous results could help us provide clarification of the significance of Distress Screening and guidance in implementation. **RESULTS:** According to the findings, of the 118 who completed the survey, a large percentage reported importance of distress screening in patient care. Only 18% reported significant impact on patient outcomes. Fifty-one percent reported rarely or never reviewing patients' responses with them. Thirty-five percent feel that the distress screening process interferes with job responsibilities. Fifty percent reported a need for improvement of the Distress Screening Protocol. **CONCLUSIONS:** Expressing thoughts and understanding about distress screening and accepting guidance will lead to improved buy in and subsequent implementation.

Research Implications: Additional research following clarification of distress screening and guidance in implementation may ensure a better response rate.

Practice Implications: Improved buy in and compliance with implementing the Distress Screening protocol will impact the rate of patients completing the tool, ultimately allowing the team to address patients' psychosocial needs.

Acknowledgement of Funding: None.

P2-120

To Construct the Models of Screen and Intervention for Psychological Distress among Cancer Patients

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BACKGROUND/PURPOSE: To screen emotional distress as the sixth vital sign has been the national policies of cancer care in Taiwan. However, how to provide intervention for cancer patient with emotional distress is still unclear. The goals of study were to construct the models of screen and intervention for psychological distress among cancer care. **METHODS:** After the approval of the Institutional Review Board, we invited cancer inpatients to receive screen of emotional distress in Mackay Memorial Hospital. Under the guidance of research assistants, all participants completed all questionnaires, including Distress Thermometer (DT), Patient Health Questionnaire (PHQ-9), and Demoralization Scale (DS). If $DT \geq 5$, the patients will be transferred to mental health professors for brief intervention. We evaluated the outcome 3 months later. Data were analyzed with SPSS statistical software 18.0. **RESULTS:** There were 470 patients enrolled, and 174 patients (37%) with emotional distress were invited for brief psychological intervention. Finally, 54 cancer patients received brief psychological intervention. The outcome of depression was improved which the pre-test of PHQ-9 was 8.00 ± 3.797 and the post-test was 5.43 ± 4.137 ($p < 0.0001$). The outcome of demoralization was also improved which the pre-test of DS was 43.65 ± 9.904 and the post-test was 34.02 ± 12.674 ($p < 0.0001$). **CONCLUSIONS:** Emotional distress screen and brief psychological intervention was necessary in clinical cancer care. Even we only provided brief psychological intervention, the severity of depression and demoralization would be decreased. The more structured psychological intervention should be considered.

Research Implications: From the study, we can check the necessary of psychological intervention and the efficiencies.

Practice Implications: Clinically, we can construct a practical clinical pathway for psychosocial service in cancer care.

Acknowledgement of Funding: Mackay Memorial Hospital.

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Transitioning Men with Prostate Cancer, after Treatment, to Remote Monitoring and Follow-up: Development and Preliminary Evaluation of a Supported Self-management Workshop

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BACKGROUND/PURPOSE: Prostate cancer services face significant challenges in providing effective follow-up care after initial treatment. Evidence indicates high levels of unmet need in this population. Traditional follow-up care encourages men to delay symptom-reporting until their next specialist review. We aimed to develop and pilot a 4-h workshop to transition men onto a supported self-management pathway. **METHODS:** Based on principles of andragogy, Bandura's social learning theory and Adair's model, the workshop's purpose was to provide information, develop skills and confidence to monitor symptoms, check for recurrence, promote healthy lifestyles and set personal goals. Development was through intervention mapping with user representatives, psychologists, public health consultant and clinical teams. Thirteen group-based workshops were piloted in 2 hospitals. Thirty-five men from 4 workshops completed an acceptability questionnaire. Interviews were conducted with 10 men purposively sampled to represent different ages, types of treatment and computer use; and 4 staff. **RESULTS:** Men rated 7 different aspects of the workshop (e.g. content, relevance) on 4-point scales. Average scores exceeded 4 suggesting very high levels of acceptability. The interview data revealed clear benefits for the men: validation of their experiences in the group and increased confidence to self-manage. Recommendations were made, at each stage, about improving the workshop. **CONCLUSIONS:** The workshop was highly acceptable to men and their clinical teams. A prospective cohort study is underway to evaluate the pathway's impact on unmet need, emotional distress and quality of life.

Research Implications: This study demonstrates that a brief workshop to introduce men with prostate cancer to the concept of self-management and remote follow-up care is acceptable to this population and the hospital staff delivering care. A comprehensive evaluation using a prospective cohort study design is now needed to establish whether this care pathway improves health outcomes and reduces the cost of providing follow-up care to this population

Practice Implications: This project is re-designing follow-up care for this group of patients to involve them as active participants in their own care permitting clinical teams to spend more time with men at the point of diagnosis, who are undergoing treatment or who have advanced disease. Further research that is underway will determine the effectiveness of this care pathway in terms of health outcomes and cost.

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Sociodemographic, Health-related and Psychosocial Differences between Cancer Survivors with Employers and Cancer Survivors with Job Loss

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BACKGROUND/PURPOSE: In cancer survivors, being able to work is associated with their quality of life. Therefore, job loss may considerably affect cancer survivors' well-being. The negative effects of job loss have been described in healthy populations, but not with regard to cancer survivors. The purpose of this study was to explore sociodemographic, health-related and psychosocial differences between cancer survivors with employers and cancer survivors with job loss. **METHODS:** Baseline data from a cohort study of Dutch cancer survivors, on sick leave for 2 years, were used. Sociodemographic, health-related and psychosocial variables, e.g., on work status, quality of life, depression and financial concerns, were gathered by means of a questionnaire. Multiple linear regression analysis (cutoff point of $p < 0.05$) was applied. **RESULTS:** 484 cancer survivors were included in the analyses ($N=392$ with employer; $N=92$ with job loss). Overall, the mean age was 50.9 years; 66.5% was female; 59.3% was working; 43.8% were breast cancer patients. Compared to employed survivors, cancer survivors with job loss were less likely to be working (odds ratio (OR)=0.163; p -value < 0.001), less likely to have a pro-active coping style (OR=0.935; $p=0.042$), more likely to score higher on the work ability index (OR 1.158; $p=0.026$) and more likely to experience financial difficulties (ORs of 2.552 to 3.420; p -values of 0.002 to 0.008). **CONCLUSIONS:** Rather than health-related, work-related characteristics were significantly different between cancer survivors with employers and cancer survivors with job loss.

Research Implications: Cancer survivors with job loss differ significantly from cancer survivors with employers, especially regarding work-related characteristics. Therefore, research that aims to improve work-related outcomes, such as return to work, in cancer survivors, should take cancer survivors' employment status into account when developing interventions.

Practice Implications: Cancer survivors with job loss differ significantly from cancer survivors with employers, especially regarding work-related characteristics. Therefore, practice that aims to improve work-related outcomes, such as return to work, in cancer survivors, should take cancer survivors' employment status into account when offering support.

Acknowledgement of Funding: This study was funded by the Dutch Research Center for Insurance Medicine.

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A Tailored Work-related support intervention for Gastro-intestinal Cancer Patients: Intervention Protocol

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BACKGROUND/PURPOSE: Almost half of the people diagnosed with cancer are of working age. Sustaining at or returning to work is important for cancer patients but many experience work-related problems. The objective is to develop a tailored intervention for work-related problems to support gastro-intestinal (GI) cancer patients. **METHODS:** The intervention was developed based on a literature review and a qualitative study. Patients diagnosed with primary GI cancer diagnosis, curative treatment and within working age are included. The intervention is aimed at GI patients with work-related problems of different severity. **RESULTS:** A literature review and 12 semi-structured interviews with GI cancer patients, oncological nurses, GI specialists and oncological occupational physicians resulted in a tailored intervention, which comprises two to three meetings lasting 20–30 min. Patient will be referred, based on a baseline questionnaire, to one of three types of support which differentiate between the severity of work-related problems. In support A care is provided by an oncological nurse, support B by an independent oncological occupational physician and support C by a multi-disciplinary team. Support encompasses: vocational counseling, patient education on physical complications and effect on work, and on legal issues. The (cost)-effectiveness of the intervention will be determined in a multicentre Randomised Controlled Trial. Outcomes are assessed at baseline and 3, 6,

9, and 12 months' follow-up. **CONCLUSIONS:** A tailored intervention was developed in an in-hospital setting.

Research Implications: This study concerns about the psychological health of cancer patients, for which sustaining at or returning to work is important. Earlier research shows that early support is needed, but that no interventions exist for supporting patients with GI cancer and work-related problems in an early process of diagnosis and treatment. The (cost)-effectiveness of the interventions will be determined in a multicentre Randomised Controlled Trial.

Practice Implications: This study will contribute as a foundation for optimising future tailored work-related interventions in cancer care. The intention is to implement the intervention if it has been shown effective.

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Coordinating Cancer Care for Patients and Families: Intervention Approaches

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BACKGROUND/PURPOSE: According to a landmark study by the Institute of Medicine, patients with cancer often receive poorly coordinated care in multiple settings from many providers. Lack of coordination is associated with poor symptom control, medical errors, and higher costs. The aims of this systematic review and meta-analysis were to: (1) synthesize the findings of studies addressing cancer care coordination; (2) describe study outcomes across the cancer continuum from risk assessment to end-of-life care; and (3) obtain a quantitative estimate of the effect of interventions in cancer care coordination on service system processes and patient health outcomes. **METHODS:** Of 1241 abstracts identified through MEDLINE, EMBASE, CINAHL, and the Cochrane Library, 52 studies met the inclusion criteria. Each study had US or Canadian participants, comparison or control groups, measures, times, samples, and/or interventions. Two researchers independently applied a standardized search strategy, coding scheme, and online coding program to each study. Eleven studies met the additional criteria for the meta-analysis; a random effects estimation model was used for data analysis. **RESULTS:** Cancer care coordination approaches led to improvements in 81% of outcomes, including screening, measures of patient experience with care, and quality of end-of-life care. Across the continuum of cancer care, patient

navigation was the most frequent care coordination intervention, followed by home telehealth; nurse case management was third in frequency. The meta-analysis of a subset of the reviewed studies showed that cancer care coordination interventions were almost twice as efficacious (OR = 1.9, 95% CI = 1.5–3.5) as comparator interventions in promoting appropriate healthcare utilization across the cancer continuum. **CONCLUSIONS:** This review offers promising findings on the impact of cancer care coordination on increasing value and reducing costs in healthcare in the USA.

Research Implications: The systematic review and meta-analysis presents rigorous comparisons of methods, measures, intervention approaches, and both qualitative and quantitative outcomes that could found future research.

Practice Implications: This comprehensive and unique review identifies and systematically compares intervention approaches for coordinated care among cancer survivors across several health outcomes.

Acknowledgement of Funding: None Please Note: We followed all PRISMA guidelines, although the exact page numbers will be noted alongside the original paper to be presented at the Conference (if accepted). Please note that an earlier version of this paper—excluding the systematic comparisons of cancer care coordination interventions—is under review. Please Note: Dr. Sheinfeld Gorin's attached NIH biosketch is somewhat out-of-date, but is available for rapid submission. A current NIH biosketch will be provided upon acceptance. (The conference organizers may also see some of Dr. Sheinfeld Gorin's background and current work on her LinkedIn page.)

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What Do Patients Expect of Their Physicians?

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BACKGROUND/PURPOSE: There was an increasing interest on doctor-patient communication and its positive impact on patients' satisfaction, treatment adherence, and well-being. The concept of patient-centered care emphasizes the importance of giving voice to patients' needs and expectancies in order to establish a confident relationship. This research aims to define the ingredients of effective doctor-patient communication in a sample of patients with severe cancer. **METHODS:** 15 volunteer patients (mean age = 54.25 years, *SD* = 15.25, 62.5% female) were questioned with semi-structured interviews. Their answers were transcribed and analyzed according to the method of Content Analysis (ACT) via the Iramuteq® software. This

analysis allows identifying the subjective experiences of patients and their representations of physicians' clinical skills in cancer care. **RESULTS:** First, patients expressed clearly and easily which communicative behavior they expected from their physician. Second, patients seemed to expect basic and interpersonal abilities. To recognize patients' individuality and to build a relationship as a partnership were reported to be important elements in evaluating a consultation as effective and satisfying. Finally, patients seemed to privilege concrete behaviors, such as pedagogical attitude, or providing issues focused on problems. These behaviors could be viewed as an indirect source of support by the patients. **CONCLUSIONS:** The different expectations so far collected suggested how a physician, according to the patients, can pursue a specific communicative function. This research has important clinical implications to improve care and support of patients treated for severe cancer.

Research Implications: From an empirical view, the detailed description of clinical skills expected by patients will be completed by the point of view of physicians treating patient for cancer. The data will allow us to obtain a clear description of clinical empathy, behaviors, skills and related processes, as well as its determinants. These will help to develop a specific observation checklist or a self-adapted to the context level to evaluate doctor-patient communication in specific condition of severe cancer.

Practice Implications: From a clinical perspective, our ambitions for this study are to develop training programs for application in physician practice in favor of a care quality for patients and quality of life for patients and caregivers.

Acknowledgement of Funding: We are thankful to the patients who participated in this study.

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Reciprocal Relationships between Quality of Life and Coping among Breast Cancer Survivors

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BACKGROUND/PURPOSE: Numerous studies have investigated the association between coping and quality of life (QoL) among cancer populations. However, the potential longitudinal reciprocal relationships have not been studied adequately. This longitudinal study examined the reciprocal relations between QoL and coping strategies among breast cancer survivors. **METHODS:** Three-wave cross-lagged longitudinal data were used (baseline: *N* = 653, 12-month follow-up: *N* = 593, 18-month follow-up: *N* = 565). QoL was measured by the Functional Assessment of Cancer Therapy for Breast Cancer (FACT-

B) subscales assessing physical, social, emotional, functional well-being and breast cancer-specific concerns. Coping was assessed by the Brief-COPE and categorized into two latent constructs (positive and negative coping). A cross-lagged structural equation model was used to analyze the three-wave data. **RESULTS:** The model yielded an adequate fit to the data: $\chi^2(689)=1695.40$, $p=0.000$, CFI=0.91, TLI=0.90, and RMSEA=0.047). Results revealed a significant negative reciprocal relation between QoL and negative coping. Negative coping predicted subsequent lower QoL from baseline to 12 months (early posttreatment) and lower QoL significantly predicted negative coping from 12 to 18 months (later post-treatment phase). The effect of QoL on positive coping was small during the early phase and not consistent over time. Positive coping did not predict subsequent QoL. **CONCLUSIONS:** Results provide evidence of a longitudinal reciprocal relationship between QoL and negative coping among women with breast cancer. Findings suggest that negative coping has a greater impact on QoL than positive coping and that interventions focused on reducing such negative strategies might improve QoL. Results further support the dynamic relationship between coping and QoL.

Research Implications: The current study is the first to attempt to obtain knowledge of dynamic relationship between QoL and coping (positive and negative coping strategies) using a longitudinal, latent-variable approach.

Practice Implications: Knowledge of dynamic relationship between QoL and coping is important for developing the effective interventions that will ultimately improve the quality of life among breast cancer survivors.

Acknowledgement of Funding: Department of Defense, Grant #DAMD 17-01-0447.

P2-127

Impact of Integrating Distress Screening and Referral on Resource Utilization and Distress in Patients with Multiple Myeloma in an Industry Patient Assistance Program

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BACKGROUND/PURPOSE: There is growing awareness of the importance in integrating psychosocial care into routine practice in oncology. The American College of Surgeons Commission on Cancer accreditation standard requires psychosocial distress screening for patients with cancer as part of an initiative to treat the ‘whole patient’ and ensure quality care. Distress screening at pivotal transition points along the disease continuum can identify problems before a crisis event occurs, allow patients to voice concerns and gain information, and improve the

use of healthcare resources. The value of distress screening in patients with multiple myeloma (MM) or integrating distress screening, referral, and follow-up into industry patient access programs, however, has received relatively little attention to date. The Cancer Support Community, in collaboration with Onyx Pharmaceuticals, Inc., an Amgen subsidiary, established an integrated patient assistance program (Onyx 360) to screen and refer patients/caregivers facing advanced MM for psychosocial services. As part of this program, distress screening was performed at baseline and after patients engaged with Onyx 360 resources. Herein, we report results evaluating the impact of distress screening on the utilization of resources offered by Onyx 360 and the effect of these resources on patient distress levels over time. **METHODS:** The Onyx 360 program was initiated in 2012, and distress screening was introduced in the program in late December 2013. Patients are asked four distress screening questions by an Oncology Nurse Advocate during an initial phone call: (1) overall level of distress today; (2) level of concern about practical issues such as home care, transportation, finances, and so on; (3) level of concern about family, work, or home life; and (4) level of concern about emotional issues or coping with MM. For each question, patients gauged their level of distress on a scale from 0 to 10 (0 as lowest level of distress and 10 as highest level of distress). Patients were then offered enrollment in Onyx 360 suite of services, which include reimbursement and clinical support, transportation assistance, and real-time referrals to key resources including the Chronic Disease Fund, the International Myeloma Foundation, the Multiple Myeloma Research Foundation, and the Cancer Support Community. Consenting patients/caregivers were transferred to the Cancer Support Community, whose licensed mental health professionals conducted further distress screening and offered patients/caregivers free supportive counseling, resource referral, group support, and treatment decision counseling. Patients were rescreened with the four questions 30 days after the initial call. **RESULTS:** Between March 4, 2014, and July 11, 2014, a total of 227 patients in the Onyx 360 program were screened for baseline distress levels. For each screening question, 70–80% of patients expressed some level of distress (i.e., distress level of ≥ 1). A total of 172 patients (76%) responded with a distress level of ≥ 4 for one or more of the screening questions; of these patients who were also new to Onyx 360 at the time of the initial call, 86% subsequently enrolled in one or more Onyx 360 service including 72% enrolling in transportation services and 27% enrolling in copay assistance. Referral rates for psychosocial care increased significantly when distress screening was performed compared with when it was not. A total of 145 (64%) patients completed a follow-up call; 74% reported lower levels of distress for one or more question since the initial call. Among patients who initially reported a distress level of ≥ 4 on one or more of the screening questions, 79% reported lower levels of distress for one

or more question since the initial call. **CONCLUSIONS:** While distress screening is now mandated for Commission on Cancer-accredited programs, there are other applications along the care continuum that distress screening can have a significant impact on. Healthcare providers should seek opportunities to introduce screening for distress, referral, and follow-up wherever patients have the potential of accessing vital psychosocial resources. The introduction of a brief distress screening measure into routine telephonic care provided by a pharmaceutical patient assistance program made a significant difference in identifying patients with psychosocial distress and linking them to a variety of resources and psychosocial services. Patients utilized these professional resources at a higher rate when distress screening was implemented compared with when it was not. The addition of a four-question screening tool created a more meaningful dialogue between the oncology nurse advocate and the patient about patient concerns and levels of distress. Distress levels decreased after patients engaged with these resources and services; moreover, the decrease in distress levels was greatest in patients who initially had higher levels of distress. These results demonstrate that an integrated patient-centered standard of care can improve psychosocial outcomes in patients with advanced MM in a unique telephonic setting. Further research is needed to determine whether reduced levels of distress will translate into increased duration of therapy and increase in value to the patient and healthcare system.

Research Implications: Researchers may find this abstract to be of interest when thinking about diverse uses of a distress screening methodology beyond traditional cancer care. There are many touch points along the patient experience that can provide pivotal moments to screen for distress and improve access to psychosocial care so that no patient falls through the proverbial cracks in care. This abstract also raises key opportunities for further study and analysis related to the impact of reduced distress on treatment adherence and satisfaction with care.

Practice Implications: While distress screening, referral, and follow-up are taking place in many cancer care institutions, practitioners could consider other avenues to generate referrals to psychosocial care to ensure that patients have an opportunity to be screened for distressed and referred for follow-up at as many touch points as possible along the care continuum within the traditional cancer care setting and others. This abstract demonstrates that a brief simple tool can be implemented by phone to increase patient consent for referral for further psychosocial assessment, referral, and follow-up care. For example, a home health division of a healthcare institution could consider implementing a standard brief survey as part of any telephone or at-home follow-up. This would ensure identification of distress and referral for follow-up in a timely manner for patients who might not otherwise be seen in a clinic environment.

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Return to Work and Work Life Quality Following Allogeneic Hematopoietic Cell Transplantation

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BACKGROUND/PURPOSE: Hematopoietic cell transplantation (HCT) can negatively impact quality of life, but little is known about its effects on ability to return to work and work life quality. This study describes the impact allogeneic HCT has on patients' ability to return to work and work life quality 12 months post-HCT. **METHODS:** Allogeneic HCT recipients ($n=89$; age $M=53$ years) were recruited for a larger quality of life study. Participants completed self-report measures of demographics and work life quality (Work Limitations Questionnaire-Short Form) prior to HCT and 12 months post-HCT. **RESULTS:** Approximately 21% of patients reported working prior to HCT, and 22% of patients reported working at 12 months. Among patients who were not working, the top reasons were being on disability (43% and 60%) and being retired (23% and 30%) at pre-transplant and 12 months, respectively. At 12 months, patients endorsed the most difficulty meeting output demands, followed by time management, physical, mental-interpersonal demands. Among those working at 12 months, 5% of productivity was lost in the past 2 weeks due to attending work while sick relative to a healthy sample. **CONCLUSIONS:** Findings expand understanding of work life quality during the year following allogeneic HCT.

Research Implications: Future studies should examine clinical and psychological predictors of ability to return to work following HCT, and relationships between quality of life and work life quality.

Practice Implications: Clinicians can use this information to better prepare patients for what to expect regarding work life quality following allogeneic HCT.

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Distress Screening and Targeted Intervention in an Ambulatory VA Cancer Clinic

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BACKGROUND/PURPOSE: The Commission on Cancer (COC) has mandated that as of 2015, all facilities accredited by the CoC screen all patients with a cancer diagnosis for psychosocial distress at the time of diagnosis and at subsequent pivotal times. A large Midwestern academic Veteran's Affairs Medical Center has made psychosocial distress a priority, screening at every ambulatory oncology office visit and targeting referrals depending on the components of distress endorsed. **METHODS:** Veterans complete the NCCN Distress Thermometer (DT) at clinic check-in. DT scores are reviewed by the specialty care clinic nurse to ensure the DT is completed. Veterans with scores ≥ 4 are referred to the appropriate providers to be seen the same day. Veterans endorsing emotional distress of ≥ 4 and those endorsing depression or multiple emotional factors regardless of overall score are referred to the psychologist. **RESULTS:** From September 2012 through October 2014, 1425 distress screenings have been completed for veterans in selected cancer clinics. Of the 1425 screenings, 466 (32%) had scores ≥ 4 . Of those, 325 (71%) screenings identified at least one emotional component, with worry being the most frequently endorsed emotional symptom. **CONCLUSIONS:** Distress is complex and multifactorial, especially in the veteran population. This presentation highlights the importance of examining distress beyond intensity and reports on the multiple components of emotional distress in the veteran with cancer.

Research Implications: Is distress for veterans different from other populations? How will screening for psychosocial distress impact Quality of Life? It is important to know if distress is different for the veteran population, as that would mean that clinically the implication is that the intervention would need to be different as well. Thus, if research informs clinical direction, we must first gain an understanding of the nature of distress for veterans and how that is different, if at all, from other populations.

Practice Implications: This study emphasizes the importance of tailoring psychosocial interventions targeted to the specific symptoms that underlie one's distress.

Acknowledgement of Funding: None.

P2-130

Anxiety Among Adolescent Survivors of Pediatric Cancer: A Systematic Review

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BACKGROUND/PURPOSE: Surviving pediatric cancer can have long-term psychosocial impact. Targeting the psychosocial needs of pediatric cancer survivors during adolescence may improve long-term psychosocial outcomes, as adolescence constitutes a unique phase that is crucial to identity development and adjustment. Although there is a growing literature on the psychosocial adjustment of this population, anxiety has largely been overlooked. This review aims to synthesize literature about anxiety in adolescent survivors of pediatric cancer and highlight areas for future research. **METHODS:** Searches were conducted in MEDLINE, Embase, The Cochrane Library, Web of Science, and PsycINFO to identify studies of anxiety in adolescent survivors of pediatric cancer. Articles were selected based on pre-defined eligibility criteria. **RESULTS:** 21 articles met eligibility criteria. Fourteen studies specifically examined anxiety; one examined worry, six assessed trauma symptoms, and seven studies assessed anxiety as part of a more general study. Six additional studies examined the relationship between anxiety and their main outcome variable. The majority of studies found adolescents' mean anxiety scores on standardized screening assessment tools to be in the normal range; however, some samples did report elevated anxiety, and adolescents expressed a range of cancer-related worries. Anxiety and worry were found to be related to poor family functioning, increased substance use, and decreased health behaviors. **CONCLUSIONS:** With the exception of Post-traumatic stress, anxiety-related research with this population has been limited. Although most adolescent survivors of pediatric cancer do not report elevated anxiety, survivors experience a range of cancer-related worries and a subset of adolescents report elevated anxiety.

Research Implications: This review highlights the need for additional research on the prevalence and manifestation of anxiety in adolescent survivors of pediatric cancer. Moreover, it is important to develop a greater understanding of the risk factors for developing anxiety, as well as the relationship between anxiety and other psychosocial and health outcomes in this population.

Practice Implications: It is important for clinicians working with adolescent cancer survivors to assess for anxiety and cancer-related worry, as these factors have been found to be related to increased substance use and health surveillance behaviors.

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P2-131

Finding Our Center under Stress (FOCUS) for Individuals with Advanced Cancer: Results of a Randomized, Wait List Control Intervention on Insomnia, Uncertainty, and Worry

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BACKGROUND/PURPOSE: Insomnia, uncertainty, and worry are distressing to cancer survivors, with detrimental immune and health consequences. Most insomnia intervention studies focus exclusively on insomnia, typically among individuals with early-stage breast cancer. The purpose of FOCUS was to reduce insomnia, uncertainty, and worry for individuals with advanced cancer. **METHODS:** Twenty-five patients with less than 5-year survival expectation (SEER) were randomly assigned to a 6-week FOCUS intervention or 6-week wait-list control. FOCUS included two in-person CBT sessions targeting insomnia, problem solving, and goal setting and one DVD session using ACT/CBT strategies to reduce worry. Participants were predominantly female (80%), Caucasian (92%), and averaging 57 years of age. Over half (59%) had stage III or IV disease and were undergoing chemotherapy (60%). Analyses included MANOVA, followed by repeated-measures ANOVAs assessing group-by-time interactions and pre-intervention to post-intervention effects. **RESULTS:** There was a significant multivariate effect, $F(1, 21)=6.38$, $p=0.020$. Follow-up ANOVAs demonstrated significant ($p < 0.05$) group-by-time interactions for insomnia severity, uncertainty, and worry. Pre-intervention to post-intervention data for both groups demonstrated reduced insomnia severity, $F(1, 20)=31.47$, $p < 0.001$, $\eta^2=0.61$, a reduction of uncertainty intolerance, $F(1, 20)=5.53$, $p=0.029$, $\eta^2=0.22$, and reduced worry $F(1, 20)=22.64$, $p < 0.001$, $\eta^2=0.53$. Most participants rated FOCUS very helpful (52%) or helpful (38%). Many wished it were available earlier in their cancer journey. **CONCLUSIONS:** FOCUS reduced insomnia, uncertainty intolerance, and worry in individuals with advanced illness. It offers a brief, feasible intervention, compared to longer CBT-Insomnia programs.

Research Implications: Those living with cancer rarely experience solitary symptoms. Our results point to the importance of targeting symptom clusters in intervention design and the feasibility of translating interventions for patients with advanced disease who may experience significant barriers to attending multiple sessions (i.e., greater fatigue and pain and more appointments). Future research is underway to translate FOCUS to a Web-based intervention.

Practice Implications: Good sleep is essential to patient cognition, energy level, mental health, and potentially survival. Those living with advanced disease benefit from learning strategies to enhance sleep, manage the

continuous uncertainty of their disease and treatments, reduce worry, and re-focus on what matters most to them.

Acknowledgement of Funding: American Cancer Society Institutional Research Grant Lance Armstrong LIVESTRONG Survivorship Center of Excellence Award Tzagournis Medical Research Endowment Fund.

P2-132

State of the Science: Genetic Polymorphisms Associated with Pain among Breast Cancer Survivors (BCS)

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BACKGROUND/PURPOSE: The purpose of this state of the science review of literature was to determine the evidence on single nucleotide polymorphisms (SNPs) associated with pain in BCS. BCS comprise the largest population of cancer survivors in the USA and are often plagued by pain for years post-treatment. Although the etiology of adverse symptoms after BC treatment is not well understood, it is reported that SNPs in genes encoding cytokines are linked to physical cancer symptoms such as pain. **METHODS:** The literature search used PRISMA guidelines. Articles published during or prior to 2014 were retrieved from PubMed using key search terms: 'pain, polymorphism, breast cancer'. Inclusion criteria included: (1) articles addressing pain in BCS; (2) published in English; (3) women 18 years or older; (4) published in peer-reviewed journals; (5) quantitative studies; and (6) original research. Exclusion criteria included: (1) drug studies; and (2) non-human studies. The risk of bias for all studies was deemed to be low after assessment. **RESULTS:** Out of 14 articles identified, four met inclusion criteria. All articles cited employed the use of pain assessment tools and SNP genotyping assays. The most common instrument to measure pain was the visual analog scale. Analysis of SNPs in *IL1R1* (rs2110726), *IL2* (rs2069777), *IL6* (rs2069840), *IL13* (rs1800925; rs1295686), *IL17A* (rs4711998), *COMT* (rs4680; rs165774; rs887200) found significant associations with pain prevalence and/or intensity. **CONCLUSIONS:** The findings of this review indicated that specific SNPs in genes encoding for inflammation-associated cytokines may affect pain prevalence and/or intensity in BCS.

Research Implications: Due to limited studies retrieved, it is recommended that additional research explore genetic associations with pain, to contribute to personalized therapies.

Practice Implications: This review provides insight into the future of personalized therapies utilizing genetic associations.

Acknowledgement of Funding: None.

P2-133

Psychological Distress of Chinese Advanced Cancer Inpatients

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BACKGROUND/PURPOSE: Psychosocial distress occurs frequently during the advanced stages of cancer. This study was aimed to investigate the psychological distress among Chinese advanced cancer inpatients, and the impact of demographic, clinical variables on it. **METHODS:** In this cross-sectional study, 306 advanced cancer patients (50.3% male) were recruited at the Department of Pain Relief Tianjin Cancer Hospital and Institute (China) within 48 h after admission. Patients completed the NCCN Distress Thermometer with problem list (DT), the Hospital Anxiety and Depression Scale (HADS). Socio-demographic parameters, clinical information and performance status were taken from the patients' records. Data analysis has been managed using SPSS. **RESULTS:** The mean DT score was 5.52 ($SD=2.29$). Using the recommended NCCN cut-off scores of ≥ 4 , 83.7% patients ($n=256$) were distressed. The most endorsed problems were as follow: pain ($n=200$, 65.4%), constipation ($n=114$, 37.3%) and getting around ($n=92$, 30.1%). For the prediction of psychological distress, the model ($F=3.382$, $p=0.000$) explained 44.8% of variance. The HADA ($\beta=0.236$, $p<0.01$), HADD ($\beta=0.185$, $p<0.05$), mouth sores ($\beta=0.183$, $p<0.01$), breakthrough pain ($\beta=0.155$, $p<0.05$), Karnofsky Performance Status ($\beta=-0.149$, $p<0.05$), constipation ($\beta=0.122$, $p<0.05$) were significant predictors of DT scores. **CONCLUSIONS:** Most of the Chinese cancer inpatients experienced psychological distress at the advanced stage. Pain, constipation and inability to getting around were the most frequently mentioned problem among this sample. Anxiety, depression, mouth sores, breakthrough pain, poorer performance status and constipation could be considered as protective factor of advanced cancer patients' psychological distress.

Research Implications: This study was surveyed at the department of pain relief, which means most of the patients were troubled with pain.

Practice Implications: Prevalence of psychological distress is quite high among this sample, clinical staff should pay more attention to this issue. Meanwhile, advanced cancer patients experiencing breakthrough pain, mouth sores and constipation were more likely to be distressed, they may require therapeutic intervention.

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P2-134

'Outside the Ring of Fire': Distress Screening for Cancer Caregivers during Survivorship

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BACKGROUND/PURPOSE: Distress screening for cancer patients has become a hallmark of cancer care. Screening identifies patients at risk for ongoing psychological problems and unmet supportive care needs. Research demonstrates that in addition to increased levels of stress for the patients, the caregivers experience significant distress. The purpose of this review is to identify established measures for distress screening in cancer caregivers during survivorship and to examine barriers to translating these measures into practice. **METHODS:** A systematic review of the literature was conducted. Relevant studies were identified by searching online databases (PubMed, APA, PsycNET, and Web of Knowledge). Inclusion criteria were studies that evaluated distress screening of adult outpatients and caregivers. There was no date or language restriction and both quantitative and qualitative studies were included. **RESULTS:** Of the 248 articles retrieved in the search, 34 studies met inclusion criteria and were reviewed in their entirety. Of these, only 15 specifically examined distress screening of caregivers. The distress thermometer was the most commonly used measure for assessing caregivers. Multiple barriers were discussed to include resources, systems issues and language. **CONCLUSIONS:** Caregivers are vulnerable for unmet psychosocial needs and methods of outpatient screening are not standardized. Providers must have a model of care that incorporates evidence-based practice that endorses distress screening and a clear referral pathway to address the unmet needs creating distress. Barriers to screening are present and must be addressed.

Research Implications: This information highlights the importance of continuing to build evidence for screening cancer caregivers in the survivorship phase and identifies methods for translation of screening into clinical practice. A need remains for additional studies to evaluate how to best to screen in outpatient settings and to identify effective interventions for caregivers' when significant distress exists.

Practice Implications: Psycho-oncology providers must partner with clinicians to implement outpatient screening of cancer caregivers into practice. A better understanding of the barriers to screening of caregivers will provide guidance to facilitate the translation of established measures into ambulatory centers and community providers.

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P2-135

The Effect of Pre-transplant Psychosocial Factors on Health Outcomes in Autologous Bone Marrow Transplant Patients

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BACKGROUND/PURPOSE: Psychosocial factors have been shown to be indicative of health recovery in cancer populations. However, less is known about Blood and Marrow Transplant (BMT) patients who may face more adversity than other cancer populations following treatment. It is important to understand the psychological aspects of care from a whole-person framework in this population. The aim of this study was to highlight pre-transplant psychological factors that may predict poorer health outcomes following autologous transplant (AuBMTs) in patients with hematological malignancies. Increasing knowledge about these variables may be clinically relevant in developing effective psychosocial screening and interventions for BMT patients. **METHODS:** Data came from a retrospective chart review for 137 patients who completed BMT evaluations. Data extracted included information regarding psychosocial measures for distress, depressive symptoms and quality of life. This study also included health outcome data, including cancer-related hospital re-admittance, survival rates within 6 and 12 months post-transplant, and number of cancer-related infections, as identified by number of antibiotic medications prescribed to patients post-transplant. **RESULTS:** Patients' mean age was 57.7 ($SD=11.7$). Initial results ($n=52$) indicate 26.9% of participants have a distress score of 4 or greater, 63.5% of participants used ten or more antibiotics and 50% of participants were hospitalized at least once within 12 months post-transplant. Additional correlation and regression information will be reported once all data points for our full sample are extracted. **CONCLUSIONS:** This research supports a relationship between psychosocial variables and health outcomes for BMT patients with a hematological malignancy.

Research Implications: The results of this current study will provide more information regarding the link between health and psychosocial factors in a specific subgroup of BMT patients.

Practice Implications: Further understanding how pre-transplant psychosocial concerns impact physical health outcomes of hematological cancer patients post-AuBMT may help in identifying 'high-risk' individuals in this specific population making it possible to better enhance overall recovery through the use of early detection and intervention.

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P2-136

Suicidal Ideation Triggered by Intractable Itching in Sézary Syndrome: A Clinical Case Study

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BACKGROUND/PURPOSE: The purpose of this case study is to raise awareness of the phenomenon of itching-induced suicidal ideation. The impact of pain on mood is well known, but itching also causes significant distress, and receives little attention in the literature. **METHODS:** Ms. F is a 46-year-old woman with a history of cutaneous T-cell lymphoma, depression, and borderline traits, who was referred to the psychiatric emergency room of a university hospital with suicidal ideation. As the patient cited pruritus from her Sézary syndrome as a major trigger for her suicidal thoughts, the on-call resident asked her to be evaluated by oncology, and she was subsequently admitted to the liquid oncology inpatient service. **RESULTS:** The inpatient team started oral cetirizine, ranitidine, hydroxyzine, and gabapentin, as well as hydrocortisone cream, clobetasol cream, and triamcinolone cream. She gained relief of her pruritus but was still thought to be at a high enough risk of self-harm to justify transfer to inpatient psychiatric care. There, for her depressed mood and irritability, quetiapine was begun and uptitrated to 50 mg in the morning and 200 mg at bedtime with benefit, and she was discharged to outpatient care. **CONCLUSIONS:** Itching may be a significant cause of distress among patients whose cancer has dermatologic manifestations, to the point of precipitating suicidal thoughts. Comprehensive treatment for cutaneous T-cell lymphoma must include an awareness of the impact of pruritus on quality of life and possible psychiatric sequelae. In addition to quetiapine's psychiatric benefits, its antihistaminergic effect may provide further pruritus relief.

Research Implications: Further research is needed into the prevalence of itching-induced psychiatric symptoms.

Practice Implications: Oncologists and others caring for cancers with dermatologic manifestations may want to screen their patients for itching, and if present, to screen further for distress and suicidal ideation. A chronic pain treatment model may serve this patient population well, including both long-term and breakthrough treatments to relieve itch, as well as cognitive behavioral therapy to address quality of life issues.

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P2-137

Exploring Discrepancies in Self-reported Sleep and Actigraphy Recording among Individuals with Advanced Cancer

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BACKGROUND/PURPOSE: Discrepancies in self-reported and objective sleep measures are common, but poorly understood. This study characterizes the accuracy of sleep perceptions and psychosocial correlates of discrepancies among people with advanced cancer. **METHODS:** Twenty individuals with advanced cancers enrolling into a cognitive behavioral intervention for worry, uncertainty, and insomnia completed sleep diaries, wore actigraphy watches, and completed questionnaires assessing sleep (ISI), psychological outcomes (CES-D, PSWQ, STAI), and psychotropic medication use. Pearson's correlations were used for data exploration. **RESULTS:** Participants reported sleep duration averaging 6 h and 29 min and a sleep onset latency of 45 min ($SD=35.6$), perceived multiple sleep awakenings ($M=2.3$ instances, $SD=0.74$; M perceived duration=46.0 min, $SD=42.3$), and rated their insomnia as moderately severe. Reported sources of awakenings included urination, pain, and worry. Participants underestimated total nightly sleep by 40.6 min ($SD=77.1$) and overestimated sleep onset latency by 28.6 min ($SD=34.7$). Overestimation of sleep onset latency was associated with lower education ($r=-0.53$, $p<0.01$) and higher state anxiety ($r=0.47$, $p<0.05$). Perceiving more awakenings was associated with greater worry ($r=0.43$, $p<0.05$). Inaccurate bedtime perception was associated with generalized anxiety symptoms ($r=0.60$, $p<0.05$). Antidepressant use was associated with longer actigraphy sleep onset latency ($r=0.43$). **CONCLUSIONS:** Sleep perceptions are not consistent with actigraphy recordings among cancer patients and are associated with anxiety and worry, potential targets for effective insomnia intervention. Some antidepressants may contribute to sleep onset difficulties.

Research Implications: Individuals with cancer rate their insomnia as problematic but often misperceive the extent of their sleep difficulties. Our results outline co-occurring psychological symptoms, which may be important therapeutic targets during studies of treatment of insomnia.

Practice Implications: Effective management of insomnia is important for patient well-being. This study identifies additional areas of focus (misperceptions of sleep, worry, and anxiety) for insomnia treatment in individuals with advanced disease.

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P2-138

Body Image Disturbance and Psychological Distress among Adult Survivors of Childhood Cancer

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BACKGROUND/PURPOSE: To examine associations between body image disturbance and psychological distress in adult survivors of childhood cancer. **METHODS:** Adult survivors of childhood cancer ($N=1714$; mean [SD] age at evaluation=32.4 [8.0] years, time since diagnosis=24.1 [8.1] years) enrolled in the St. Jude Lifetime Cohort Study completed measures of body image (Body Image Scale [BIS]) and acute psychological distress (Brief Symptom Inventory-18 [BSI-18]). We categorized body image into two groups (cancer-related and general) based on factor analysis of the BIS. We estimated odds ratios (ORs) and corresponding 95% confidence intervals (CI) for associations between body image and psychological distress using logistic regression with adjustment for age, sex, race, education level, marital status, cancer-related pain, and scarring/disfigurement. **RESULTS:** Twenty-six percent of survivors with any body image disturbance reported elevated depressive symptoms compared to 7% without body image disturbance ($p<0.001$). After covariate adjustment, survivors with cancer-related body image disturbance had 3-fold higher odds of reporting elevated depressive symptoms (OR=3.4; CI: 2.5–4.8) and anxiety (OR=2.9; CI: 2.0–4.1) compared with survivors without cancer-related body image disturbance. Survivors with general body image disturbance also had higher odds of reporting depressive symptoms (OR=5.9; CI: 4.1–8.4) and anxiety (OR=3.4; CI: 2.4–5.0) compared with survivors without general body image disturbance. **CONCLUSIONS:** Our results suggest that negative appraisals of body image are associated with depression and anxiety among adult survivors of childhood cancer. Early recognition and intervention for body image disturbance may reduce risk for distress and improve emotional quality of life.

Research Implications: Future research is necessary to examine temporal relations between body image disturbance and psychological distress. Evaluation of interventions designed to reduce body image related distress is necessary.

Practice Implications: Early detection of negative self-appraisals of body image through routine screening and tailored interventions may reduce risk of psychological distress.

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P2-139

An Evaluation of a Community-based Physical Activity Program for Breast Cancer Survivors

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BACKGROUND/PURPOSE: Most breast cancer survivors (BCS) in North America do not obtain the recommended physical activity (PA) guidelines of 150 min/week of moderate to vigorous PA. Interventions aimed at increasing PA are effective in the short-term, yet rarely foster long-term strategies for sustained behaviour. Community-based programs such as Curves™ may increase PA in BCS and warrant investigation. The purpose of this study was to evaluate the Curves™ program using three studies. **METHODS:** In Study 1, *N*=66 BCS were given complementary 1-year Curves™ memberships and completed self-report PA measures and evaluated Curves™. In Study 2, 7 BCS who received Curves™ memberships in a separate study were interviewed. Study 3 compared Curves™ to a lifestyle program on PA outcomes over 3 months. **RESULTS:** BCS reported various likes (e.g., social support from other BCS) and dislikes (e.g., cardio circuit became boring) of the program. Participants lived close to the Curves™ locations (84% < 10km), but few women (19%) used memberships during the study and 75% did not continue memberships at study completion (Study 1). The women reported increased positive emotions and some physical benefits (e.g., losing weight), whereas the lack of cancer-related knowledge from staff members and the general circuit program characteristics were seen as barriers to adherence (Study 2). There were no significant differences between groups on meeting PA guidelines (Study 3). **CONCLUSIONS:** Curves™ increases social support and positive emotions, but does little for increasing PA levels in BCS. Community-based programs are encouraged to individualize programs and progressively overload BCS.

Research Implications: Findings from this study partially address the expansive mandate from the American College of Sports Medicine guidelines suggesting that community-based programs such as Curves™ need to be evaluated. Future research is encouraged to evaluate other community-based programs for efficacy in this population.

Practice Implications: Clinicians should be prescribing PA to their patients at any point during the cancer survivorship trajectory, and community-based programs are available. Curves offers a women-only environment that fosters PA perceptions and behaviors that may be beneficial in the early stages of PA adoption. Fitness programming service providers need to ensure that the staff are familiar with cancer-related outcomes in women and appropriately adapt the programs.

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P2-140

Insuring Interdisciplinary Spiritual Care for Young Adults Living with Advanced Cancer

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BACKGROUND/PURPOSE: Working with young adults who face a terminal cancer diagnosis brings a unique and poignant dichotomy to the oncology team. How do we join them in their hope to live while they simultaneously prepare for death? At such a pivotal point in their development young adults individuate from their parents yet at the same time may rely more on their family due to illness. Terminal cancer creates within families a parallel process whereby parents and young adults must face the same obstacle from different angles. **METHODS:** Our cancer care team offers these patients a space to express and explore such personal and developmental challenges, a space where spirituality rises to the forefront. In this paper, we explore the spiritual and emotional care of young adult patients. These aspects of patient care are explored through examination of the contribution of chaplaincy and interdisciplinary team working in illustrative case presentations. **RESULTS:** Spirituality is defined as an individual sense of peace, purpose, connection to others, undergirded by beliefs about the meaning of life. Our chaplain's role, in patient care, is to encourage well-being within the essence of the person. As disease progresses, well-being changes and often falls out of balance. Our collaborative task becomes one of assisting the individual in integrating a new balance which is congruent with their life stage as they approach the end of life. **CONCLUSIONS:** Our paper closes with dialogue about focusing on and the crisis of faith that commonly ensues near end of life. We draw implications about the value for patients and their families receiving care from a closely organization and high functioning supportive care team.

Research Implications: Research shows that patients with a strong connection to religion and/or spirituality

are more adaptive to physical health concerns and have better overall mental health. By routinely addressing spirituality in adolescents with advanced cancer, we aim to improve end-of-life care and improve coping in patients and their surviving caregivers.

Practice Implications: Our discussion emphasizes the chaplain's role on an interdisciplinary team working with adolescents with advanced cancer. We explore not only how chaplains address spiritual concerns, but how this is a crucial part of processing and accepting an advanced cancer diagnosis, goals of care discussions, and advance care planning. This paper shows others in clinical practice the broad scope of a chaplain's work and their role in integrating spirituality in the medical care of adolescents with advanced cancer, providing better patient care, and addressing a variety of patient needs.

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P2-141

Treatment Decision Making in Breast Cancer: The Priorities and Psychosocial Needs of Women across the Life Span

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BACKGROUND/PURPOSE: For women of all ages, the diagnosis of invasive breast cancer brings with it adversity due to physical concerns and psychosocial challenges. Although much has been learned about the psychosocial impacts of invasive breast cancer, little is known about those impacts on the experience of treatment decision making, or how a woman's age affects her decision making. Patient decision making is crucial to cancer care and, while there is an assumption that patients make these decisions based on clinical parameters, a comprehensive understanding of the contextual considerations that inform these decisions is limited. The purpose of this presentation is to explore the treatment decision-making experience for women with invasive breast cancer across the adult lifespan. **METHODS:** Data collection and analysis followed the tenants of grounded theory. Semi-structured interviews were conducted with 22 women with invasive breast cancer. The average time from diagnosis was 9.5 months and the average participant age was 55 years (range of 32–80 years). Participants were grouped in three subgroups: younger women, under 45 years ($N=7$); middle-aged women, aged 45–64 years ($N=9$), and older women, aged 65 and older ($N=6$). Interviews were an average of 67 min in length and explored the experience of treatment decision making through open-ended questions, which sought the details about the context of decision making,

the process of decision making, and how a woman's age influences her experience. Data were analyzed using constant comparisons at the individual level, subgroup level and as a whole. Data were organized using ATLAS.ti software. **RESULTS:** The process of decision making will be described, including: the experience and meaning made of the diagnosis; how, why and when an understanding of the diagnosis and/or treatment plans are developed; and how the values and priorities of individuals shape decision making. Similarities and differences regarding the decision-making priorities and the psychosocial needs of younger, middle-aged and older women will be included. Findings show that women of all ages struggle with decision making and, although the experience may be overwhelming, women see benefit in obtaining sufficient knowledge of their diagnoses, and aspects of potential treatments, prior to initiating treatment. Women with a breast cancer diagnosis have specific supportive care needs in treatment decision making; thus a preliminary model of supportive care in decision making will be presented. **CONCLUSIONS:** It is important for women and healthcare providers to understand how contextual considerations, in addition to clinical parameters, will influence decision making. There is a tentative difference in the priorities and psychosocial needs of younger, middle-aged and older women with breast cancer, as they experience treatment decision making; yet women of all ages may require specialized decision-making support.

Research Implications: This study contributes to the body of knowledge in cancer decision making by building a model of support from the patient perspective. Further research is needed to examine the categories of the model in other patient samples, and to explore the use of this model in various illness contexts.

Practice Implications: Increased understanding of the patient decision-making process, as well as opportunities to provide necessary support in decision making, may improve the patient experience and provide enhanced quality of life for women of all ages with breast cancer.

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P2-142

Supportive Oncology Clinic: An Integrated Family and Team Approach to Advance Care Planning

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BACKGROUND/PURPOSE: In the setting of a fifteen minute medical oncology visit, it can be extremely difficult to address the many concerns of patients with

advanced cancer. Our Supportive Oncology Clinic (SOC) provides patients and family members a venue to voice questions and concerns, to express fears, worries, and emotional struggle, and to receive support and guidance regarding decisions they must make. The purpose of this presentation is to introduce the SOC as an approach to facilitate difficult conversations and medical decision making in cancer patients and their families while providing psychosocial support. **METHODS:** Using a case study, we will illustrate the manner in which a multidisciplinary team of palliative care physician, nurse practitioner, and social worker dedicates sixty minutes to meet with individual patients and their families, and to elicit their concerns, learn about their emotional state, and partner with them to develop options and a plan to move forward. **RESULTS:** We have learned that as a result of their visit to SOC, patients take a more active role in their care, expressing their wishes in terms of treatments they do or do not wish to receive. They report experiencing decreased anxiety, increased understanding of their situation, and fewer unknowns. They discover additional resources and information. **CONCLUSIONS:** By creating an opportunity to explore the challenges of advanced cancer in a setting with specialized palliative care as an extension of the treating medical oncology team, we are able to provide relief from symptoms and promote quality of life for patients and their families.

Research Implications: Although there is a large number of publications addressing healthcare decision making and advanced directives, its use and evidence base for oncology settings is limited. The impact of proactive conversations by an interdisciplinary team needs to be studied; in particular, with relation to patient outcomes including quality of life, and psychosocial distress. From the institution's perspective, it is relevant to investigate the impact of the Supportive Oncology Clinic on the number of advanced directives completed, number of hospice referrals, and hospice readmissions.

Practice Implications: Advance care planning discussions help to ensure that patients and families have an adequate understanding of their advance cancer diagnosis and available treatment options. Early discussions with a multidisciplinary team increases the use of palliative care services, provides better quality care for patients, and ensures patients' goals of care are addressed at all points in their disease trajectory.

Acknowledgement of Funding: None.

P2-143

Experience and Influence from a Psycho-oncology Seminar Organized by Hellenic Group of Young Oncologists

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BACKGROUND/PURPOSE: Oncology is one of medical specialties that require a multidimensional patients' support, both for their disease and soul. The importance of this dimension of human existence was first described by the father of medicine, Hippocrates thousands of years ago. Cancer patients will undergo many changes during the natural history of their disease regardless the stage or type of tumor. They face many different problems such as anxiety for the future, treatment toxicities, changes in their bodies and so on. The consequences are various and affect everyday life of patients and thereby altering their psychological disposition. There are several solutions proposed by the medical guidelines, such as the creation of multidisciplinary teams for the holistic management of patients which include the participation of psychologists and psychiatrists, the use of drugs that regulate mood and the participation of the patient in alternative methods. Hellenic Group of Young Oncologists (HeGYO) is a part of Hellenic Society of Medical Oncology (HeSMO) and one of its main activities is the education and training of young oncologists in Greece. The aim of this abstract is to describe the experience from a Psycho-Oncology Seminar organized by HeGYO. This study objective is to demonstrate how informed and how sensitive they were before the conference, and whether it is possible to change this situation after participation in a training workshop. Unfortunately, in Greece, the usual practice is to not take into account the psychological dimension of the disease. **METHODS:** An interesting Psycho-Oncology Seminar organized by HeGYO took place to recently in Greece which aimed to highlight the problem and try to find solutions. The participation and the interest were great. To complete the study, after 50 days from the workshop, we sent a questionnaire to participants, to be appreciated, and would record if indeed there are difference in the way of dealing with cancer patients. **RESULTS:** Oncologists, surgeons, pharmacists, nurses, psychiatrists, psychologists, representatives of cancer associations and operators from the state were participated. Speakers were prominent psychiatrists, psychologists, oncologists and representatives of cancer associations with proven experience in the field, and after each presentation, followed discussion with the audience. The chairmanship consisted of oncologists. All oncologists, who participated, at the end of the conference stated that in the near future they would change how to deal with their patients and that would seek closer cooperation with psychologists and psychiatrists. The questionnaires have been collected and now performed the data analysis will be announced at this conference. Perhaps the most important result of this meeting has succeeded to put in a curriculum for young oncologists the study of psychosocial oncology.

CONCLUSIONS: It is very important that, cancer patients receive the best care and this requires close cooperation with the oncologist, psychologist and psychiatrist. The conclusion of the workshop, to date, was that after such training may be treated with greater efficiency the needs of cancer patients.

Research Implications: Every patient with cancer must be received the best care and this requires close cooperation with the oncologist, psychologist and psychiatrist.

Practice Implications: Perhaps the most important result of this meeting has succeeded to put in a curriculum for Greek young oncologists the study of psychosocial oncology.

Acknowledgement of Funding: None.

P2-144

Effectiveness of Spiritual Life Review (SLR) on Spirituality and Resilience among Cancer Survivors

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BACKGROUND/PURPOSE: A cancer diagnosis often provokes existential questioning concerning meaning, identity, and spirituality. Clinical practice at the VU University Medical Center, Amsterdam, indicated that spiritual life review (methodically reviewing and writing about one's existential and spiritual development) may ease this questioning, and strengthens spirituality (connectedness to oneself, to others, and to a larger meaning or presence) and resilience (the ability to access internal and external sources in dealing with life's contingencies, setbacks and threats). The aim of this study was to investigate the effectiveness of a structured spiritual life review protocol (SLR) among cancer survivors. **METHODS:** Mixed-methods effect study; duration 3.5 years. $N=57$; Cancer patients (all cancer types) treated >0.5 year prior to the study (all treatment modalities), participated. Patient-reported outcomes (primary study parameters SAIL, NEIS, and RYFF) were completed at baseline, post-intervention, 3 and 9 months' follow-up. Self-assessments were conducted immediately post-intervention, and interviews 9 months post-intervention. **RESULTS:** Scores on the Spiritual Attitudes and Interests List (meaning making, trust, acceptance, spiritual activities) significantly improved from pre-SLR, to post-SLR, and 3 months post-SLR. Scores on eudaimonic well-being (spiritual well-being (inner strength, relation with a higher power) and psychological well-being (goals in life, self-acceptance) also significantly improved from pre-SLR to post-SLR and 3 months post-SLR. Results on the self-assessments and interviews corroborated these

findings. **CONCLUSIONS:** SLR improves psychological and spiritual well-being, and resilience. SLR effectively leads to articulation and development of one's spirituality, and to an increased understanding of the internal and external sources available to oneself.

Research Implications: This study increases our understanding of the relationship between existential questioning, narrative approaches to spiritual development, and resilience. Further research has to be undertaken to compare the intervention group with a control group. Furthermore, predictive factors of effectiveness of SLR can be investigated, not only concerning patient related aspects (such as socio-demographic, psychological and medical factors), but also concerning the types of biographies produced. These insights will deepen our understanding of the target group that benefits most of the intervention, and of the crucial narrative and spiritual elements that produce the effect of SLR. Ultimately, this will give us further insight in the therapeutic potentiality of narrative approaches to spiritual development in supporting people confronted with illness and existential questioning.

Practice Implications: Based on the insight that SLR effectively develops and strengthens spirituality, well-being and resilience, this intervention can be offered to support cancer survivors confronted with existential questioning. Moreover, different target groups can be explored, and innovative applications such as e-health modules can be developed.

Acknowledgement of Funding: None.

P2-145

Implementing a Distress Screening Best Practice Nominee

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BACKGROUND/PURPOSE: Review and evaluate distress screening as the sixth vital sign in community cancer centers utilizing cancer resource centers as a major provider of psychosocial care. **METHODS:** Distress screening process was set up as the sixth vital sign. In radiation oncology nurses screened patients weekly during treatment. In medical oncology patients were screened every 30 days following initial visit. A positive distress score prompted an automatic referral to the appropriate interdisciplinary team member for intervention. **RESULTS:** In a 12-month period, a total of 3372 screenings were completed in outpatient oncology for data analysis. This screening workflow process has recently been nominated as a CoC best practice. **CONCLUSIONS:** Establishing and normalizing routine distress screening identifies

patient needs and connects the interdisciplinary team members which results in timely, focused interventions. Patient and staff education was key to successful implementation in high volume cancer centers. Utilizing the EMR to create the automatic referral creates efficiency and allows providers to track referrals, interventions and outcomes.

Research Implications: Utilizing data obtained from screenings, programs can be developed to decrease distress in areas frequently identified by patients. Additional research is planned to determine optimal screening time points and intervals.

Practice Implications: Implementing distress screening as the sixth vital sign is a feasible and effective screening protocol option that can be successfully built into the medical treatment team workflow. Patient and staff education on distress and the importance of distress screening is essential to successful implementation and should be a required part of the screening model.

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P2-146

Adherence with Distress Screening in Post-treatment Survivors Diagnosed with Colorectal Cancer

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BACKGROUND/PURPOSE: Numerous accreditation agencies and professional oncology organizations support the integration of distress screening as part of a cancer survivors' post-treatment follow-up care. Yet, it remains unclear whether clinicians can implement distress screening in a clinical setting. We developed practice algorithms to guide oncology clinicians in their practice and decision making relevant to survivorship care including psychosocial distress screening. In this pilot, we sought to assess adherence with distress screening recommendations embedded in practice algorithms tailored for survivors of colon cancer (CC) or rectal cancer (RL). **METHODS:** A pilot evaluation was conducted in colorectal survivorship clinic. We reviewed appointments for patients scheduled between 9/30/2011 to 12/02/2014. In this analysis, we included 35 of 117 unique cases with 3 annual visits over the study period. Clinical algorithms contained specific recommendations on assessment, referrals, and documentation of screening for distress. Data fields were abstracted from survivorship care plans electronic medical records including survivorship care plans. The primary outcome was adherence with distress screenings recommendations. Descriptive statistics were used to summarize data.

RESULTS: A total of 81 unique survivors' audits were included in this analysis. Of these, 51.4% had CC and 48.6% RC, 54.3% female, 68.6% were Caucasian. Overall, clinicians' adherence rates with distress screening in CC survivors remained stable over time, (Visit 1, 61.1%; Visit 2, 58.3%; Visit 3, 60.0%, overall, 60.9%). RC rates were slightly higher (Visit 1, 64.7%; Visit 2, 72.7%; Visit 3, 70.0%; and overall, 69.2%). **CONCLUSIONS:** These pilot data indicate screening for distress in survivors can be accomplished when clinicians' have appropriate clinical resources to guide their practice.

Research Implications: Survivorship research is in its infancy, thus there is a critical need for longitudinal studies examining the trajectory of psychosocial needs in long-term cancer survivors. In addition, there is little, if any, published evidence on the processes, metrics, and policies needed to implement distress screening in this population over time. This study serves as a foundation for larger studies with cancer survivors diagnosed with different types of cancer.

Practice Implications: Screening for psychosocial distress in cancer survivors is relevant to clinical practice in several ways including to: (1) promote a better quality of life and cancer outcomes; (2) enhance the standard of care by meeting psychosocial needs; and (3) increase providers, patients, survivors' awareness and knowledge of the significant impact distress has on one's health and well-being.

Acknowledgement of Funding: None.

P2-147

Information Needs and Patient Satisfaction among Colorectal Cancer Patients

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BACKGROUND/PURPOSE: Public reporting of hospital performance data has increased attention on patient satisfaction. Meeting information needs during cancer hospitalizations may improve patient satisfaction. To this end, we conducted a systematic literature review to examine the relationship between information needs and patient satisfaction among older adults with colorectal cancer, the third most common cancer in the world. **METHODS:** A systematic literature search was conducted through PubMed (Medline), MEDLINE via Ovid, and CINAHL Plus with Full Text (EBSCO), using search terms that included a combination of the following: colorectal cancer, information needs, unmet need, needs assessment, patient/personal satisfaction. This search generated 82 candidate titles. Screening of titles, abstracts, and articles identified 6 articles that met the inclusion criteria of publication during the past 10 years, quantitative study

design, and topic related to information needs for colorectal cancer patients. **RESULTS:** The 6 studies, published between 2012 and 2013, consisted of research from Europe, Australia, and China. Emerging from the literature were two concepts: unmet information needs and provision of information. The review found that older adults with colorectal cancer report lower information needs, yet have less satisfaction with information provision than younger adults. **CONCLUSIONS:** Our findings suggest that older adults with colorectal cancer differ from their younger counterparts in their needs for and satisfaction with information provision. Given the aging of the worldwide population, further research is warranted to develop methods that adequately provide information that meets the needs of older adults with colorectal cancer, ultimately improving patient satisfaction.

Research Implications: Study findings suggest that older adults may cognitively process information differently than younger adults. Further research is needed to better understand this difference in cognitive processing and to develop methods tailored to meet the needs and desires of older versus younger adults.

Practice Implications: Study findings suggest the importance of matching types of and delivery of information to the needs and desires of patients with colorectal cancer.

Acknowledgement of Funding: NYU Hartford Institute for Geriatric Nursing.

P2-148

A Program Evaluation of Cancer Care Collaborations: Evaluating the Efficiency of an Oncology Community Support Center Working in Partnership with a Community-based Medical Oncology Clinic to Increase Access to Psychosocial Support

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BACKGROUND/PURPOSE: A preponderance of evidence indicates cancer patients are treated at community hospitals in the communities in which they live (nccp.cancer.gov). Also, psychosocial care is critical to comprehensive cancer care and oncology support centers emphasize psychosocial support. Yet, there remains a gap in the ways in which patients access psychosocial support within community hospitals. While the community hospital and oncology community support centers have complimentary services there is little guidance on how these entities join forces to provide high-quality comprehensive care. The Cancer Care Collaboration (CCC) is a program designed to utilize the partnership

of an oncology hospital and a community oncology support center to increase access to psychosocial support. The purpose of this phase-two study is to evaluate the efficiency of a CCC in increasing access to psychosocial support in a community oncology clinic. **METHODS:** In a mixed-method approach, 15 oncology staff conducted interviews about their experiences in the usual care model and the CCC. The common sense model was used to analyze the findings. **RESULTS:** Results displayed need for CCC. **CONCLUSIONS:** Further empirical evaluation of the CCC program is necessary.

Research Implications: It is critical to investigate effective programs that capture evidence-based interventions aimed at increasing access to psychosocial support.

Practice Implications: This study has practical implications for increased access to psychosocial support for underserved populations.

Acknowledgement of Funding: This study is funded by Wellness House.

P2-149

Patterns of Referral to Non-oncology Specialists among Cancer Survivors

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BACKGROUND/PURPOSE: The psychosocial needs of cancer survivors often require specialized skills that are outside the scope of oncology professionals. Therefore, referral to non-oncology specialists (NOS) is vital to quality care. However, little is known about the prevalence of referral to NOS and the medical and demographic characteristics of those who get referred. **METHODS:** We analyzed data from 8494 cancer survivors who participated in a national cross-sectional survey. The outcome of interest was self-reported referral to a NOS. Logistic regression produced odds ratios for referral to NOS based on survivors' medical and demographic characteristics. **RESULTS:** The sample had a mean age of 67.13, was 76.7% White and 55.3% female. Prevalence of referral to NOS was: mental health professional (4.53%); pain management specialist (1.73%); physical therapist (10.4%); social worker (3.24%); spiritual advisor (1.64%); and dietician (10.1%). Given low prevalence of referral to individual NOS, a composite variable of 'referral to any NOS' was created (21.53%). Logistic regression revealed that referral to NOS was significantly associated with: breast cancer diagnosis, advanced cancer stage, more comorbidities, Black or Hispanic race, and younger age (all $p < 0.05$). **CONCLUSIONS:** Despite well-documented needs among cancer survivors, the prevalence of referral to NOS was relatively low,

suggesting that survivors may have unmet needs which may negatively affect their quality of life.

Research Implications: Future research should further investigate the prevalence of referral to NOS among cancer survivors and attempt identify barriers to referral and strategies for referral for at-risk groups.

Practice Implications: Future research should further investigate the prevalence of referral to NOS among cancer survivors and attempt identify barriers to referral and strategies for referral for at-risk groups.

Acknowledgement of Funding: American Cancer Society Intramural Funding.

P2-150

Cancer Narrated by Pediatric Patients in Senegal: Challenging the Assumptions We Make about Children's Perception of the Cancer Experience

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BACKGROUND/PURPOSE: Our purpose was to offer a cathartic space for young cancer patients to describe their experience from the time of diagnosis through remission. This qualitative study allows us to challenge assumptions made by adults in a culture where silence is supposed to be golden for the youth. **METHODS:** We've collected data for this study from two therapeutic groups in which children hospitalized on the only pediatric oncology unit in Senegal described with great details the treatment process, the hospitalization, and their repercussions on their regular lives. The instruction for the group was to write a letter to a newly diagnosed 8-year-old patient to prepare her for the upcoming cancer experience (original idea from Dr Wiener). We've collected data from 10 hospitalized patients aged between 6 and 15 who were diagnosed with leukemia, Wilm's tumor and Burkitt lymphoma. **RESULTS:** Our patients reported a detailed description of the physical explorations necessary for diagnosis; the treatment process including the frequent blood draws; chemotherapy and the 'colored' infusions; surgery and its painful aftermath. Young patients have also addressed the bodily changes provoked by the chemotherapy, all the actors they interact with and how they appreciate each of them as well as the hospital stay on a daily basis. Unexpectedly, they paid special attention to the temperature in the rooms, the quality of food, the distinctions in the quality of care amongst the medical staff and depending on the time of day. For their newly diagnosed pair, young patients focused deeply on the painful procedures, the emotional experience of

being away from home, having depressive phases during treatment, being stigmatized at school and at home and so on. **CONCLUSIONS:** Our conclusion are that although in Senegal it is assumed that children are too fragile to be informed of such a serious disease as cancer, they are actually well aware of every step of the treatment. We were surprised to see them be so logical about the different stages of the cancer experience: diagnosis, physical explorations, effects of the disease on their home equilibrium, the emotional rollercoaster and the human connections. Contrarily to popular belief assuming that young patients don't talk about the disease, we've demonstrated that children were very much at ease in describing their pathology with more details than their parents and with focus on details invisible to the adult eye.

Research Implications: This study confirms the benefits of exploring/comparing assumptions made by researchers with concrete data collection. Regarding the research methodology in pediatric oncology it can be highly useful to allow children to share information voluntarily compared to using directive interviews.

Practice Implications: The methodology of the group participation allowed for an increased contribution highly effective in stimulating this young inhibited population of patients who have a tendency to remain concise in individual interviews especially in a reserved culture like the Senegalese society.

Acknowledgement of Funding: None.

P2-151

Impact of Fertility Preservation on Psychological Outcomes in Cancer Patients and Survivors: A Systematic Review

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BACKGROUND/PURPOSE: As survival rates among young cancer patients continue to grow, assuring a reasonable post-treatment quality of life becomes increasingly critical for providers to consider during treatment decision making. For many young adult cancer survivors, the ability to preserve fertility and ultimately have biological children is central to quality of life. Prior studies have found that a substantial proportion of young cancer patients experience concerns about treatment-related infertility which, in some cases, may affect treatment decisions. In recent years, the American Society for Clinical Oncology and the American Society of Reproductive Medicine have recommended that the impact of cancer treatment on fertility should be discussed with all cancer patients of

reproductive age and that fertility preservation options should be offered routinely. However, despite the increasing prevalence of oncofertility preservation programs, little is known about satisfaction and quality of life outcomes in cancer patients who undergo fertility preservation consultation and/or treatments. **METHODS:** This literature review examined the effect of fertility preservation consultation and/or treatments on patient satisfaction and quality of life. PubMed and PsycINFO were systematically searched for English-language publications from inception of each database to January 2015. Among the >100 articles identified related to oncofertility, 3 articles met inclusion criteria: peer-reviewed articles reporting primary quantitative data on satisfaction and quality of life among patients who completed an oncofertility consultation and/or underwent oncofertility treatments. **RESULTS:** A majority of women undergoing oncofertility counseling and/or treatment expressed satisfaction with the approach and reported that the possibility of fertility preservation was instrumental to improving coping with treatment. The one study which utilized validated QOL instruments found decreased decisional regret and a trend toward improved quality of life in patients who underwent fertility preservation. No studies addressed quality of life associated with decisions regarding the future use of cryopreserved tissue and/or posthumous reproduction. **CONCLUSIONS:** Little systematic research has addressed the longitudinal impact of fertility preservation on quality of life in young cancer survivors. Clinicians should be aware of the existing evidence base which supports the importance of advising patients regarding fertility preservation options as early as possible in the treatment process. Future research must be conducted to better understand the psychological effects of fertility preservation over time, including the outcomes after utilization of cryopreserved tissues.

Research Implications: This information may help researchers to consider collaborating with oncofertility programs, including assisting with the design of patient registries to measure outcomes.

Practice Implications: Clinicians need to be aware of the strengths and limitations of the current evidence base around psychological effects of oncofertility preservation.

Acknowledgement of Funding: None.

P2-152

Cancerous Patients' Understanding of Their Medical Prognosis

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BACKGROUND/PURPOSE: Medical prognosis is the prediction of the evolution of the disease. It has a

significant importance in neoplastic diseases because of its direct impact on the therapeutic strategy. This study aims to estimate the degree of understanding of the patients of their medical prognosis and its implications. **METHODS:** The study was based on a questionnaire distributed to 272 patients under chemotherapy for a neoplastic pathology, in the National Institute of Oncology of Rabat (Morocco). Patients were randomly selected, confidence level chosen was 90% and the margin of error was 5%. **RESULTS:** Only 100.8% of the patients included had a perfect understanding of their prognosis. Under estimation concerned the major part of them (690.6%), and 190.6% were over estimating their prognosis. Misunderstanding the medical prognosis led to unreasonable hopes in 890.2%. **CONCLUSIONS:** The results point out a significant misunderstanding of the prognosis by cancerous patients. Both sides of the relationship between doctor and patient can be responsible.

A bad comprehension of the medical prognosis can negatively impact the management of cancerous disease and break the patient's trust towards his doctor; therefore, we can affirm that the patient information should take a capital time in the therapeutic process.

Research Implications: This study proves the degree of prognosis misunderstanding by cancerous patients. We should work on how to face this fact and how this misunderstanding affects the therapeutic process.

Practice Implications: Doctors should be more careful while informing their patients about prognosis.

Acknowledgement of Funding: None.

P2-153

Patients' Perceptions of Cancer Care in Relation to Their Overall Satisfaction in a Large Network of Canadian Urban Cancer Centers

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BACKGROUND/PURPOSE: A person-centered approach underscores integrating patients' preferences, needs, and values into ongoing care. The extent to which this is achieved in cancer care is increasingly being captured by patient experience self-report surveys. Likewise, our team explored patients' perceptions of cancer care in relation to overall satisfaction with care. **METHODS:** As part of an ongoing patient experience initiative, the Ambulatory Oncology Patient Satisfaction Survey (AOPSS) was mailed to 3320 cancer outpatients over 2 years, with 1485 returned (45% response rate). Participants had to have had cancer treatment within

the last 6 months at one of the four cancer centers. **RESULTS:** 61% of respondents were women, and 32.5% were older than 75 years old. Satisfaction was high, with 98% rating care as good, very good, or excellent, and only 0.4% poor. We calculated odds ratios (OR) for patient dissatisfaction with care for various experience measures adjusted for patient demographics. Multiple logistic regression for factors related to rating care as fair, poor or good (vs. very good or excellent) revealed significant differences in patient satisfaction, with women, the elderly, patients who had assistance in completing the survey, and spending a night in the hospital reporting being more dissatisfied with care. No significant associations were found for education. Perceptions of care also differentially impacted on overall satisfaction and these findings will be presented in more depth. **CONCLUSIONS:** Healthcare providers need to be aware of key factors that affect patient satisfaction with cancer care so that a truly person-centred approach can become the standard of care.

Research Implications: The findings presented herein provide direction for future research in terms of exploring further the nature of contributors to patients' optimal experience in cancer care as well as the relationships among background characteristics (e.g., age, socioeconomic status, culture), contextual factors (access to services) and the cancer care experience.

Practice Implications: Patients' reports of their cancer care experience is crucial to inform best clinical practice.

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P2-154

Mental Health Care Insurance Coverage, Utilization, and Perceived Value among Childhood Cancer Survivors: A Report from the Childhood Cancer Survivor Study (CCSS)

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BACKGROUND/PURPOSE: Previous reports in CCSS find survivors to report more distress than siblings. Although adult survivors of childhood cancer are at risk for poor mental health outcomes, they may lack insurance

coverage for mental health services. Within CCSS, we compared survivors' and siblings' access to, use of, and their rating of the importance of mental health services. **METHODS:** Between 2011 and 2012, we surveyed a randomly selected age-stratified sample of 698 survivors (55% = female; 94% = White; 30.3 mean years post-diagnosis; 37.3 mean age) and 210 siblings (61% = female; 94% = White; 37.8 mean age). Outcomes were compared with chi-square statistics. **RESULTS:** Mental health insurance coverage did not differ between survivors and siblings (61.5% vs. 63.7%; $p=0.74$). Nearly three-quarters of survivors and siblings considered mental health insurance coverage to be important (73.0% vs. 69.3%; $p=0.31$), but most reported not having seen a mental health provider over the past year (88.5% vs. 88.6%; $p=0.96$). Uninsured survivors were more likely to postpone accessing mental health services due to cost concerns (29.2% vs. 8.5%; $p<0.001$) compared to insured survivors. **CONCLUSIONS:** Most adult survivors of childhood cancers have and value, but do not utilize, mental healthcare coverage. Approximately 30% of uninsured survivors experience difficulty accessing mental health care. Future work will explore if survivors who are in most need of mental health coverage indeed have and utilize mental health coverage.

Research Implications: Adult survivors of childhood cancer are at risk of experiencing chronic stress and psychological morbidity as a result of treatment-related late effects. Understanding mental health service access and utilization among survivors is warranted, as studies have documented a strong relationship between stress, anxiety, and negative health behaviors among childhood cancer survivors. Engaging in risky or maladaptive behaviors can have very harmful consequences for a former cancer patient, placing this already vulnerable population at greater risk for cancer-related morbidity, greater impairment, and early mortality. Understanding some of the psychosocial, disease, and treatment-related factors predicting mental health service use can help identify individuals who are in need of, but do not access services and are therefore at risk of negative psychosocial and physical health outcomes.

Practice Implications: This study highlights the importance of identifying survivors who may not have access to, or may not utilize, important mental health treatment and are thus at risk for negative mental health outcomes and poorer quality of life. Uninsured survivors, the most vulnerable amongst survivors, are most susceptible to having unmet mental health needs. This study demonstrates the need for providers to educate and assist survivors in connecting with mental health services.

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P2-155

Feasibility Study of a Support Program Using Approaches that Target Adaptation Tasks in Postsurgical Cancer Patients

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BACKGROUND/PURPOSE: The prognosis of a pancreatic cancer and an ovarian cancer is generally not good. Patients suffered from these cancer hold several adaptation tasks even after undergoing a curative surgery. We developed a support program using approaches that target adaptation tasks for those patients, and identified the feasibility of this program. **METHODS:** Nurses provided face to face intervention which was based on the cognitive behavior therapy aiming at the improvement of health conditions: resilience; fatigue; anxiety; cognitive suffering; and quality of life during 3 months after surgical treatment. The effect of the intervention was longitudinally assessed by the questionnaire and interview. **RESULTS:** A pancreatic cancer patient and five ovarian cancer patients participated in this study program. All participants showed a high fatigue score at the time of a beginning, and were unwilling to define their own adaptation tasks. Instead, they wanted to just explain their cancer situation. The causes for them to find their task and to tackle the solution differed one by one. When postsurgical 6 months have passed, their condition had improved considerably rather than the time of the beginning of a program. **CONCLUSIONS:** The intervention on the program was able to be practical.

Research Implications: Although the indicators of health conditions improved at 6 months after surgical treatment, it was difficult to judge whether the effect depends on the intervention of the program.

Practice Implications: The findings suggested that the participants accepted the usefulness of the program but they needed some additional support plan until they could find their adaptation tasks.

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P2-156

Avoidance and Pain: Interaction Effect in Cancer Survivorship Intervention

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BACKGROUND/PURPOSE: Post-treatment research has become important in addressing long-term rectal and anal

cancer (RAC) survivorship. A pilot intervention entitled, *Cancer Survivorship Intervention-Sexual Health (CSI-SH)* (Duhamel K.N. *et al.*, 2013), found promising effects for survivors' psychological well-being and quality of life. Using data from this RAC intervention pilot, this study examines pain as a potential moderator of the treatment effect on avoidant behavior. **METHODS:** As noted in the parent, sexual health pilot study, 70 women were randomized to either: (1) CSI-SH or (2) Assessment only (AO) only. Participants' sexual pain (indicated on the FSFI) and avoidance (the avoidance subscale from the Impact of Events Scale-Revised: IES-R) were observed over three time points: (1) pre-intervention/baseline, (2) 4 months post-baseline, and (3) 8 months post-baseline. **RESULTS:** The data show IES avoidance and pain remained constant for the AO group across from baseline to 4 months post-baseline. The intervention arm, however, exhibited decreased avoidance as pain improved from pre-intervention to 4 months post-baseline. Although a plot of raw data suggest the presence of a small interaction between reduced pain and avoidance for the intervention group compared to the control 4 months post-baseline, this interaction was not statistically significant ($t = -0.45$, $df = 30$, $p = 0.66$). **CONCLUSIONS:** The parent study suggests female RAC survivors have improved psychological well-being and sexual functioning after a brief intervention. This analysis did not support the hypothesis that the intervention reduced avoidant behavior by reducing sexual pain. Although the raw data suggest a presence of a small interaction, the study is underpowered to detect small effect sizes and thus a larger study is needed to explore the impact of moderators of the intervention on avoidant behavior.

Research Implications: Underlying moderators yet known to the relationship of sexual dysfunction in RAC survivors are important in developing a reliable intervention.

Practice Implications: Clinical practitioners understanding moderators underlying RAC survivorship and better administer interventions and therapy targeting psychological correlates that affect health outcomes such as sexual dysfunction.

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P2-157

Communication Strategies for Patients and Families at End of Life: Removing Barriers to the Final Destination

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BACKGROUND/PURPOSE: Modern medicine continues to make great strides in delaying the inevitability of death. Dealing with end-of-life (EOL) issues can be stressful for the healthcare providers. Communication is the cornerstone

of palliative care. Without clear, goal directed communication palliative care loses its purpose. Unfortunately, many patients may have difficulty in accepting the gravity and import of the palliative care consultation. This can result in a lack of focus, and more critically, the inability to achieve appropriate goals. There is a wealth of data on delivering bad news to patients and families about a life-limiting diagnosis. This data has been developed in a wide variety of disciplines that includes medicine and psychology. There is separate body of knowledge about talking with the patient that is at end of life or dying. **METHODS:** There is an emergent body of data suggesting that the death of a patient can have powerful and beneficial effects on physicians in training. Very little time is spent teaching residents or palliative care fellows the methods and practice of empirically validated methods of therapy and communication. There is a paucity of data on how to direct difficult conversations to specific goals, and deal with the patient that is unwilling to acknowledge their ultimate prognosis. **RESULTS:** Motivational Interviewing (MI) Cognitive Behavioral Therapy (CBT) and Solution Focused Brief Therapy (SFBT) are validated methods of therapy that can help a patient overcome resistance to acknowledging a difficult truth, and acting on that truth. The Cochrane database indicates that MI may be beneficial in changing behaviors. MI, SFBT and CBT have a fundamental acceptance and utilization of distress including resistance and denial that promotes the acceptance of the offered therapeutic intervention. Rather than confronting the resistance generally inherent in an individual's will to live these therapies use it to alleviate their discomfort. This distress can be used to improve their status or at least to change their perceptions, attitudes and behaviors. **CONCLUSIONS:** Motivational Interviewing Solution Focused Brief Therapy and Cognitive Behavioral Therapy are empirically validated methods of therapy. Having the ability to implement the most rudimentary techniques of MI, SFBT and CBT can facilitate conversations of the most difficult type and generate positive change in patients and families.

Research Implications: Further research is needed to validate the use of these therapies with patients and families at end of life.

Practice Implications: Teaching residents and fellows the rudiments of these postmodern therapies. These therapies should be integrated into curricula and practice of emerging clinicians.

Acknowledgement of Funding: None.

P2-158

Breast Cancer Survivors Who Dragon Boat Paddle Receive Palliative Benefits from Active Upper-body Exercise

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BACKGROUND/PURPOSE: More cancer survivors are living longer. The 2014 European Declaration on Palliative Care provisions suggests physicians consider ways to palliate the after effects of cancer treatment. A growing number of research studies have documented the beneficial effects of aerobic and other forms of active exercise for cancer survivors. **METHODS:** An e-mail survey sent to Breast Cancer Survivor Teams in Australia, Canada, England, New Zealand, South Africa, the USA provided a 'URL' for Team members to access the informed consent and 32-question instrument. Seven hundred fifty women from 94 teams responded. Results demonstrated benefits of active upper body exercise for women with treatment after effects, such as lymphedema. **RESULTS:** One hundred seventy-six women, 23%, reported lymphedema after cancer treatment: 55% after surgery, 43% radiation, 37% chemotherapy, 11% reconstruction, 15% infection; 54% with arm/hand, 45% chest/breast, 33% back, 33% abdomen, 100% leg/foot lymphedema reported paddling made lymphedema 'better'. Questions on benefits of paddling: 'As a result of paddling my life is': 66% very much better; 29% Somewhat Better; 4% the same: 'Paddling has made me feel healthier and more in control of my life after cancer': 69% Strongly Agree; 25% Agree; 5% Neither Agree or Disagree. 'I will continue to paddle to': 94% Keep Physically Active; 85% Maintain a Healthy Lifestyle; 91% Have a Supportive Team. **CONCLUSIONS:** BCS Team dragon boat paddling is a beneficial physical and psychosocial activity for breast cancer survivors.

Research Implications: Additional research is needed on the benefits of various types of exercise for cancer survivors and the role of skeletal muscle contraction in improving symptoms of after effects of cancer treatments.

Practice Implications: Until very recently, the guidelines for women after breast cancer were to avoid doing what had been normal activities, 'Avoid vigorous, repeated activities; avoid heavy lifting or pulling' (cancer.org, How to prevent and control lymphedema, August 2012; Removed in 2013). After this presentation, clinicians may think positively about suggesting to women after breast cancer treatment that active upper body exercise may be beneficial. Also, often health centers, particularly in Canada, Australia, New Zealand and the USA have dragon boat, rowing or other types of active team sports for staff and should strongly consider extending these programs to breast and other cancer survivor groups.

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P2-159

Psychosocial Issues of Patients Seen in a Pediatric Genetics Clinic

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BACKGROUND/PURPOSE: Pediatric cancer genetics clinics are being established to meet the complex needs of families affected by hereditary cancer. The Pediatric Cancer Risk Program (PCRP) at Dana-Farber Cancer Institute, formalized in 2014, offers genetic counseling/testing, consultation with a pediatric oncologist (J.K.), and psychological consultation with a staff psychologist (S.B. and A.F.P.). **METHODS:** Retrospective review of patients seen and the psychosocial issues discussed. **RESULTS:** Thirty-five patients were seen: 40% ($n=16$) were offspring of an adult cancer patient with a known or suspected germline, cancer-predisposing mutation; 9% ($n=3$) were current pediatric oncology patients and 23% ($n=8$) were survivors with a suggestive diagnosis or family history; 11% ($n=4$) were children of unaffected parents with a hereditary mutation; 9% ($n=3$) were parents or siblings of a pediatric oncology patient with a cancer-pre-disposing mutation; 6% ($n=2$) sought evaluation of an incidental finding on genomic sequencing. Patients were evaluated most commonly for Li-Fraumeni syndrome, familial adenomatous polyposis, retinoblastoma, and DICER1 mutations. Almost all parents expressed anxiety about genetic test results, with some reporting guilt for having passed on a 'faulty' gene. Many child patients or young adult survivors reported concern that carrying a mutation would significantly impact their lives. Almost all parents had questions about when and how to talk with their children about hereditary cancer, genetic testing, and screening. **CONCLUSIONS:** Integration of psychological consultation within a pediatric cancer genetics clinic reveals the presence of multiple forms of related parent and patient distress. Common to all parents was concern about how to discuss hereditary cancer etiology and inherited cancer predisposition with their children.

Research Implications: Further studies are needed to develop appropriate psychosocial support for the increasing number of families seen in pediatric cancer genetics clinics. Offering families with hereditary cancer syndromes evidence-based psychosocial support, specific to their concerns, will encourage optimal utilization of this increasingly central component of pediatric cancer care.

Practice Implications: Families seen in pediatric cancer genetics clinics present with a range of psychosocial issues that differ from non-hereditary pediatric cancer patients and survivors. Integration of psychological consultation within these clinics is integral to providing the highest quality of care for families affected by hereditary cancer.

Acknowledgement of Funding: None.

P2-160

Implementation of Supportive Care Screening at the Arthur G. James Comprehensive Cancer Center (JCCC): Opportunities and Challenges

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BACKGROUND/PURPOSE: In 2006, the JCCC formed a taskforce to establish (1) a distress screening tool and (2) referral algorithms/guidelines. In 2013, validation of the James Supportive Care Screening (JSCS) was published. In 2014, Supportive Care Screening became a key Quality Initiative at the James to ensure implementation system-wide. This presentation highlights opportunities and challenges implementing screening in inpatient and outpatient settings. **METHODS:** The James averages 15,000 clinic visits per month and over 10,000 inpatient admissions per year. Outpatients are screened at varied intervals in several clinics including Palliative Medicine, GI, Gynecologic, Thoracic, Breast and Neuro-Oncology. Inpatient screening is completed within 24–48 h of admission. **RESULTS:** Patients who complete inpatient screening report greater satisfaction with having emotional and spiritual needs met compared to those who do not complete screening (92% vs 88% and 94% vs 91%, respectively). Among palliative care outpatients ($n=992$), several subscales on the JSCS significantly predict 30-day readmissions, even 4 months prior to readmission, including Physical Symptoms, Emotional Concerns, Spiritual Concerns, and Social/Practical Problems, $F(7,950)=36.697$, $p<0.001$. **CONCLUSIONS:** James Supportive Care Screening provides several opportunities including (1) identifying patient's needs (right patient), (2) managing resources to meet these needs (right service), and (3) provision of services in a timely, efficient manner (right time). The use of screening can allow us to improve patient and provider satisfaction and prevent readmissions. Challenges include not allowing screening to slow established processes, consistent triage and recording of referrals, and digitizing processes to enhance EMR communication and research capacity.

Research Implications: Consistent screening processes across sites with electronic medical record integration would provide fertile ground for longitudinal symptom-based research and would be usefully combined with other data repositories. Future studies will address research suggesting screening does not improve outcomes, potentially related to lack of access to or patient denial of recommended services.

Practice Implications: It is important for any large cancer hospital with high volumes to ensure that (1) key providers

are on board with screening implementation, (2) providers receive education and feedback on triaging patients to appropriate services, and (3) providers (and patients) understand that the goal is not perfection (i.e., elimination of distress), but quality of care and quality of life improvement.

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P2-161

One Page of Distress Thermometer and Problem List Tells More

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BACKGROUND/PURPOSE: Distress can lower quality of life and it can also affect treatment outcome. The NCCN Distress Thermometer (DT) enabled health professionals to conveniently screen patients' psychological well-being. Hematology patients have to overcome the aggressive, near-death, treatment which leaves physical and psychological burden during and after treatment. This study aims to assess level of distress and types of concerns carried by hematology patients during and after treatment by using one-page/one-time screening tool with DT and Problem List (PL). **METHODS:** At the hematology out-patient clinic of University-based hospital, Seoul, Korea, the single-sheet distress screening was given routinely to every out-patient from April through September in 2013. Of total 1449 screening results, and 645 (44.5%) had finished treatment. With multiple visits, 690 participated in the study. Regression models were used to evaluate the association between participants' characteristics with distress level and number of problems. **RESULTS:** Of all outpatients, 42% participated in the distress screening. Among 690 participants, about half were male patients (56.1%), and the average age for overall participants was 54 years (min 20, max 85 years). When the participants were divided into five groups depending on the level of distress (no distress (0), mild distress (1–3), moderate distress (4–5), severe distress (6–7), and extreme distress (8–10)), mild group was younger (49.4 years). Overall, participants with plasma cell disorder (PCD) showed higher distress score (0.08 (0.08, 1.5)) compare to participants with NHL or HL. When participants have at least one of diabetes, tuberculosis, or hypertension, they had significantly higher distress score (1.46 (0.66, 2.26)) and greater number of problems checked (0.97 (–0.3, 1.97)). However, survival length or type of treatments was not associated with distress level. Patients in active treatment expressed significantly higher distress (4.39, $SD=2.9$) compared to survivors (3.85, $SD=2.9$). They also had more problems checked (5.1, $SD=3.8$) than survivors (4.1, $SD=3.6$), and it was statistically different.

CONCLUSIONS: Although DT and PL is a quick and easy screening tool, less than half of patients actively participate. Patients who are currently receiving treatment have significantly higher distress in general. Distress level is strongly linked to number of problems faced. Depending on the distress score, types of problems vary. Routine screening would tell health professionals not only patients' emotional status but also detailed surrounding factors affecting patients' quality of life.

Research Implications: It is necessary to find barriers for routine DT screening at out-patient clinics among lymphoma patients.

Practice Implications: A tailored intervention should be provided to lymphoma patients who would experience higher distress during treatment due to excessive treatment.

Acknowledgement of Funding: None.

P2-162

What Do We Mean When We Talk about Meaning

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BACKGROUND/PURPOSE: Clinicians increasingly attend to the spiritual well-being of patients with advanced cancer. Meaning-Centered Group Psychotherapy (MCGP) enhances sense of purpose by targeting four meaning sources (attitude, experience, legacy and creativity) using a taxonomy derived from Frankl's work. Few qualitative studies explore meaning sources described by patients. Our study aimed to (1) characterize meaning sources in self-reported life histories; and (2) explore how cancer diagnosis and disability changed meaning priorities. **METHODS:** We analyzed thirteen audio-recorded, semi-structured interviews with control arm participants in a positive affect intervention study for stage IV breast cancer patients. Women were instructed to tell their life story, highlighting significant events and relationships. Two coders used directed content framework to extract MCGP and novel meaning sources and their subcategories. Qualitative codebook was compiled for transferability and confirmability. **RESULTS:** Participant mean age was 49.4 (+12.5) (range 32–69). Eight women were receiving chemotherapy or radiation and five died within 6 months. Three novel meaning sources were described—self-transcendence, autonomy and spirituality. The mnemonic A CASTLE can help remember the seven sources. Frequencies, subcategories and examples were catalogued. For

example, autonomy subcategories included independence from parents or loved ones, financial, medical decision making, self-employment, education, career, parenting. Experiential and autonomy meaning sources were prioritized more often after cancer diagnosis, while legacy and experiential sources were prioritized as disease progressed. **CONCLUSIONS:** The findings suggest that women with advanced cancer draw upon a diverse set of meaning sources. Richer characterization of meaning sources provided by qualitative methods adds to the therapeutic arsenal of clinicians.

Research Implications: Further research is needed to understand how spirituality, including meaning-making, affects cancer patient outcomes and how clinicians can use evidence-based therapies to enhance the lives of patients, caregivers and family. While MCGP uses a top-down approach, Victor Frankl's taxonomy of meaning, to characterize sources of meaning that can be targeted by therapy, this study explores patient-provided content and used a ground-up approach to distill sources of meaning as described in the words of cancer patients who are reflecting on the most significant aspects of their lives. Using this enriched catalogue of sources of meaning can help researchers and clinicians better tailor meaning-centered and other therapies focused on spiritual well-being to deal with a wider range of needs for advanced cancer patients struggling with loss of meaning, hopelessness, or demoralization.

Practice Implications: Clinicians can draw upon this richly characterized, evidence-based framework for organizing the rich variety of sources that provide meaning and purpose to women throughout their lives. The heuristic device A CASTLE (Attitudinal, Creative, Autonomy, Spiritual, Transcendent, Legacy, Experiential), can help clinicians quickly access this classification when helping patients rediscover meaning in their lives. Attending to the sources of meaning can enhance patient quality of life or address hopelessness and loss of purpose caused by disability or distress.

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P2-163

What Cancer Survivors Want in Survivorship Care: A Qualitative Exploration of Preferences for Information and Resources

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BACKGROUND/PURPOSE: Cancer diagnosis and treatment can have pervasive effects on survivors. We sought to qualitatively explore survivors' goals in seeking survivorship care at a survivorship clinic where they obtained survivorship information, and what resources they would like to see made available. **METHODS:** Patients attending a cancer survivorship clinic between 1/11 and 5/12 completed a survey with closed-ended and open-ended questions; including whether they had been given a survivorship plan, reasons for seeking survivorship care, and desired survivorship information. Participant responses were reviewed to identify themes. **RESULTS:** Sixty-seven cancer survivors (mean age=51.8 years, 61.2% female) participated. Survivors presented with a variety of cancer types, with median time from diagnosis approximately 2 years. Only 3 (4.5%) participants had been given a survivorship care plan from their oncologist. Resources survivors wanted included mental health counseling, support groups, lifestyle advice to promote cancer-free status, and information about late effects. Survivors most frequently obtained survivorship information online. Survivors attended the clinic seeking information about the mental (anxiety, depression, PTSD, fear of recurrence) and physical (sexuality, fatigue, pain, sleep, infertility, neuropathy) effects of cancer and treatment, as well as post-treatment adjustment. Survivors cited sexuality/loss of libido and coping/how to navigate the future as topics they were interested in discussing, but had not been asked about previously in their care. **CONCLUSIONS:** Cancer survivors face mental and physical health obstacles that may not be routinely assessed and addressed in follow-up care. The qualitative information highlights which topics and resources survivors are seeking and can help inform the design and optimization of survivorship care and programs in the future.

Research Implications: This information can be used to inform the development of targeted interventions aimed at reducing symptom burden and improving psychosocial and quality of life outcomes in survivors.

Practice Implications: This information can be utilized to inform clinical practice with survivors, and to create survivorship materials and design survivorship care programs that provide the information and services that have been identified as important or lacking by the target population.

Acknowledgement of Funding: This study was supported by internal funds from the Massachusetts General Hospital Cancer Center.

P2-164

Spirituality and Psychological Well-being in Women with Breast Cancer

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BACKGROUND/PURPOSE: Spirituality and psychological well-being in African American and Caucasian female breast cancer survivors was examined. Because breast cancer is often identified with dying, the diagnosis constitutes a crisis with possibly severe distress and the need for coping and support. The distress and treatment disruption may require more support than usually needed. Women may, therefore, access spiritual-religious relationships as coping resources. **METHODS:** Female breast cancer survivors were recruited from hospitals, support groups, and breast cancer awareness events. We distributed 1279 surveys, 88 were returned; 70 were usable. The sample had a mean age of 55 and was primarily African American and Caucasian. Most women reported (a) high yearly incomes; (b) high education; (c) Christian religion; and (d) being married. Participants completed demographic information and four measures: The Religious Coping Styles (Pargament *et al.*, 1988); The Attachment to God Inventory (Beck & McDonald, 2004); Spiritual Assessment Inventory (Hall & Edwards, 1996); and The Psychological Well-Being Scale (Ryff, 1989). **RESULTS:** We computed a two-step hierarchal multiple regression, with ethnicity controlled by entering it in the first step, which was not significant. The other variables were entered together in the significant second step, explaining 38% (adjusted=23%) variance. Secondly, using MANOVA with ethnicity (i.e., African American, $n=16$; Caucasian, $n=47$) as the independent variable, well-being was not significant. **CONCLUSIONS:** The results partially supported the hypotheses for women with breast cancer: Aspects of religion-spirituality (a) predicted psychological well-being, and (b) were differentially endorsed by African American versus Caucasian women.

Research Implications: More research is needed to understand the complex relationship between spirituality and deferring treatment after a breast cancer diagnosis, particularly in women with high levels of spirituality.

Practice Implications: Research indicate that African American women often defer treatment after a diagnosis. Understanding the role of spirituality in the life of a breast cancer patient may help physicians understand why African American women defer treatment and consider ways of encouraging better compliance and faster treatments.

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P2-165

Psychology Matters in Palliative Care

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BACKGROUND/PURPOSE: Several national mandates encourage comprehensive care of all cancer patients to

include addressing psychosocial needs, noting that a multi-disciplinary approach is the best way to meet this goal. The multi-disciplinary Palliative Care team at MD Anderson provides such care, with two clinical psychologists joining the team this past year. We present data representing the past year's practice of palliative care psychology. **METHODS:** Medical record review of 1706 patient contacts, representing 641 unique patients serviced from September 1, 2013 to August 31, 2014. **RESULTS:** Patients were 57% female, 67% White non-Hispanic, and 59% married with an average age of 53.2 (14.7) years. Primary cancer diagnosis was 20.6% gastrointestinal, 13.6% lung, 11.4% gynecologic and 10.5% breast. In total, 82.3% were in-patient, while 17.8% were out-patient when seen. Patients averaged 2.7 (2.9) visits. Total encounter time per patient across visits was 113.6 (121.0) minutes. Out-patients had significantly fewer visits than in-patients ($p=0.038$); however, total time across encounters was not different between settings. Encounter time per visit was significantly longer out-patient versus in-patient ($p=0.000$). At first visit, DSM-5 diagnoses included 82% adjustment disorders, with services offered to include assessment (86%), supportive expressive counseling (66%), family counseling (15%), cognitive behavioral therapy (7%), and relaxation skills training (3%). **CONCLUSIONS:** Results indicate high utilization of psychology services. Staff limitations, as opposed to lack of referrals, allowed only 16% of palliative patients to be provided psychology services. Our findings justified hiring another psychologist. Results were utilized to educate our team regarding appropriate screening and referrals for psychological care.

Research Implications: Future research may compare those who are referred for psychology services to those not referred on demographic, symptom burden, substance use history and medical factors to refine or improve screening and referral practices.

Practice Implications: Results may assist in refining or improving screening and referral practices to psychologists in an oncology setting.

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P2-166

What 'Survivorship' Means to Melanoma Survivors at High or Moderate Risk of Developing New Primary Disease

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BACKGROUND/PURPOSE: Australians with multiple previous melanomas, or a previous melanoma and dysplastic nevus syndrome, are at 10–20 times greater risk of developing melanoma than the general population. However, virtually nothing is known about psychosocial outcomes for these groups. **METHODS:** A cross-sectional survey was implemented to determine the prevalence and correlates of psychosocial and behavioural adaptation amongst melanoma survivors at high (Group 1) or moderate (Group 2) risk of developing new primary disease. Recruitment occurred via the High Risk Clinic of the Sydney Melanoma Diagnostic Centre (Group 1) and the Melanoma Institute of Australia (Group 2), the world's largest clinical service dedicated to melanoma. **RESULTS:** The sample comprised 286 melanoma survivors (57% high risk, 58% men, mean age: 59.1 years). Most participants (71%) reported levels of fear of cancer recurrence warranting clinical assessment, and many (54% high risk, 65% moderate risk) reported experiencing anxiety before dermatological appointments. Most participants believed it would be 'very' or 'extremely' useful to receive information and supportive care at diagnosis (89%), during treatment (86%), and follow-up care (85%). Sizeable proportions of participants reported 'over-screening' (16% high risk, 24% moderate risk) or 'under-screening' (20% high risk, 24% moderate risk) for melanoma. A path analysis was used to determine the factors that influenced psychological adaptation. **CONCLUSIONS:** Participants demonstrated a striking need for information and support at all stages of their melanoma care. These findings have been used to inform the development and trial of a psycho-educational intervention tailored to meet the supportive care needs of melanoma survivors at high risk of developing new primary disease.

Research Implications: These findings have been used to inform the development and trial of a psycho-educational intervention tailored to meet the supportive care needs of melanoma survivors at high risk of developing new primary disease.

Practice Implications: Moreover, the results demonstrate a clear demand for psychological support to be part of routine clinical care for melanoma.

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P2-167

Cultural Influences on the Psychological Needs of Patients with Cancer and Their Families

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BACKGROUND/PURPOSE: Cancer patients and their families face significant challenges and express a variety of concerns during their cancer journey, along with supportive care needs in various domains related to well-being including psychological needs. Patients with colorectal cancer and their families can experience many psychological challenges during the pre-operative and post-operative period including fear, isolation, uncertainty, severe anxiety, depression, fear, sadness, and anger. Improving the quality of patients' lives is an important goal for providers, patients and their families. However, the improvement of cancer care needs to be informed through a broad understanding of patient and family needs and the factors that influence those needs. However, cancer patients and their families demonstrate that the healthcare system has not met their supportive care needs due to lack of clear and full understanding of their needs. Interventions need to be based on their unique needs as determined by the needs assessment, and then through modification of the intervention based on the assessment. Supportive care needs, including psychological needs, are strongly influenced by culture, and therefore, it is crucial to consider culturally specific differences for planning or developing supportive care services and interventions for effective care and reducing unmet needs. Cross-cultural issues are important in assessing needs of cancer patients' families, and in developing and designing a clinical programme to meet their needs. There is a need for further research to fully understand the supportive care needs of different cultures. The current knowledge on psychological needs for patients with colorectal cancer and their families is limited. This study compared psychological needs of patients with colorectal cancer and their families from two countries with different cultures and healthcare systems, and attempted to explore differences in psychological attributable to culture, religion and service delivery. **METHODS:** In this study, a mixed-methods design was adopted to allow for the gathering of rich data in relation to the relatively unexplored area of psychological needs, and to explore the wide spectrum of psychological needs of patients with colorectal cancer, and their families, based on their perceptions and experiences. The two types of data were collected in the same data collection session. The researcher used a quantitative cross-sectional design (using questionnaires) followed with a qualitative descriptive approach (interview) to gain more detail about both groups of participants' psychological needs. Content analysis was

conducted as an analytical strategy for qualitative data. The study was conducted within New Zealand and Iran. Twenty participants and their families were recruited from a large tertiary hospital in New Zealand and twenty participants and their families from a large cancer hospital in Iran. This has an implication for ongoing training for healthcare professionals, especially nurses, in cancer supportive care and holistic concepts of care. Based on the findings, it is recommended that the Ministry of Health and Cancer Society in Iran and New Zealand provide patients with colorectal cancer and their families with easily accessible psychological care services. These services may improve their approach by consistently screening for unmet psychological needs in both patients and their families, as a part of routine assessment of cancer patients and their family. **RESULTS:** Participants in both countries described similar worries, concerns and psychological needs. The most prevalent reported unmet psychological need identified by Iranian and New Zealand participants was 'Uncertainty about the future' followed by 'Concerns about the worries of those close to you' and Fears about the cancer spreading. Participants from both countries explained that they were dealing with cancer in different ways, including acceptance of cancer, positive thoughts, and hope. Family participants in the present study experienced psychological impacts of their family member's cancer, such as anxiety, depression and sadness. The majority of family participants experienced more worry and concern about recurrence, outcome and effect of a parent's cancer on their children. All participants and their families from both countries reported receiving formal and informal support. However, Iranian participants (patients and their families) reported receiving more support from their families than New Zealand participants, and New Zealand participants (patients and their families) reported receiving more support from the healthcare system compared to Iranian participants. **CONCLUSIONS:** Despite the differences in culture and cancer service delivery in Iran and New Zealand, psychological impacts and needs of participants and family participants were similar as they are related to the life-threatening nature of cancer and caregiving of a loved one with cancer as an incurable and life-limiting illness. Participants described needing more support in this area from their families and healthcare professionals

Research Implications: This is the first study that explored psychological needs of patients with colorectal cancer and their families through using mixed methods. Therefore, to confirm and expand the findings of the current study, more research is recommended. This study is limited by the small sample size for the quantitative part. Findings are also limited to patients undergoing treatment. Future studies with larger sampling using longitudinal repeated measures are needed in order to assess changes over time and understand psychological needs throughout the stages of cancer journey, such as time of diagnosis,

treatment, posttreatment and advanced and progressive disease. Patients with different types of cancer may have different psychological needs depending on specific treatments and side effects, prognosis and likelihood of recurrence. Further research is therefore needed to identify psychological needs of patients with different types of cancer and their families, in various societies, countries and religions. Since patients and families in both countries discussed many psychological concerns and needs, these are recommended for consideration as an important area for research, as well as testing and evaluating psychological interventions for addressing these needs. **PRACTICE IMPLICATIONS:** A key implication of the finding for nurses is that they should be alert to the psychological needs of both patients with colorectal cancer and their families. They can assist patients and families either by offering support themselves or by directing or referring them to other sources of support and assistance. The findings extend nursing knowledge by pinpointing the most likely psychological needs of patients with colorectal cancer and their families, and their expectations of healthcare professionals in meeting these needs. The results of this study encourage cancer care professionals to view patients and their families as a unit of care and provide them with more psychological support. This has implication for ongoing training for healthcare professionals, especially nurses, in cancer supportive care and holistic concepts of care.

Based on the findings, it is recommended that the Ministry of Health and Cancer Society in Iran and New Zealand provide patients with colorectal cancer and their families with easily accessible psychological care services. These services may improve their approach by consistently screening for unmet psychological needs in both patients and their families, as a part of routine assessment of cancer patients and their family.

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P2-168

Development and Validation of Questionnaire to Measure Scanxiety among Cancer Survivors: Scale for Anxiety due to Surveillance Scan (SCANSS)

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BACKGROUND/PURPOSE: Although follow-up test after completion of rigorous treatment such as a surgery, chemotherapy, or radiation therapy would be considered as an easy, uncomplicated part of the cancer treatment process, the anxiety surrounding having scans 'scanxiety' often overwhelmed for many cancer survivors. We developed and validated a questionnaire to measure anxiety

among cancer survivors. **METHODS:** Twenty-items for assessing scanxiety were developed based on the literature review, qualitative study, and experts' discussion. Then we conducted a cross-sectional survey of 855 breast cancer survivors from August to October, 2013 at two cancer hospitals in Seoul, Korea. Subjects were eligible if they were diagnosed stage 0 to III breast cancer at least 1 year before, and had at least one time surveillance scan after completing treatment. To extract factor structure and evaluate construct validity, exploratory and confirmatory factor analysis was performed. Concurrent and discriminant validity were tested by correlations with anxiety, fear of recurrence, and quality of life. All statistical analyses were performed using STATA 12.1. **RESULTS:** Exploratory factor analysis and confirmatory factor analysis yielded 14 items for Scale for Anxiety due to Surveillance Scan (SCANSS). The SCANSS consisted with three domains: (1) anxiety related to scan (7 items), (2) discomfort due to scan (5 items), and (3) needs for surveillance scan (2 items). Coefficient alphas ranged from 0.81 to 0.86 for sub-domains and 0.81 for total. The model fit was good (CFI=0.918). Patients with higher scanxiety had lower quality of life ($p < 0.001$) compared to patients with lower scanxiety. **CONCLUSIONS:** Our study confirmed that the SCANSS measurement is a reliable and valid tool for measuring anxiety due to surveillance scans. Patients experience scanxiety related to unfamiliarity, discomfort and stressful scanning procedure as well as fear of recurrence. It is necessary to help patients cope with anxiety caused by surveillance scan and take steps to prevent these emotions from affecting their quality of life.

Research Implications: Our study confirmed that the measurement is a reliable and valid tool for measuring chemotherapy follow-up scan.

Practice Implications: The instrument was noted in to developed strategy to help survivors manage fears and provide education also to evaluate effectiveness of different cancer follow-up procedures.

Acknowledgement of Funding: None.

P2-169

God Locus of Health Control (GLHC) and Psychological Well-being (PWB) in an Ethnically Diverse Colon Cancer Population

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BACKGROUND/PURPOSE: Prior research indicates that the role of control beliefs, including God's role in health, plays a significant role in sustaining PWB during the

cancer trajectory. However, the relationship between GLHC and PWB in an ethnically diverse cohort of Black-White colon cancer patients has not been described. **METHODS:** A cohort of newly diagnosed colon patients identified at 9 Chicago facilities (2 public, 4 private non-academic, and 3 academia), with diagnosis of a first primary invasive colon cancer between the ages of 30–79, and were non-Hispanic White or non-Hispanic Black were approached for study participation. Patients were assessed using the following measures: God Locus of Health Control (GLHC) and depression (PHQ-9). Interviews evaluated diagnosis experience and psychological well-being including: loneliness, stress, and mood. **RESULTS:** A total of 401 patients have been interviewed: median age of 55 years; 51% Black; 47% male; 11% HS education; 45% married; 31% income <20,000. At interview, 41% reported feeling stressed; 43% reported loneliness; 48% reported feeling depressed; 52% reported feeling satisfied with life. For the population as a whole, patients with higher levels of GLHC tended to report less depression ($\beta=0.22$, $p < 0.001$). Blacks had significantly higher levels of GLHC than Whites (20 ± 12 vs. 9 ± 5 , $p < 0.001$). Whites were less likely to report that God exerts control over cancer ($\beta = -0.2$, $p < 0.001$). GLHC reduced feelings of stress for Blacks ($b = -0.25$, $p < 0.001$); however, for Whites this analysis was not statistically significant ($b = -0.05$, $B = -0.055$, ns). **CONCLUSIONS:** A relationship exists between GLHC and PWB and is an important resource especially amongst Black cancer patients.

Research Implications: Future research needs to focus on identification of factors related to sources of coping for cancer patients as well as the implementation of randomized controlled trials for religiously integrated psychological therapies to augment support and aid cancer patients during the course of the cancer trajectory

Practice Implications: A focus of clinical psychosocial care for some cancer patients should focus on the role of God and to practice religiously integrated psychological therapies to aid in cancer patients during the course of the cancer trajectory

Acknowledgement of Funding: Templeton Foundation.

P2-170

A New Exclusion/Inclusion Policy Connects Cancer Patients and Available Nutrition Services across the USA

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BACKGROUND/PURPOSE: Cancer patients are in great need of appropriate nutrition and other healthcare

services, but it is often a great challenge for them to find the most suitable services for themselves. While social workers or hospital staff usually help these patients, in the USA nowadays, there are fewer professional social workers. In a previous study, an online platform from our study group was developed. This platform—*findcancerservices.com*—aims to help social workers find potential suitable healthcare services for cancer patients from 3000 choices. The database contains most of the healthcare services for cancer patients in the USA that are qualified as good. However, there are currently no nutrition services listed on this online platform. Considering the importance of nutrition to cancer patients, adding nutrition services to *findcancerservices.com* is important to optimize the online platform and provide better lists to social workers or the hospital staff helping these patients. **METHODS:** There are 597 nutrition services, and it is important that they meet certain criteria if they are to be added to the database. In order to ensure the quality of the services in the list, I will design an exclusion/inclusion policy. **RESULTS:** The exclusion/inclusion policy will be designed for those 597 services that will weed out bad ones. **CONCLUSIONS:** We will then be able to ensure maximum quality and to provide good sources of nutrition services to cancer patients. **Research Implications:** Researchers will be able to have a thorough understanding of existing nutrition services for cancer patients across the USA, which will shed light on research of oncological nutrition.

Practice Implications: Social workers and hospital staff are now able to use the online platform—*findcancerservices.com*—to help cancer patients develop their own portfolio. Taking information from the patients' portfolio, the systems will work as a filter to meet the needs of patients and provide them with a list of services. This is helpful for both cancer patients and social workers as it makes it realizable and efficient for social workers to recommend proper services to patients.

Acknowledgement of Funding: None.

P2-171

Who's on the Couch? A Look at Who Is Being Referred to Psycho-oncology and What Can Be Offered

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BACKGROUND/PURPOSE: Patient distress screening is now mandatory for accreditation of cancer treatment centers. A lack of screening guidelines has led to discussions about the best screening methods and identifying appropriate resources. This project reviews patient demographics and treatment plans of referrals sent to a cancer center-affiliated psychiatrist. The purpose is to better understand potential screening discrepancies in different populations, the

frequency of high risk behaviors among these patients and how often the illness or medication is directly associated with psychiatric symptoms. **METHODS:** Charts were reviewed for 250 patients referred to psycho-oncology over a 16-month period. Chart elements included patient demographics (age, gender and race); pre-existing psychiatric diagnoses; frequency of cancer or medication induced symptoms; high risk behaviors; and follow-up. **RESULTS:** Preliminary charts results ($n=150$) included patients aged 21–82, Caucasian (76%); African American (16%); Asian (4%); and Latino (3%). Female to male ratio was 1.27. Depression and anxiety referrals were common (62%, 33%, respectively.) High risk patients included those with psychosis and/or mania (5%), with thoughts of harming others (1%) and those either attempting (1) or completing (1) suicide. Lymphoma patients had the highest referral rate; then breast, colorectal, multiple myeloma, and brain. Approximately two-thirds of patients continue with psychiatry follow-up. **CONCLUSIONS:** The majority of psycho-oncology referrals were for depression and anxiety. With this in mind, oncologists with limited access to mental health resources may be comfortable with prescribing medications when necessary. Although high risk patients were fairly uncommon, they required close monitoring and are the patients who will most benefit from psychiatry referral.

Research Implications: This information may be relevant for researchers developing screening tools for minority populations.

Practice Implications: Patients with psychological distress may frequently be managed by oncology or social work and may not require a psychiatry referral. The results of this review should help clinicians identify which patients should be prioritized for psychiatry referral.

Acknowledgement of Funding: None.

P2-172

Culture, Social Support, and Quality of Life: Asian-American Breast Cancer Survivors

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BACKGROUND/PURPOSE: This study identified how culture may modify the definitions of self-integrity and quality of life (QOL) for Asian American (AA) breast cancer (BC) survivors. AA BC survivors have been reported to suffer significant emotional and social problems, but European American (EA) based mainstream services do not seem to meet their needs. Two major barriers may hinder more effective interventions. First, dissonance between the mainstream beliefs and values, and AA

constructions of self-esteem and rules for relationships may render mainstream services incompatible. Second, lack of consensus on definitions of culture hinder assessment of its impact. **METHODS:** Using mixed-methods and community-based participatory research (CBPR) approaches, we collaborated with partners in Northern and Southern California, and Houston, Texas. Interviews were conducted among Chinese, Japanese and Vietnamese BC survivors, family and friends, and community leaders to examine the AA BC experience, and surveys were also administered to additional BC survivors. **RESULTS:** A total of 110 BC survivors, 44 family and friends, and 36 community leaders were interviewed. Approximately 300 surveys were completed and returned. Preliminary results indicate the need for culturally based resources and services. BC survivors and their significant others expressed the effectiveness of ethnic specific services in promoting their quality of life. **CONCLUSIONS:** Identification of the salient unmet cultural needs of AA women can potentially expand Western based theories of positive survivorship and provide directions to develop more culturally relevant support services to improve the QOL of members of diverse ethnic groups.

Research Implications: This study pursues a little addressed avenue of research that would more accurately and effectively operationalize culture as a concept and construct to move the science of health disparities research forward. Evaluating the validity of the assumptions that underlie the types of mainstream support services and identification of what and how, beyond language concordance, ethnic specific AA support services assist their members along the survivorship journey would potentially expand the theoretical framework currently applied in health related quality of life work.

Practice Implications: The outcomes of this study are likely to inform both the science and practice of survivorship in the Asian American community in particular, and among diverse ethnic populations as well, by illuminating the culturally constructed modes and outcomes for managing the cancer experience. The findings are anticipated to provide direction to better meet the needs of cancer survivors and contribute to the elimination of health disparities.

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P2-173

Screening for Psychological Distress within Primary Care: Development of a Brief Multidimensional Distress Scale

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BACKGROUND/PURPOSE: Primary care providers aid in the detection of psychological distress in cancer survivors. Given new screening recommendations, a brief distress scale was developed assessing constructs of depression, anxiety, anger, and hopelessness. This study's purpose is to evaluate the validity, acceptability and model fit of the Brief Multidimensional Distress Scale (BMDS) in a sample of the adult general population. **METHODS:** A sample of 371 participants was recruited via Mechanical Turk. Study participants completed: the BMDS, Distress Thermometer, Beck Depression Inventory, Beck Hopelessness Scale, Beck Anxiety Inventory, and State Trait Anger Expression Inventory. Participants rated statements assessing the scale's acceptability in a primary care setting. **RESULTS:** Of the sample, 58% were female and 40% were male with a mean age of 37.9 years. According to the Distress Thermometer, 196 participants were classified as distressed ($M=6.38$, $SD=1.57$). The BMDS demonstrated good reliability; all four constructs exhibited an alpha level above 0.80. All BMDS constructs demonstrated significant correlations with corresponding validated measures (average $r=0.79$). To investigate model fit of the BMDS, a confirmatory factor analysis was conducted. The Comparative Fit Index (0.99) indicated good fit, above the recommend criterion. Results suggest participants find the scale acceptable with a mean average rating of 4.1 on a scale of 1–5 with 1 being 'strongly disagree' and 5 'strongly agree'. **CONCLUSIONS:** Although further investigation is necessary to determine if the BMDS may be an acceptable screening instrument in a primary care setting with cancer survivors, these results show promise for the scale reliability, validity and acceptability.

Research Implications: Should the subsequent validation studies of the BMDS be successful, the next step would be implementing the scale into primary care clinics to determine the feasibility of screening for psychological distress. Recent findings demonstrate that primary care is becoming the 'front line' in the treatment of mental disorders

Practice Implications: To integrate the proposed model and to meet the need for assessment in primary care, a multidimensional screener of psychological distress should be implemented. A brief screening instrument of psychological distress is appropriate and feasible given physicians' restricted time and lack of training in administering lengthy, structured clinical interviews. Self-report measures can be easily administered by non-clinicians such as nurses or office administrative staff in a waiting room setting. As psychological distress may increase healthcare costs, prolong medical treatment, and lead to unnecessary hospitalization, early identification and intervention may produce a significant financial benefit to both healthcare providers and patients alike.

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P2-174

Characteristics of Successful Asian American and Pacific Islander Breast Cancer Support Groups

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BACKGROUND/PURPOSE: This study characterizes the structure of two successful Asian American and Pacific Islander (AAPI) cancer support groups to identify potential culturally specific elements that differentiate them from mainstream programs. **METHODS:** Inductive qualitative interviews were conducted in San Gabriel, Carson and Los Angeles, California, with a total of 54 individuals from 3 different (AAPI) ethnic groups (Chinese-American, Samoan, and Pilipino-Americans): 22 cancer survivors, 26 caregivers and family members, and 6 key informants. **RESULTS:** The cultural elements (i.e. language, cultural etiquette, and spiritual support) provided by these AAPI groups enabled patients, survivors, family, and friends to develop new social networks needed to achieve a greater sense of well-being. However, although the common goal for the support groups was the acceptance of the individuals' identity as a cancer survivor, the goals of the AAPI culturally based groups appeared to differ from those mainstream non-Hispanic White culturally based groups. The goal for the AAPI groups was to experience a shared journey and sense of belonging to build a new 'family'. This is in contrast to the more individualized sense of integrity implicitly promoted in support groups that use a dominant US societal definition of personhood. **CONCLUSIONS:** These findings indicate that ethnic-specific cultural values and concepts of personhood need to be included in the creation of support groups in diverse populations.

Research Implications: Findings will increase researchers' knowledge about culturally grounded methods for coping with cancer, and explore ethnic specific resources and services needed to improve the quality of life for cancer patients/survivors and their family/friends.

Practice Implications: Study findings indicate that ethnic-specific cultural values and concepts of personhood need to be included in the creation of support groups in diverse populations. Findings from this study could inform clinical-based healthcare professionals about the development of a culturally based cancer support group model that could be used to assess the salient objectives, culturally grounded goals, and modes of social support for other ethnic groups.

Acknowledgement of Funding: This study would not have been possible without funding from the Susan G. Komen Foundation (Grant #POP0600298) and California Breast Cancer Research Program-BCRP (Grant #12AB4100 and #12AB4101), and partnerships with the Samoan National Nurses Association (SNNA), Herald Cancer Association (HCA), and Asian Pacific Health Care Venture (APHCV).

P2-175

Usage and Results of a Mobile App for Managing Urinary Incontinence

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BACKGROUND/PURPOSE: Slight changes in urinary incontinence (UI) severity may be difficult to notice, leading even high-functioning patients to be unable to detect if their UI is getting better or worse. We describe a recently released free software app, *iDry*®, that enables individuals with UI to document incontinence symptoms, view progress, evaluate effectiveness of interventions, and report status to their healthcare provider. **METHODS:** Following two field trials, *iDry* was published as a free download from the Apple App Store, and was downloaded 1231 times in the first 19 months. *iDry* also collects large quantities of anonymized usage data for research purposes. **RESULTS:** Data analysis shows that long-term users had significantly more severe UI symptoms ($p \leq 0.01$) than short-term users. Short-term users reduced their pad usage by 20%, but long-term users' pad usage remained unchanged. Average leakage was reduced 14.6 mg/day for short term vs. 4.5 mg/day for long-term users, but this difference was not statistically significant. ($p = 0.93$) due to high data variability ($SD = 611$). There was no significant difference between long-term and short-term users in severity of self-reported stress and urge incontinence. Bladder training positively correlated with reduction in pad usage ($p = 0.03$) and leakage amount ($p = 0.02$). **CONCLUSIONS:** Overall, our findings suggest that *iDry* is a useful, accessible and convenient tool to document UI symptoms and improvement. It can be used conveniently to implement self-care to reduce disease burden. **Research Implications:** *iDry* provides a valuable tool to researchers for data collection and monitoring patient progression. It can be used in clinical trials to assess the effectiveness of medical and behavioral interventions to UI. **Practice Implications:** Clinicians can use *iDry* to accurately assess patient's UI symptoms and improvement for providing quality care. *iDry* also provides a tool for facilitating patient-physician communication about UI.

Acknowledgement of Funding: The study was supported by the National Institutes of Health/National Institute on Aging (GRANT# R43 AG042162-01; PI: Pepper).

P2-176

Impact of Prophylactic Mastectomy. From Research to Intervention Implementation: Preliminary Experiences

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Erasmus MC

BACKGROUND/PURPOSE: As a result of our long-year studies on impact of prophylactic mastectomy on body image and self-esteem a group intervention was developed with regard to the supportive-expressive needs of women at risk for hereditary breast cancer. With a maximum of 10 members, a closed eight-session group programme was developed focussing on the following themes: body image, social support, coping, loss, partner relationship/dating, family communication and surgery of ovaries. Also, we intended to organise five separate partner sessions. **METHODS:** We have conducted three groups from November 2013 until January 2015. **RESULTS:** In total 22 women participated aged 26–57 years, 17 (77%) of these women had a partner and 16 (73%) had children. Women reported that the group programme was beneficial. Sharing experiences was found most helpful, and women felt less isolated and more supported. However, it was noted that women who had a history of breast cancer felt different from women who were unaffected as they had other experiences. Experiences regarding different ages in the group were mixed, in that some women found it positive while others found it a limitation. Partners, although invited, were mostly not interested. In total, we conducted four sessions including four partners. **CONCLUSIONS:** A group intervention specifically for women at risk for hereditary breast cancer was found to be beneficial. However, the most optimal content and structure of the programme depends on the group dynamics. Furthermore, the specific support needs of the partner may be different from women's support needs.

Research Implications: More research should focus on the specific support needs of the partners of high-risk women.

Practice Implications: The supportive-expressive group programme specifically focussing on the experiences of high-risk women who had undergone prophylactic mastectomy seems to be beneficial. As the experiences of affected and unaffected women are different, we recommend that the proportion of affected/unaffected women in the group should be equal, or to conduct separate groups for these women. It may be interesting to conduct a group including only younger women.

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P2-177

Approaching the 'Sex Talk': Using Anon's PLISSIT Model to Address Sexuality with a Breast Cancer Patient

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BACKGROUND/PURPOSE: 74% of cancer patients report interest in discussing sexual health with their medical team during and after treatment, but a much smaller portion report having the opportunity to do so. Flynn *et al.* (2011) reported that 29% of breast cancer patients had this discussion within the context of their treatment. Anon's PLISSIT model (*Permission, Limited Information, Specific Suggestions, Intensive Therapy*) (1976) is a useful framework for discussing sexuality. Its potential use with oncology patients is illustrated using a case study of a young woman with breast cancer. **METHODS:** A 28-year-old Caucasian female with a history of breast cancer self-referred to therapy due to changes in body image and loss of sex drive. Assessment data indicated anxiety associated with decreased sexual functioning. The patient met criteria for Adjustment Disorder with Anxiety. The patient was seen for 7 sessions during which Anon's PLISSIT model of sex therapy was used as a framework to introduce the topic, provide education, and problem solve. **RESULTS:** The patient reports greater comfort in discussing sexual health with her oncologist. She also reports a better understanding of the sexual side effects of chemotherapy and increased satisfaction with her sex life. The patient remains in therapy and continues to work on post-treatment anxiety. **CONCLUSIONS:** The PLISSIT model can be suitable for use with cancer patients who are seeking the opportunity to discuss changes in sexual functioning.

Research Implications: This case supports the need for further research into models that may effectively facilitate provider-patient communication regarding sexual health.

Practice Implications: Clinicians who treat patients struggling with sexual side effects of cancer or its treatment may benefit from reviewing a framework that has been used to facilitate discussion regarding sexual health concerns.

Acknowledgement of Funding: None.

P2-178

Integration of Psychosocial Support at Critical Care Points in Oncology Care

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BACKGROUND/PURPOSE: This presentation provides a review of two separate pilot projects that focused on the implementation of psychosocial support to supplement the treatment trajectory of cancer care. Critical care points include diagnosis, recurrence and unplanned hospitalizations; when patient distress may be high. Common barriers that could impede program integration and decrease access to psychosocial support were also examined. **METHODS:** Data from separate pilot projects were evaluated postdischarge. Data were collected on the number of completed social work referrals and completed visits. Program pilots focused on social work consults for the initial diagnosis of Myeloma and Amyloidosis patients and following hospitalization for GI and Colorectal cancer patients (7–10 days). Data were also obtained from project milestone meetings with key stakeholders, which reflected challenges in adaptation of new practice. **RESULTS:** In both pilots, there were similar barriers in the referral process that impeded access to psychosocial support. The data gathered reflected underutilization of psychosocial support in overall number of social work referrals and resources due to limited interdisciplinary collaboration. Barriers were attributed to lack of education and awareness of initiatives that aim to increase access to psychosocial support. **CONCLUSIONS:** These data show that both projects reflected common barriers that had a significant impact on program implementation. Cancer Centers will need to strategically plan initiatives to reduce barriers often associated with starting multiple projects intended to increase access to psychosocial support initiatives. Stakeholder education related to psychosocial initiatives is needed for increasing participation and diminishing practice barriers.

Research Implications: This information may be used to by researchers with an interest in psychosocial program development. Researchers will benefit from obtaining information on factors that limit practice changes in attempts towards increasing access to psychosocial support.

Practice Implications: This information may be relevant to clinical practice by identifying the importance of education and awareness and its impact on program development or practice changes. The information reflects the relevance of the buy in of providers that may be impacted by program implementation. Further the information can be helpful towards identifying practice barriers that can negatively affect implementation and access to psychosocial care.

Acknowledgement of Funding: None.

P2-179

Creating a Psychosocial Survivorship Program for Young Adult Cancer Survivors

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BACKGROUND/PURPOSE: Young adult cancer survivors are an underserved population who have needs unique to their age group that are broader in scope, longer lasting and more anxiety-laden than those of older survivors. Cancer180 was created to provide a multi-pronged approach to help young survivors move into adulthood and beyond with the skills and support they need. It consists of content-rich workshops led by cancer experts to increase knowledge and self-efficacy, a website with resource information, social activities and peer mentoring to provide social support. **METHODS:** In recognition of the lack of survivorship programs identified by the Texas Cancer Plan, we have conducted six annual symposiums in the Greater Houston area, Rio Grande Valley, El Paso/Paso Del Norte and Central Texas/Austin areas. Our objective is to educate and support the young survivors based on their identified unique needs. **RESULTS:** Overall satisfaction measures taken at the symposiums reliably score in the top 10%. Ninety-five percent feel they have increased their overall knowledge of cancer resources. **CONCLUSIONS:** Young cancer survivors are hungry for information specific to them and their challenges. These topics include education/employment, nutrition/exercise, insurance/financial aid, fertility preservation, long-term survivorship and prevention. Informal outings provide attendees a chance to network, share solutions and resources, and make new friends. More than 90% reported on their evaluations that they plan on using the resources presented and will better be able to make important health promoting decisions.

Research Implications: Research to confirm and rank the unique needs and isolation reported by the young survivors would be helpful. As it is, programs use the research available for programming and will continue as it becomes available.

Practice Implications: Knowing the differences between young cancer survivors and older survivor populations is key to being able to help this underserved population. The isolation they feel even while sitting in the waiting room, a sea of gray hairs and a young person, is a story told over and over again by the young survivors, ages 18–39. The challenges of dating, getting married, having close relationships, raising children, independence, finishing your education be it high school or college, employment, exercise, nutrition, dating, body image, sexual relationships, maintaining friends and conversations about their diagnosis are all specific to this underserved population.

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P2-180

A Systematic Review of Interventions for Adherence to Oral Chemotherapy in Patients with Cancer

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BACKGROUND/PURPOSE: Oral chemotherapy is becoming a common regimen of cancer care, giving patients greater flexibility with the delivery of their care and improved survival rates. While the benefits are clear with respect to convenience of administration and improved quality of life, patients and caregivers receive less support for adherence and symptom management from their oncology clinicians, which can negatively impact disease outcomes. Effective interventions are needed to support patients in adhering to oral chemotherapy treatment regimens. We conducted a systematic review of the literature to assess interventions that have been successful in improving adherence. **METHODS:** Following PRISMA guidelines, we conducted a comprehensive literature search using Ovid MEDLINE database from 1946 to 2014 with relevant oral and endocrine agent terminology. We included treatment studies, such as randomized controlled trials (RCTs), cohort studies, and pilot studies. At least two independent researchers evaluated each paper to determine risk of bias and ensure accuracy of results. **RESULTS:** We identified 875 records from the database search and screened 196 abstracts. We conducted a full-text review of 154 articles to determine eligibility. Eleven articles were included in this systematic review of intervention studies ($n=4$ RCTs, and $n=7$ single-group pilot studies). Five studies yielded significant improvements in adherence to oral chemotherapy. **CONCLUSIONS:** Few studies have focused on interventions to improve adherence to oral chemotherapy and endocrine therapy. Preliminary findings from this review suggest that treatment management programs, patient counseling, and tailored nurse coaching programs may be promising approaches to improve adherence. Limitations and future directions will be discussed.

Research Implications: Future research should include interventional studies, such as RCTs and standardized methodologies to improve adherence rates.

Practice Implications: Effective interventions to improve adherence to oral chemotherapy should include educational materials, patient counseling, and psychosocial/behavioral techniques.

Acknowledgement of Funding: None.

P2-181

Becoming a Literacy-friendly Organisation to Better Support People with Health Literacy and Numeracy Needs

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BACKGROUND/PURPOSE: According to the European Health Literacy Survey, 40% of Irish people have limited health literacy (1). Health literacy and numeracy is essential to delivering effective health services. It has two elements: the health provider communicates clearly and the customer understands correctly. Health literacy is more than the ability to read and write; it refers to a broad constellation of cognitive and psychosocial skills (2).

In 2014 the Irish Cancer Society (The Society) and the National Adult Literacy Agency (NALA) worked together to look at how the Society could become more literacy-friendly. This means: (1.) Becoming more aware of adult literacy and numeracy needs (2.) Putting in place literacy-friendly policies and procedures to remove barriers to fully access your services; and (3.) Regularly evaluating and consistently improving this. **METHODS:** During this project NALA supported the Society to follow a five-step process to become more literacy-friendly;

- Step 1 Planning
- Step 2 Literacy Audit
- Step 3 Action Plans
- Step 4 Implement Action Plans
- Step 5 Monitor and Evaluate

Part of this work included doing a literacy audit. Through this process we identified existing good practice and areas for improvement. **RESULTS:** The audit process highlighted three key areas (1.) Overall policies and procedures. (2.) Communications. (3.) Staff Training and development. **CONCLUSIONS:** A Literacy Audit report including an action plan was drawn up. One action suggested to do joint research on accessing and understanding cancer information for people with limited health literacy and numeracy. In March 2015, it was agreed that both organisations would perform further research into this area.

Research Implications: This research highlights the need for cancer care organisations to better cater for people with limited health literacy and numeracy skills.

Practice Implications: This information has significant implications for organisations that produce and market cancer information and how they design and promote their information.

Acknowledgement of Funding: None.

P2-182

A Systematic Review of the Concordance between Patient-reported and Objective Oral Chemotherapy Agent Adherence

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BACKGROUND/PURPOSE: The use of oral chemotherapy agents (OCAs) has been steadily increasing, leading to several patient benefits, including greater independence. A notable challenge is ensuring that patients adhere to their OCA regimens, as non-adherence is associated with poor health outcomes and decreased survival. Currently, there is no gold standard measure of OCA adherence. As such, we conducted a systematic review of the relationship between objective and patient-reported measures of OCA adherence. **METHODS:** A systematic electronic literature search was conducted using PubMed, EMBASE, Scopus, PsycINFO, Cochrane, Web of Science, and CINAHL databases (November 2014). A total of 11,135 articles were retrieved. Studies were excluded if they were non-cancer specific, did not include adults aged ≥ 18 , or were review articles. Publications were selected for review based on consensus among two independent authors, with a third author arbitrating as needed. **RESULTS:** Eight studies met inclusion criteria. OCA regimen type varied across studies. Objective OCA adherence was primarily assessed using pill counts or Medication Event Monitoring System (MEMSCap™). Patient-reported OCA adherence was most commonly assessed using study-specific questionnaires. Significant positive correlations were observed between objective and patient-reported adherence across most studies ($k=6$), with the majority of studies reporting higher rates of adherence via patient-reporting. **CONCLUSIONS:** Despite variation in the OCAs and measures used, patient self-reported OCA adherence rates were equal to or better than objective OCA adherence measures across studies. Social desirability bias may be a concern; however, given the significant measurement concordance observed, the use of patient-reported methods in future studies of OCA adherence is justified.

Research Implications: We performed a comprehensive systematic review of the available research evidence directly comparing patient-reported measures and objective measures of adherence to OCAs. Few studies actually compare and test the effectiveness of subjective vs objective adherence methods. Our results suggest that adherence

rates to OCAs in cancer treatment and survivorship as reported by patients and observed in objective assessments are concordant. As such, future research that assesses adherence to OCAs may utilize patient-reported measures as a cost-effective and high-quality alternative to objective methods.

Practice Implications: With the advent of OCAs in cancer treatment, it is necessary to examine whether or not patients are being adherent to their treatment regimens, and the reasons for non-adherence. The available literature has documented significant barriers and adverse events that may impact adherence, and consequently clinical outcomes. Asking patients directly about their adherence to their treatment regimen and their experience taking OCAs is a valid way to assess these important psychosocial aspects of treatment. Our results show that patients are equally poised to report their medication adherence as the most frequently used objective measures (i.e., MEMSCap™, pill counts). Thus, present findings provide evidence that future clinical trials of OCAs seeking to measure patient adherence should focus on using patient-reported methods.

Acknowledgement of Funding: This project was supported by a National Institutes of Health Research Training Grant (T32 CA009461-25); as well as a National Institutes of Health Support Grant (NCI 2 P30 CA08748-48), which provides partial support for the Behavioral Research Methods Core Facility used in conducting this investigation.

P2-183

The Relationship between Cancer Patients' Resiliency and Psychosocial Distress

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BACKGROUND/PURPOSE: Cancer is considered by most a stressful and adverse event. Receiving a diagnosis of cancer and cancer treatments have been associated with a number of psychosocial responses that contribute to psychosocial distress, including increased worry, sadness, and poor sleep (Miller & Massie, 2010). Resilience has been defined as one's ability to recover or *bounce back* following traumatic circumstances or challenging events (Carver, 1998). To date, little is known about the relationship between cancer patients' self-perceptions of personal resiliency and reported psychosocial distress. **METHODS:** This study examined the relationship between cancer patients' self-reported resilience and psychosocial distress. Brief questionnaires were administered to patients ($N=101$) presenting for initial consultation with a

psycho-oncology service within a large academic medical center. Questionnaires included the Brief Resilience Scale (BRS), The NCCN Distress Thermometer, and a demographic form. RESULTS: Analysis revealed a significant, negative correlation between perceived resilience and reported distress, $r = -0.40$, $p < 0.01$, and perceived resilience and number of reported problems, $r = -0.33$, $p < 0.01$. CONCLUSIONS: Patients' perceived resilience may serve as a protective factor against distress in physical, practical, and emotional domains.

Research Implications: Future research in this area may assess the impact of psychosocial interventions to foster the development of resilience and measure the effects of improved resilience on psychosocial distress.

Practice Implications: Clinicians may focus on interventions to build resilience with patients reporting heightened distress.

Acknowledgement of Funding: None.

P2-184

Translation and Validation of a Quality of Life and Needs Assessment Tool: The Cancer Rehabilitation Evaluation System and Its Short Form

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BACKGROUND/PURPOSE: Patient centeredness is an important aspect of quality care. The use of patient-reported outcome (PRO) tools to stimulate communication and patient involvement is encouraged. The Cancer Rehabilitation Evaluation System (CARES), a quality of life (QOL) and needs assessment tool, was translated and validated for use in the Dutch speaking part of Belgium. Psychometric properties of the full and short versions were examined. **METHODS:** Data were collected with questions on socio-demographic characteristics, the CARES and six concurrent measures in a first questionnaire. The CARES contains 139 problem statements (min.93-max.132 applicable per person) with a 5-point-Likert scale to obtain a QOL-rating and for each item the question 'Do you want help?' Five summary scores and a CARES Total can be computed. After 2 weeks the CARES was completed a second time. The CARES-Short Form contains 59 items. **RESULTS:** Data of 176 patients with diverse cancer diagnosis were eligible for analysis. For both the long and short version internal consistency ratings of the summary scales and CARES Total were high (0.72–0.96). Test-retest correlations ranged from 0.70 to 0.91. Correlations with concurrent

measures were moderate to high (0.42–0.73). With principal component analysis the original factor solution was approximately replicated. **CONCLUSIONS:** The Flemish translations of the CARES and the CARES Short Form have excellent psychometric properties. Reliability and validity ratings are in the same range as in the original American instrument.

Research Implications: The CARES is a valuable PRO-tool for research in cancer patient populations, since it gives the opportunity to measure patients well-being in the physical, psychosocial, marital and sexual domains of life and on the topic of medical interaction. This study as well proves the reliability and validity of the instrument.

Practice Implications: If for implementation in clinical practice a shorter instrument is needed, the CARES Short Form is a good alternative for the full version. The psychometric qualities are equally robust.

Acknowledgement of Funding: Limburg Sterk Merk (LSM) provided funding for this study.

P2-185

One Single Help Question versus Differentiated Needs Assessment and Their Potential Value for Quality Cancer Care

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BACKGROUND/PURPOSE: To improve quality of cancer care, screening for distress and supportive care needs is recommended. In the clinical field, screening is preferred to be short to be easy implementable in the busy everyday practice. In this study data obtained with 'one single help-question' is compared to the results of more extensive and differentiated needs assessment. **METHODS:** Three instruments were used to collect data from 176 adult oncology patients: (1) The Distress Thermometer (DT) joint with one single help-question, (2) the Care Needs Questionnaire (CNQ) posing help questions for eight distinguishable domains of life, and the Cancer Rehabilitation Evaluation System (CARES) with a help-question following each individual problem statement. **RESULTS:** On average, participants were 50.54 years of age ($SD = 7.21$), female (69.20%) and in a relationship (87.20%). On the single help-question 59.10% answered 'no', 31.30% 'maybe' and 7.4% 'yes'. From the 59.10% participants answering 'no', a fairly large group indicates they are in need in the differentiated needs assessment. On the several life domains presented in the CNQ 6.7–26.0% indicates to have care needs to a greater or lesser extent. As well in the needs assessment of the CARES 1–17.5% of them indicates

they would like to get help for specific concerns. **CONCLUSIONS:** Participants in this study indicating not to be in need for help when answering a single help-question, at the same time mention several care needs when differentiated needs assessment is applied.

Research Implications: In research and in clinical practice, a balancing act takes place in the development and choice of patient-reported outcome tools. For researchers, it is interesting to know that the chosen format of a needs assessment tool can influence the amount of supportive care needs that are revealed.

Practice Implications: Completeness and time investment for patients and staff to work with the instrument both play a major role in needs assessment. Although screening with one single help-question is interesting according to the time-criterion, results of this study seem to indicate that differentiated needs assessment could give more input for the organization of comprehensive quality cancer care.

Acknowledgement of Funding: Limburg Sterk Merk (LSM) provided funding for this study.

P2-186

The PHQ-9 Scores in an Oncology Population: Why Some Cancer Patients Are Refusing Help

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BACKGROUND/PURPOSE: Taussig Cancer Institute has begun to use the PHQ9 as a distress screening tool in January 2015. After review of research and literature, it was determined that a threshold of 8 or higher would result in the offer of a face to face visit with a Social Worker (SW) with the goal of addressing patient distress. There has been a clear trend in refusals, namely patients who score in the 8 to 12 range on the PHQ9, for help or to see a Social Worker. **METHODS:** Nurses responsible for closing out the PHQ9 scores were required to page Social Workers, our first responders, with the PHQ9 score and whether the patient was receptive to meeting with a SW. Data were collected from pager over a 3-month period tracking responses to answers for questions numbers 3, 4, 5 and 8 on the PHQ9. Percentages and trends of responses using the PHQ-9 overall scores and questions 3, 4, 5 and 8 were deidentified and entered on an excel spreadsheet. **RESULTS:** Over 70% of the refusals are in the 8–12 range. We may be capturing more side effect distress in questions 3,4,5 and 8 that are upsetting but not true depression. **CONCLUSIONS:** Results may help cancer centers refine their use of PHQ-9 and offer some insight into why patients are refusing.

Research Implications: Surveying patients who refuse may help us better understand their reasons.

Practice Implications: May improve the use of the PHQ-9 with cancer patients and better understand common side effects versus true depression.

Acknowledgement of Funding: None.

P2-187

Advice about Cancer-related Disclosure from Cancer Survivors in College

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BACKGROUND/PURPOSE: Cancer survivors experience challenges surrounding disclosure of their cancer history. Little guidance exists regarding this important topic; therefore, the purpose of this study was to elicit advice about disclosure from cancer survivors in college. **METHODS:** Thirteen women and seven men, ranging in age from 18 to 30 years ($M=21$ years) and attending college in the USA, participated in an individual, semi-structured interview conducted via video chat. As part of a larger qualitative study, we asked participants, ‘What advice would you give to other young cancer survivors about sharing their cancer history?’ **RESULTS:** Participants’ responses fell into three thematic categories: (1) encouraging disclosure of cancer diagnosis and highlighting the benefits of disclosure, (2) offering support to other young cancer survivors, and (3) providing cautionary advice about cancer disclosure and warning about possible unwanted reactions to disclosure. Benefits of cancer disclosure mentioned by participants included connecting with other people and strengthening relationships, acknowledging and taking ownership of one’s cancer survivor identity thereby enhancing personal development, contributing to a larger purpose, and making a positive impression. Four types of supportive advice were suggested: (1) finding courage and strength, (2) being comfortable with one’s self and being unashamed of one’s experience, (3) remaining cognizant that disclosure is one’s decision, and (4) dealing with other people’s reactions. Finally, participants cautioned against early cancer disclosure to avoid scaring people away. **CONCLUSIONS:** Cancer disclosure is a personal, highly individualized experience, but these words of wisdom from young survivors may provide useful guidance for other young cancer survivors.

Research Implications: Little research has explored the topic of cancer-related disclosure among young adults. Future research will examine measurement and intervention development.

Practice Implications: Results provide guidance for young adult cancer survivors, and those who care for and about survivors, to have a conversation about their various disclosure options, especially before starting a new college experience.

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P2-188

Examining the Effects of Adjuvant Chemotherapy Treatment on Cognition in Colorectal Cancer Patients: A Feasibility Trial

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BACKGROUND/PURPOSE: Research suggests that chemotherapy can cause decline in patients' cognitive functions. **Objective:** To measure recruitment to, compliance with and the acceptability of a large multi-site study designed to examine chemotherapy-induced cognitive changes in colorectal cancer patients. **METHODS:** In a 9-month feasibility trial, data were collected on subjective and objective cognitive functioning, quality of life (QoL), fatigue and mood pre-chemotherapy, mid-chemotherapy and post-chemotherapy treatment from a consecutive sample of colorectal cancer patients from three NHS Trusts. Participants included patients who had undergone colorectal surgery followed by adjuvant chemotherapy treatment, and surgery-only patients. **Main outcome measures:** Recruitment procedures, rate of recruitment, total number of hospital sites needed, completion of assessments, suitability of exclusion/inclusion criteria and attrition rate. **RESULTS:** From April 2014 to December 2014, 56 potential participants were invited to take part in the trial, 37 eligible patients either could not take part or refused to. Of the 19 that completed T1, only 1 withdrew at follow-up due to reasons of ill health from disease recurrence. **CONCLUSIONS:** Minor amendments should be made to the protocol, namely: An increased dedicated research team of 3 for an additional 18 months. All patients who participated completed the entire battery of assessments and questionnaires, and indicated that they found the trial acceptable. Furthermore, two additional NHS Trusts who had learned of the trial asked to participate as collaborators. The results highlight the importance of this research to cancer

patients and their medical teams, and its implications for identifying cancer survivors with unmet supportive care needs.

Research Implications: A preliminary protocol was developed in accordance with the International Cognition and Cancer Task Force's (ICCTF) recommendations in relation to study design issues and neuropsychological assessments in the area of cancer and cognition (Wefel *et al.*, 2011); however, it was necessary to determine what resources would be required to run a full study and in particular to ascertain the following:

- Willingness of participants to take part;
- willingness of clinicians to recruit participants;
- number of eligible patients at the participating Trusts;
- follow-up rates and response rates to questionnaires and assessments;
- time needed to collect and analyse data.

The results of this trial will therefore enable the researchers to determine whether the full protocol could be implemented as designed or whether significant alterations to the design, methodology and suggested analysis are necessary as well as to determine the resources required to conduct a full study. Consequently the initial protocol will both inform and itself be informed by this trial.

Practice Implications: The result from a large multi-site study will indicate whether a decline in cognitive functioning can be attributed to chemotherapy or to disease, surgical or some other confounding factor. Identification of risk factors for cognitive deficits may be used to inform targeted interventions, either compensatory or rehabilitating cognitive strategies to manage cognitive deficits or challenging unhelpful perceptions of cognitive functioning to lessen the negative effects on quality of life.

Acknowledgement of Funding: PhD Studentship from City University London.

P2-189

Belonging to a Peer Support Group Enhances the Quality of Life and Adherence Rate in Patients Affected by Breast Cancer

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BACKGROUND/PURPOSE: Breast cancer is the most common cancer in women. It seems that breast cancer patients benefit from meeting someone who had a similar experience. This study evaluated the effect of two kinds of interventions (peer support and educational program) on quality of life in breast cancer patients. **METHODS:** This study was a controlled clinical trial on women with non-

metastatic breast cancer. The patients studied in two experimental and control groups. Experimental group took part in peer support program and control group passed a routine educational program during 3 months. The authors administered SF-36 for evaluating the quality of life pre-intervention and post-intervention. Also, patient's adherence was assessed by means of a simple checklist. **RESULTS:** Two groups were similar with respect of age, age of onset of the disease, duration of having breast cancer, marital status, type of the treatment receiving now, and type of the received surgery. In the control group, there were statistically significant improvements in body pain, role-physical, role-emotional and social functioning. In experimental group, role-physical, vitality, social functioning, role-emotional and mental health showed significant improvement. Vitality score and mental health score in experimental group was significantly higher than that of the control group, both with $p < 0.001$. Also, it was shown that adherence was in high levels in both groups and no significant difference was seen after the study was done. **CONCLUSIONS:** According to the results of this study, supporting the patients with breast cancer by forming peer groups or by means of educational sessions could improve their life qualities.

Research Implications: The greatest problem of the current study was lack of randomization of patients for each group, which was due to small number of patients who had the inclusion criteria and were willing to participate.

Practice Implications: people who have gone through the same experiences and making new opportunities to help similar people would not only normalize patient's experience also make a positive role, reinforce (augment) health-promoting behaviors and enhance self-confidence in patients

Acknowledgement of Funding: This study was funded by Research Deputy of Isfahan University of Medical Sciences.

P2-190

Relationship Intimacy and Quality of Life in Black Prostate Cancer Survivors and Partners

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BACKGROUND/PURPOSE: Given the significantly higher prostate cancer diagnosis and mortality rates among African American men there is a need for more post-treatment survivorship research addressing the psychosocial needs of this population. For men with partners, perceived relationship functioning could have an impact on quality of life across multiple domains. This study tested the hypothesis that stronger perceived relationship functioning would be associated with higher quality of life

in both survivors and partners. We also examined the effect of partner perceptions of relationship functioning on survivor QOL and vice versa. **METHODS:** Participants were 47 African American prostate cancer survivors and their partners ($N=94$). Survivors completed measures of relationship functioning (i.e., intimacy), symptom distress, negative mood (depression and tension/tension), and disease-related quality of life (physical, functional, emotional, and social well-being). Partners completed the same measures of relationship functioning and mood, as well as a measure of caregiver strain. **RESULTS:** Survivors reporting higher intimacy also reported better mood. For partners, relationship functioning was not significantly correlated with QOL. Analyses examining associations between partners' perceptions of relationship functioning and survivor QOL indicated that when partners reported higher intimacy scores, survivors reported greater QOL across multiple domains. However, relationship functioning in survivors was not correlated with QOL in their partners. **CONCLUSIONS:** Taken together, these findings provide preliminary support for the idea that stronger relationship functioning (particularly intimacy) may be important for enhancing QOL in African American prostate cancer survivors, but does not appear to be protective for partners.

Research Implications: While relationship functioning appears to be an important correlate of QOL in the survivors in this, study, it appears less important for partners. In future studies, researchers need to go beyond relationship functioning to identify other psychosocial variables that are more relevant to QOL in partners.

Practice Implications: Supportive interventions that seek to promote positive aspects of the relationship between survivors and their intimate partners, may result in greater benefit for survivors as compared to partners.

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P2-192

Developing Psycho-oncology in Turkey and Iran

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BACKGROUND/PURPOSE: To describe how meetings at IPOS stimulated the development of new programs in Turkey (2008) and Iran (2015). At IPOS, Venice, 2006 psychiatrists from Turkey, invited the author to lecture in the future. Meeting at IPOS Antalya, 2011 a psychiatrist in Tehran later invited the first author to lecture on group therapy in February, 2015. **METHODS:** From 2007, to

2011 the first author made four trips to Turkey, including a 6-week Fulbright Specialist appointment speaking on the importance of psycho-oncology, and group therapy with cancer patients. At IPOS, Antalya in 2011, a pre-conference workshop psychiatrist, (Iran) spoke of the need for a psycho-oncology fellowship in Tehran and her desire to facilitate group therapy with patients in the cancer center. In February, 2015 the first author was invited to speak at the 10th International Breast Cancer Conference in Tehran, Iran. **RESULTS:** Second author, Turkey: 'Since 2008, many valuable programs have been established to support cancer patients/families in Turkey. Today we see that a national program should be started concerned with all stages of cancer. Psycho-Oncology specialists are needed for further development of the field'. Third Author, Iran: 'Our connection has had many positive effects. We are in the process of developing a psycho-oncology fellowship in our university. In the cancer center two groups for breast cancer patients are being started this month (April, 2015)'. **CONCLUSIONS:** In both situations, psychiatrists in Turkey and Iran were able to use IPOS contacts to expand the interest in Psycho-oncology and knowledge of group therapy in their country.

Research Implications: Research Implications: Future research is suggested on the importance of linkages between colleagues in the growth and development of IPOS programs in countries with fewer initial resources.

Practice Implications: Practice Implications: Program leaders throughout the world may benefit from the idea of inviting IPOS members to lecture in their countries as a stimulation to administrators on the benefits of developing psycho-oncology programs in their cancer centers and universities.

Acknowledgement of Funding: US Fulbright grant funds were used in Turkey. The Iranian Government sponsoring the Cancer Center paid for the trip to the 10th International Breast Cancer Conference, February 25–27, 2015.

P2-193

Japanese Peer Supporters' Psychological Process of Adjustment to Cancer: Toward Restructuring a Sense of Well-being

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BACKGROUND/PURPOSE: Although peer support services for people with cancer are prevalent in Japan, little research has examined how the providers of support, who had survived cancer, adjusted themselves psychologically to cancer. This study investigated the support providers' psychological process of stepwise adjustment to cancer through the social programs held annually in Japan. **METHODS:** We had semi-structured interviews

with six Japanese supporters who had survived cancer and participated in planning the social programs which aimed to raise funds for cancer research and awareness for cancer prevention and/or screening. **RESULTS:** Our analysis identified the psychological process in which the supporters found providing help or support meaningful not only to people with cancer as the recipients but also to themselves who volunteered as the helpers for people in distress. The interviewees, having faced hardship of suffering from cancer (Phase 1), got the opportunity of helping people with cancer (Phase 2) in which they experienced the reversal of function from recipient to provider (Phase 3) and a sense of achievement felt in the role of helpers as those who had survived cancer (Phase 4) enhanced their own self-reliance (Phase 5). **CONCLUSIONS:** Our investigation suggested that the peer supporters' self-reliance awakened in the process of their own psychological adjustment to cancer initiated a stronger sense of who they are and the alleviation of existential suffering from cancer simultaneously led to restructuring a sense of well-being. It was also observed that the peer supporters interviewed are psychologically in favor of holding a meeting annually.

Research Implications: Our contributions to the improvement of scientific knowledge are as follows: (1) How the Japanese peer supporters are psychologically adjusted to cancer through participating in planning peer support programs. (2) How their psychological adjustment to cancer is affected by frequency (yearly) and purposes (raising funds for cancer research and awareness for preventing cancer and screening) of the meeting.

Practice Implications: Our study makes it clear that the peer supporters, who survived cancer, can be initiated into services which satisfy their motivation. The results of our study also help therapeutic experts find when and where those who are volunteering their services as helpers meet difficulties in restructuring a sense of well-being.

Acknowledgement of Funding: This research is financially supported from 2013 to 2016 by Japan Society for the Promotion of Science (Grant-in-Aid for Scientific Research no. 25380960).

P2-194

A Qualitative Examination of the Feasibility of a Computerized Cognitive Training Program in Long-term Pediatric Brain Tumor Survivors

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BACKGROUND/PURPOSE: Pediatric brain tumor survivors (PBTS) experience neurocognitive difficulties that are increasingly being addressed with computer-based interventions, such as *CogmedRM*. System theories suggest an interaction between survivor and family factors in influencing adherence to interventions requiring parental involvement. This study uses qualitative methods to examine the parent and survivor factors that influence completion of the *CogmedRM* program. **METHODS:** Two participants representative of program completers and non-completers were selected from a larger study evaluating *CogmedRM* in PBTS. *CogmedRM* includes 25 sessions over 5–6 weeks accompanied by weekly coaching calls. Participant A completed all sessions within 6 weeks supported by his mother. Participant B and his mother withdrew after completing eight sessions over 5 weeks. Survivor and family factors identified during baseline evaluations and qualitative review of intervention progress notes were compared between cases. **RESULTS:** Participant A, a 10-year-old male (glioma), resides with both parents. Participant B, a 12-year-old male (ependymoma), alternates between his parents' homes. Participants were comparable in terms of baseline IQ and working memory. Compared to Participant B, Participant A had greater processing speed and executive functioning and fewer internalizing problems. *CogmedRM* was a source of accomplishment for Participant A, whose mother implemented a regular training schedule, but resulted in frustration and conflict for Participant B, who experienced challenges related to custody-related schedules, parental communication, and behavior management. **CONCLUSIONS:** Survivor and family factors may influence feasibility of computerized training programs for PBTS. It is important to screen families for needed supports prior to beginning the intervention.

Research Implications: Participant and family factors play an important role in determining intervention attrition with computer-based cognitive training programs, particularly in pediatric brain tumor survivors (PBTS). Survivor cognitive functioning (e.g., processing speed) and family dynamics should be addressed when assessing project feasibility, and potential mitigating solutions should be considered.

Practice Implications: Successful completion of computerized cognitive training programs for PBTS relies heavily on parental involvement and support. Careful screening of both survivors and families is necessary for identifying factors that may serve as barriers to successful computer-based interventions.

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P2-195

A Randomized, Double-blind, Placebo-controlled Trial of Escitalopram for the Treatment of Emotional Distress During Treatment for Head and Neck Cancer

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BACKGROUND/PURPOSE: Depression is frequent in oncology settings, leads to a worsened quality of life, and is likely to be an independent risk factor for cancer mortality (Satin 2009). Antidepressants are commonly prescribed to cancer patients (Rayner 2011) but there is still a lack of evidence of their efficacy, especially in mild depression. We report the results of a multicentric randomized double-blind placebo-controlled trial of escitalopram for the treatment of emotional distress during treatment for Head and Neck Cancer (HNC). **METHODS:** All new HNC patients were screened with the HADS by the oncologists at the first consultation. Patients were eligible if HADS total score was >11 on two evaluations distant from at least 7 days. Palliative care patients, bipolar disorders or severe major depressive disorders were excluded. After randomization patients received daily oral tablet with 10 mg escitalopram or placebo. Evaluation was performed at inclusion, weeks 4 and 12, using CES-D, MADRS and self-evaluation by HADS. **RESULTS:** Thirty-eight patients have been included (34/38 with epidermoid carcinoma), 20 in antidepressant arm, 18 in placebo arm. At week 12, 31 patients have been analysed. We found no significant difference on the main endpoint, HADS-D score. However, MADRS and CES-D were significantly lower in the antidepressant arm (at W12 MADRS mean score 5.25, SD 4.45 vs 9.17, SD 10.15, $p=0.01$ /CES-D mean score 18.23, SD 4.34 vs 20.46, SD 9.13, $p=0.02$). **CONCLUSIONS:** In this pilot study escitalopram has proved to alleviate depressive symptoms of new treated head and neck cancer patients with significant continuing distress.

Research Implications: These results need to be replicated in a larger sample.

Practice Implications: Head and neck cancer patients screened for persistent emotional distress may benefit from antidepressant treatment.

Acknowledgement of Funding: Trial sponsor : Gustave Roussy University Hospital. Limited grant received from Lundbeck for the costs of the drugs.

P2-196

The Influence of Positive Thinking on Cancer Patients Going through Chemotherapeutic Treatment

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BACKGROUND/PURPOSE: This study is based on the idea of 'Mind-and-Body' relationship and psychosomatic influence. The study is quasi-experimental and proceeded in qualitative research analysis. The aim of the study is to explore the effect of positive thinking on the healing of cancer patients who are under chemotherapy treatment. The hypothesis of the study is positive thinking enhances the treatment of the patients with cancer disease in an effective way. The study was applied through observation of changes through time; also it required an individualistic approach to every patient. The participants of the study were patients with ovarian cancer of different ages but the same stage of the cancer. Therefore, the patients were chosen half-randomly. **METHODS:** First task is to observe the influence of the positive thinking on an advantageous treatment outcome. Next task is an evaluation of common personal qualities with a tendency to recovery. **RESULTS:** The study is directed towards the working with resources; also individual opportunities that are triggered in every patient. A selection of the positive thinking is carried out individually; patient-oriented approach is applied. **CONCLUSIONS:** The research's positive tendency is observed. The result is seen for 60% of cases.

Research Implications: Positive thinking means thinking 'in fact', and not in a positive way as 'everything will be alright', but without making negative predictions which aren't based on fact. The term 'positive' was first offered by German psychotherapist Nossrat Pesechskian, who is founder of positive psychotherapy as well. Thinking in a positive way and psychosomatic factors of the cancer disease were thoroughly described with the results based on the professional experience was promoted by spouses Saimontons.

Practice Implications: The main clue is an implementation of the factual, rational thinking and offer it to the patient as the coping tool. And its main usage is very helpful in breaking bad news process, when clinicians delivering the cancer diagnosis and the patient in the state of shock (Stages of loss by Kubler-Ross). Also, any kind of therapeutic consultation may be an advantage if patient receives factual (sometimes bad, sometimes good) news and right after it the speech (psychotherapeutic consultation) with an offered positive thinking will be better to have good relations for better treating process both for the patient and for the clinician as well.

Acknowledgement of Funding: None

P2-197

Religious Coping as a Mediator of QOL in Cancer Patients

Amani Khalil

KFSH D

BACKGROUND/PURPOSE: Religious coping is one of the most frequent methods of coping used in response to health-related stressors (Conway, 1985). Researchers have also noted the importance of religious coping in helping those who are chronically ill; moreover, those who use religious coping report fewer emotional and social problems than those who do not (Soothill *et al.*, 2002). A diagnosis of cancer may trigger several religious concerns for the individual (Greisinger *et al.*, 1997), along with feelings of anxiety, hostility, discomfort, and social isolation (McIllmurray *et al.*, 2003). In the same way, religious coping may assist the individual in coping with a diagnosis of cancer (Jenkins & Pargament, 1995). **METHODS:** The study applied mixed methods in sequence. Using convenience sampling, 210 participants with cancer completed a research questionnaire. This was composed of a set of scales assessing their coping methods, self-efficacy, religious coping, and quality of life. In addition, a further group of 13 cancer patients were recruited for the purpose of a qualitative study, using semi-structured interviews to explore in more depth their approaches to living with cancer. **RESULTS:** Results of multiple regression and related analysis of variance showed that Religious coping did not show significant effects in the quantitative analysis. However, in qualitative interviews, the religious coping mechanism showed a high impact on the quality of life of cancer participants as it was reported to be used by the majority of participants. **CONCLUSIONS:** It is concluded that, although the all variables studied were differently correlated with quality of life, religious coping revealed itself as the strongest predictor of quality of life from descriptive data supported as its impact on a patient's quality of life. One of the main recommendations is the development of psycho-oncology services for Sudanese cancer participants.

Research Implications: It would be interesting to make one or more studies of participants during the diagnostic period and after the diagnosis is confirmed. Especially in the context of Northern Africa, where little work has been published such an investigation, preferably a mixed-method study, ought to have an emphasis on what the participants actually did and thought, how they coped, and how they used their personal and social

resources when trying to deal with the threat of a potential and actual cancer diagnosis and its impact on their QoL. There is a need as well for further research in utilizing the Socioeconomic Well-Being Scale (Head & Faul, 2008) (the scale that measures the dependent variable, financial quality of life).

Practice Implications: It is underpinned by the concept that there is a link between our physical health and our more general 'well-being'. In an holistic approach to health, there is the belief that patient's well-being relies not just on what is going on in our body physically in terms of illness or disease, but also on the close inter-relationship of this with our psychological, emotional, social, spiritual and environmental state.

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P2-198

The Failure of Early Detection: The Experience of Women with Advanced Breast Cancer

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BACKGROUND/PURPOSE: Breast cancer is the most common type of cancer for women worldwide. Thanks to its healthcare system and free breast cancer screening for women over 50, Italy ranks sixth in the countries with most survivors. Yet, for some women accessing care for a possible diagnosis of breast cancer is simply too overwhelming and the initial contact with the healthcare team is delayed to the point that cancer has already metastasized. Aim of the present work is to understand the life experience of these women and what factors play a major role in this behavior. **METHODS:** Interpretative Phenomenological Analysis (IPA) of the transcripts of the interviews conducted with twelve breast cancer patients currently receiving care at Clinica Humanitas Gavazzeni (Bergamo, Italy) was conducted. **RESULTS:** It was challenging for the women to verbalize the reasons that delayed their contact with the physician and the healthcare setting. Barriers were identified in the multiple roles women were covering for their families at time of the onset of the symptoms, next to an ambivalent rapport with the physicians, and the hospital setting which was perceived as not welcoming. Participants revealed a fatalistic coping style towards the illness and treatments. **CONCLUSIONS:** Findings from this initial study highlights that personality and contextual factors influence women's screening behavior and relationship with the healthcare team.

Research Implications: The study contributes to unveil factors that lead delayed contact with the healthcare system among women with advanced breast cancer

Practice Implications: Oncologists and healthcare professionals engaged in the provision of psychosocial care can use the evidence from this study to re-consider current screening practices and protocols of care for women presenting difficulties accessing breast cancer screening programs.

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P2-199

The Cancer Dyad Group Intervention to Promote Breast Cancer Patients' Adjustment, Coping, and Perceived Social Support

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BACKGROUND/PURPOSE: Despite the increasing attention for the development of evidence-based interventions for cancer patients, only a limited number of studies have investigated group interventions' efficacy. The present study examines the impact of the Cancer Dyads Group Intervention, a psycho-educational program for breast cancer patients and caregivers, on patients' adjustment, coping style and perceived social support. **METHODS:** A pretest–posttest comparison of seven Italian women participating in the Cancer Dyad Group Intervention and their 35 matched peers who did not participate in the program was conducted. Participants completed questionnaires measuring adaptation (Interpersonal Adaptation Questionnaire), social support (Inclusion of the Other in the Self Scale), and coping style (Mini-MAC, Italian Version) after surgery and 6 months later. **RESULTS:** Participants of the Cancer Dyads Group Intervention revealed significant reduction in coping strategies like Anxious Preoccupation and Fatalism, while no changes were registered in the matched peer group. Despite similar scores for Stress in Social Situations at baseline, women in the intervention group reported a significant reduction in this dimension next to reduced Worry about Social Image. Finally, post-intervention interpersonal closeness was significantly higher in the CDGI group, suggesting that the program contributed to increased strength of the support relations. **CONCLUSIONS:** Findings from this initial study support the efficacy of the Cancer Dyad Group Intervention to promote individual's well-being and perceived social support in women diagnosed with breast cancer.

Research Implications: The study presents an innovative approach to compare participants when limited data is

available. The beneficial effect of the intervention on adjustment, coping and social support contributes to the debate about the effectiveness of psychosocial interventions for cancer patients.

Practice Implications: Healthcare professionals engaged in the provision of psychosocial care can use the evidence from this study to inform early supportive interventions.

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P2-200

Peer Support Program for Cancer Clients—South Indian Experience

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BACKGROUND/PURPOSE: Peer support program for cancer clients was well known and accepted one all over the world. In India peer support for cancer is informal and not as a support model in care. Clients show good coping with peer support. A journey started with an aim of bringing in standard training program for peer support in India and to make them as part of healing team. **METHODS:** A Training module was prepared with expert validation. The criteria's for becoming volunteer were completed treatment 1 year back, healthy on regular follow-up, completed at least primary education and willing to spend 1 h in a day. A 2.5-day workshop with pretest of self-rated skill checklist followed by posttest evaluation of self after 1 month and client rating of satisfaction with peer was planned. Incentives were provided for undergoing the training and also for providing peer support. Informed consent was obtained. **RESULTS:** Peer identification process was a huge challenge as people are stigmatized over the diagnosis and not willing to volunteer even with incentives. In about 3 months, 40 eligible clients were asked, and only 5 clients with breast cancer consented for training. Training was given and they faced difficulty with providing face to face support which was changed into telephonic support. Clients and peers expressed satisfaction over the process. The Initial hiccup was overcome and now many volunteers willing to undergo training. **CONCLUSIONS:** A formal training program for peer support has been initiated in India and effectiveness is being tested with a randomized trial and results so far are promising for the care of clients with cancer.

Research Implications: Studies on reasons for becoming volunteer and continuing as volunteer. Randomized trials on effectiveness of different models can be done in India.

Practice Implications: Clinicians can make use of such program in providing support for their clients in their institutions.

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P2-201

The Mediating Role of Oncological Patient's Needs in the Relationship between Aging and Psychosocial Distress—A Preliminary Study

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BACKGROUND/PURPOSE: Despite an increased attention to psychosocial sphere of oncological patients, psychological distress still has a strong negative impact on medical treatments. Previous studies have identified different predictors on distress in oncological population; such as: aging, number of patients' needs or/and the degree of hospitalization. The present study aimed to test the psychological process in which the number of needs may mediate the relationship between aging and distress; regardless of the degree of hospitalization. **METHODS:** Using an observational research design, oncological patients ($N=120$) were consecutively enrolled at the 'Presidio Ospedaliero' of Saronno, Italy. During the first oncological examination, participants were split according to the degree of hospitalization required for their oncological care (low vs. high); afterward, patients were tested with PDI (Cronbach's $\alpha=0.81$) and NEQ (Cronbach's $\alpha=0.89$). **RESULTS:** Mediation analysis shows statistical significance exclusively for patients in low hospitalization condition [$F=7.24$, $p=0.001$; $R^2=0.17$]. In particular, the relationship between age and distress (*path c*: $\beta=0.341$; $p=0.003$; $CI95\%:0.072, 0.347$) was partially mediated (*path a*: $\beta=0.281$, $p<0.017$; $CI95\%:0.020, 0.194$; and *path b*: $\beta=0.249$, $p<0.032$; $CI95\%:0.035,0.768$) by the number of needs. **CONCLUSIONS:** These results showed a specific mental process based on both physical and psychological variables.

Research Implications: These findings outline the possibility to investigate the psychosocial process that leads the oncological patient to experiencing distress.

Practice Implications: Moreover, these promising results suggest a possible way for the implementation of psychological intervention—based on patients' degree of

hospitalization—in order to reduce both mental and physical distress and to improve health and quality of life in oncological treatments.

Acknowledgement of Funding: None

P2-202

An Academic View on Pediatric Psycho-oncology in Turkey

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BACKGROUND/PURPOSE: World Health Organization stated that 50–200 per million children across world have cancer. The prevalence in Turkey was found as 110–150 per million children. Recently, 80% of childhood cancer cases survive 5 years or more in high-income countries. Thus, there is a growing population of long-term survivors and their families who need psychosocial care. This figures out the importance of providing psychosocial support during and after cancer treatment. **METHODS:** Pediatric Psycho-oncology is only becoming more noticeable since last decade in Turkey. To understand the academic view on the area, dissertations that are published on pediatric psycho-oncology on National Council Of Higher Education's Dissertations Center were analyzed. All 32 dissertations found in the center were included in this study. **RESULTS:** During the analyzes the studies were categorized according to specialization of the authors, focus of the study and the study sample. Fifty percent ($n=16$) of studies were carried out by nurses, 28.1% ($n=9$) by psychologists, 18.7% ($n=6$) by doctors and 3.2% ($n=1$) by social workers. In 16 studies the subject were children, in 10 were parents and 3 of the studies were carried on both children and their parents. One study was on children, their parents, and doctors. One study was on doctors, and the other is on teachers. Most of the studies focused on quality of life ($n=8$), mood ($n=4$), and social support ($n=4$). **CONCLUSIONS:** There is a growing attention on this field. Yet, follow-up of the literature, interaction between the researchers and focusing on culture specific issues are needed.

Research Implications: Pediatric Psycho-oncology is a recent field with growing attention for researchers in Turkey. More studies are expected in the country.

Practice Implications: This study aims to attract attention to Pediatric Psycho-oncology and guide researchers to carry out new studies according to clinical needs.

Acknowledgement of Funding: None

P2-203

Body Image and Quality of Sexual Life among Post-mastectomy Women

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BACKGROUND/PURPOSE: The study aimed to assess body image, and quality of sexual life among post-mastectomy women. **METHODS:** A descriptive exploratory cross section study was utilized with a sample of 200 post-mastectomy women who attend outpatient clinic of oncology center at Mansoura University after at least 1 year of mastectomy. Data were collected by using three tools, one for assessing socio demographic and clinical characteristics which developed by the investigator, the second for assessing body image using Hopwood Body Image Scale, and the third for assessing the quality of sexual life and its developed by the researcher. **RESULTS:** Results revealed that more than two thirds (71.5) of the studied patients have high concerns of their body image, about two thirds (66%) of the studied patients have unsatisfactory quality of sexual life, while another third of the studied patients 34% have satisfactory quality of sexual life, Results also revealed that there is no statistically significant correlation between body image and quality of sexual life. **CONCLUSIONS:** In conclusion, most of the studied patients have high concern and distress of their body image which consequently affect their quality of sexual life.

Research Implications: There is a need to carry out more researches to assess the quality of sexual life of any patients complain of chronic diseases affecting his/her sexuality as it is important dimensions of quality of life, hence improving it improving the patient quality of life. An experimental study should be carried out to find out the effectiveness of a liaison psychiatric nursing program in reducing the stress levels, improving quality of life, and enhancing coping strategies among the patients with cancer especially those undergoing mastectomy

Practice Implications: Comprehensive health educational programs for all women following breast cancer treatment in outpatients' clinics of oncology units include psychological, social, rehabilitation, and follow-up and earlier recognition of sexual problems and active involvement for sexual health improvement program are recommended.

Acknowledgement of Funding: None

P2-204

Genetic Testing at the Time of Diagnosis— Women's Experiences When Offered Genetic Testing Immediately After Receiving a Diagnosis of Breast or Ovarian Cancer

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BACKGROUND/PURPOSE: Genetic testing for hereditary breast and ovarian cancer is increasingly being offered in newly diagnosed breast and ovarian cancer patients, since this information will soon be crucial for treatment options. However, there are some concerns that gene testing offered in an already vulnerable situation might be an extra burden to these women. **Purpose:** To explore women's lived experiences of having carried out a gene test for hereditary cancer just after being diagnosed with breast or ovarian cancer. **METHODS:** Four focus group interviews with 17 women were conducted 7–18 months after the women were offered the gene test. Based on core aspects of the data identified in the qualitative analysis, the discussion involved exploring how Antonovsky's theoretical approach can add understanding of the women's experiences. **RESULTS:** Some women reported being 'beside themselves' and described their situation as chaotic and overwhelming. Ethical dilemmas had to be handled in the emotional turbulent situation. Furthermore, the women expressed the need for support and counselling to assist the decision process. **CONCLUSIONS:** The need for a consultation with a health-professional are underscored. In the perspective of Antonovsky, we argue that, to ensure women's coping and well-being during an overwhelmingly stressed situation, personalized support and counselling should be given routinely, to promote and maintain their manageability and comprehensibility.

Research Implications: Further research, including more carriers of the mutation and women who abstained from testing, might provide further data and insight into the debate about gene test at the time of diagnosis.

Practice Implications: Personalized support and counselling through a consultation with a health professional should be regularly implemented when gene test is offered to women newly diagnosed with breast or ovarian cancer.

Acknowledgement of Funding: None

P2-205

Predictors of Recency of Mammography across Asian American Subgroups

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BACKGROUND/PURPOSE: Although breast cancer incidence among Asian Americans has been increasing, regular mammograms are less common for Asian Americans than other ethnic groups. This study investigated socio-cultural predictors of how recently women in five Asian American groups reported having a mammogram, applying Andersen's (1968) Behavioral Model of Health Services Utilization. **METHODS:** Using 2011 California Health Interview Survey data, Chinese ($N=372$), Japanese ($N=159$), Korean ($N=223$), Filipino ($N=191$), and other Asian ($N=392$) women, age 40 or older, who have ever had a mammogram were included. Multinomial logistic regression was applied, with time since the most recent mammogram (within the past year, 1–2 years, and more than 2 years) as the outcome. Predisposing (e.g., ethnicity/language), enabling (e.g., insurance and communication with physicians), and need (e.g., comorbidity) factors were used as predictors. **RESULTS:** The reference group was other Asian women who had a mammogram within the past year. Compared to the reference group, the odds of having a mammogram 1–2 years prior were higher for Japanese (odds ratio [OR]=2.12) and Korean women (OR=2.23) and lower if born in the USA (OR=0.57). The odds of having a mammogram more than 2 years prior were higher for older age (OR=1.02), more educated (OR=1.12), and Korean women (OR=3.91) and lower if married (OR=0.49), born in the USA (OR=0.44), insured (OR=0.27), and reported better communication with physicians (OR=0.85). **CONCLUSIONS:** Findings reaffirmed barriers posed to regular mammograms among Asian American women. Especially, Korean women showed longer delays in mammography. To reduce risk factors for delayed mammography among Asian subgroups, professionals should develop socio-culturally tailored outreach, services, and policies.

Research Implications: This study information provides future direction to investigate what specific socio-cultural factors account for the substantial proportion of ethnic-subgroup variance in cancer disparity issue (e.g., having regular mammography).

Practice Implications: It helps to guide to develop socio-culturally tailored service as well as policies with regard to cancer care.

Acknowledgement of Funding: None.

P2-206

Psychosocial Resources Influencing Anxiety and Depression in Cancer Patients

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BACKGROUND/PURPOSE: Positive psychosocial resources are essential in cancer patients' coping; however, these have only been studied in isolation, with no study examining their relative importance in anxiety and depression. The present study examined the concurrent influence of hope, optimism, resilience, mindfulness, and spirituality over and above sociodemographic and medical predictors of anxiety and depression in cancer patients across their first year of diagnosis. **METHODS:** 155 newly diagnosed Asian patients diagnosed with various cancers receiving outpatient treatment completed a sociodemographic and medical questionnaire, as well as self-reported measures of: anxious and depressive symptomatology (HADS), hope (AHS; comprising two subscales: agency and pathway), optimism (LOT-R), resilience (RS-14), mindfulness (FFMQ; comprising five subscales: non-reactivity, observing, acting with awareness, describing, and non-judging), and spirituality (FACIT-Sp-12; comprising two subscales: meaning/peace and faith). **RESULTS:** Multivariate regression analyses controlling for all sociodemographic and medical predictors revealed a differential pattern of influence: mindfulness and spirituality were significantly associated with anxiety, while hope and resilience were significantly associated with depression. Upon further investigation, the observing and non-judging aspects of mindfulness and the meaning/peace aspect of spirituality were significantly associated with anxiety, while the pathway aspect of hope and both aspects of spirituality were associated with depression. **CONCLUSIONS:** Findings preliminarily suggest that differential effects of positive psychosocial resources on anxiety and depression, which highlight the importance of combination interventions to improve general emotional well-being and coping. Further, spirituality, specifically having found meaning/peace in life, was also found to significantly influence both anxiety and depression and may be key in alleviating such distress in cancer patients.

Research Implications: Findings suggest that there are underlying pathways of mindfulness and spirituality that alleviate anxiety, and underlying pathways of hope and resilience that alleviate depression. While more research is required to ascertain the veracity of these relationships across time and its predictive value, findings also suggest the potential development of brief interventions for subsyndromal anxiety and depression that incorporate the various associated aspects.

Practice Implications: Findings suggest that interventions targeting improvements in specific positive psychosocial resources may have differential effects on anxiety and depression. Spirituality-based interventions focusing both on meaning/peace and faith may also be the most helpful at ameliorating anxious and depressive symptomatology.

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P2-207

Predictors of Persistent Anxiety and Depression in Asian Cancer Patients across Their First Year of Diagnosis

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BACKGROUND/PURPOSE: Some cancer patients experience persistent subsyndromal anxiety and depression; however, with patients of East Asian ethnicity, these often go unnoticed because patients are unwilling to disclose such information or utilize psychosocial services. These unaddressed symptoms put such patients at greater risk of developing a clinically significant mood disorder in the course of their cancer journey. Because it often falls to attending physicians to detect such symptoms, it is helpful to identify sociodemographic and clinical predictors of such persistent sequelae in Asian patients. **METHODS:** Ninety-seven newly diagnosed (within 5 months) Asian patients diagnosed with various cancers (without any comorbid past or present psychiatric diagnosis) receiving outpatient treatment completed the HADS and a self-report sociodemographic and medical questionnaire (including cancer characteristics) at three time points across their first year of diagnosis (baseline and 3 and 6 months later). **RESULTS:** Based on locally validated interview cutoffs, 50% of participants had persistent subsyndromal anxiety, and 17% had persistent subsyndromal depression. Multivariate logistic regressions revealed that those without formal education, whose household income was below the local median but above the financial assistance threshold, and who received surgery at baseline were more likely to suffer from persistent anxiety. There were no predictors for depression. **CONCLUSIONS:** These findings suggest that patients who are within a lower socioeconomic strata and have completed an invasive treatment procedure may be at greater risk for persistent anxiety caseness within their first year of diagnosis. Understanding Asian patients' pathophysiological and psychological responses and individual strengths are thus essential in dealing with patients with such persistent sequelae.

Research Implications: Findings are inconsistent with univariate associations in the literature commonly associated with anxious and depressive symptomatology (e.g. gender and stage of cancer); as such, these need to be replicated but also suggest that other protective factors may be more predictive of patients' sustained emotional response throughout their first year of diagnosis.

Practice Implications: Findings of the present study suggest that there is no clear profile of patients with persistent subsyndromal anxiety and depression, which highlight the importance of clinician vigilance for the recognition and identification of such persistent depressive symptoms that may not be explicitly reported and may even be masked as somatic complaints in Asian patients.

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P2-208

Screening for Clinical Levels of Fear of Cancer Recurrence Using the Fear of Cancer Recurrence Inventory (Short Form)

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BACKGROUND/PURPOSE: The *Fear of Cancer Recurrence Inventory* (FCRI) is a widely used measure of Fear of Cancer Recurrence (FCR). Its severity subscale, also known as the FCRI-Short Form (FCRI-SF), can be used as a brief screening method to determine clinical levels of FCR. A cutoff score of 13 was demonstrated to be optimal to screen for clinical levels of FCR in a French-Canadian sample ($n=60$) by Simard and Savard (in press). The goal of this study is to determine the optimal cutoff score using an English-speaking sample. **METHODS:** Participants were 40 English-Canadian cancer survivors who had been treated within the past 13 years for localized breast, prostate, lung or colorectal cancer. Participants were selected, based on their scores on the FCRI-S ($20 < 25$ th percentile, $20 > 75$ th percentile), from a larger validation study of the English version of the FCRI (Lebel, under review). Participants completed a clinical interview assessing FCR and the FCRI. Receiver operating characteristic analysis was used to determine the optimal cutoff score of the FCRI-SF. **RESULTS:** A statistically significant area under the curve of 0.958 was found. A cutoff score of 20.5 on the FCRI-S was associated with optimal sensitivity (100%) and specificity (80%) rates for screening for clinical levels of FCR. **CONCLUSIONS:** The results of the present study suggest that a higher cutoff score may be optimal and that further investigation into this matter is necessary in order to develop optimum screening norms.

Research Implications: The optimum cutoff score for screening for clinical levels of FCR using the FCRI-SF has not yet been determined. These results suggest an ideal score of 20, whereas previous studies have suggested a score of 13. Thus, future research should focus on

evaluating the best cutoff score in diverse samples of cancer survivors in order to establish effective screening norms.

Practice Implications: Determining ideal cutoff scores of FCRI-SF is important in order to allow rapid and effective screening of clinical levels of FCR.

Acknowledgement of Funding: None

P2-209

Posttreatment Dietary Changes of Breast Cancer Survivors: The Impact of Emotional Distress, Physical Pain, and Fatigue

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BACKGROUND/PURPOSE: Fear of cancer relapse is known to motivate breast cancer survivors to adopt health-oriented lifestyle changes, especially when there is an awareness of genetic risks and a sense of self-efficacy. However, although there are recommended dietary guidelines for survivors, the impact of emotional distress, physical pain, and fatigue on lifestyle changes has not been well explored. **METHODS:** We examined archival information from 107 female breast cancer survivors who completed qualitative questionnaires and standardized self-report measures of fatigue, anxiety, and pain 1 year posttreatment. Qualitative themes emerged through codebook development, and were interpreted using mixed-method analyses. **RESULTS:** In response to an open-ended question on lifestyle changes, 41% of the survivors reported that they were eating healthier, followed by 30% who indicated increases in exercise. The 44 women with dietary changes had significantly lower levels of fatigue interference than the 63 others, $p=0.04$, and there was a similar finding for women who exercised more, $p=0.01$. However, dietary changes were not associated with less pain or emotional distress, whereas an increase in exercise was. Further, specific dietary changes were quite varied and even conflicting. **CONCLUSIONS:** Although high pain or psychological distress may impact survivors' capacity to get more exercise, many nevertheless seek dietary improvements. It appears, however, that recommended dietary guidelines and the health benefits of a healthy diet posttreatment are not clearly understood. Comprehensive dietary counseling and the incorporation of scientific psychoeducation in posttreatment protocols may aid survivors to adopt and adhere to recommended dietary guidelines.

Research Implications: Since dietary changes are the most cited lifestyle change of breast cancer survivors despite levels of emotional distress or physical pain, it would behoove treatment providers to incorporate dietary guideline education in posttreatment protocols.

Practice Implications: See previous section.

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P2-210

The Association between Levetiracetam Prescription and Psychiatric Referral in High-grade Glioma Patients

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BACKGROUND/PURPOSE: Anti-epileptic drugs (AEDs) are routinely prescribed for perioperative seizure prophylaxis in glioma patients. Levetiracetam is an effective perioperative AED with minimal chemotherapy drug interactions. Behavioural disturbance (e.g. depression, irritability, aggression) results in reported discontinuation in 7% of all patients. However, little data exists regarding psychiatric side-effects in people with Glioma. This study aimed to identify any association between Levetiracetam prescription and psychiatric referral as an indicator of psychiatric symptoms and service use and change in AED prescription rates over time. **METHODS:** A retrospective review was conducted of 92 adult patients with frontal high-grade (III and IV) glioma who were registered with the Australian Genomics and Clinical Outcomes of Glioma (AGOG) database and received treatment at Sir Charles Gairdner Hospital (SCGH). This cohort was cross-referenced with the SCGH pharmacy database; SCGH referral database; and statewide psychiatric information database to identify AEDs dispensed and patients referred for psychiatric assessment. Pharmacy data were used to compare prescription rates of AEDs over time. **RESULTS:** Within our cohort of 92 patients, we found 32.6% were prescribed Levetiracetam, 67.4% were not. Of those prescribed Levetiracetam, 23.3% were referred for psychiatric assessment compared to 17.7% of those not prescribed Levetiracetam (RR 1.07, 95%CI 0.85–1.35). Levetiracetam prescriptions increased from 42% of AED dispensing from August 2010–July 2011 to 63% from August 2013 to July 2014 ($p < 0.001$). **CONCLUSIONS:** Levetiracetam is increasing as a proportion of AED use. In patients with frontal high-grade glioma, Levetiracetam is associated with a non-significant trend towards increased rate of psychiatric referral.

Research Implications: This study adds to the limited data suggesting an increased risk of psychiatric side effects of Levetiracetam in people with brain tumours. Our initial study is limited by incomplete data re: AED prescription (as our database only captures those whose medication was dispensed by SCGH pharmacy) and by a small sample size.

These limitations are currently being addressed by ongoing research including hand-searching of medical records to identify any prescriptions dispensed at other pharmacies. We will also expand our current study to include patients with non-frontal glioma to increase our sample size.

Practice Implications: Patients with frontal lobe tumours are at higher risk of behavioural disturbance as a result of the tumour and its treatment. This may reflect frontal lobe localisation of ‘executive functions’ which include mood regulation and response inhibition. While perioperative seizure prophylaxis is important in this population; psychiatric symptoms including mood lability, disinhibition, aggression and impulsivity contribute to carer burden, service use and level of distress. Alternate AEDs with inherent mood stabilising effects may be useful in patients at risk of behavioural disturbance. Clinicians need to be aware of these potential impacts and ensure that they are considered when selecting appropriate AEDs for individual patients.

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P2-211

Approach in Early Bereavement Stage—Boundaries and Types of Intervention with Family Members

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BACKGROUND/PURPOSE: The purpose of this work is to initiate a debate concerning questions of appropriate time and types of intervention for family members in an early stage of the bereavement process. **METHODS:** We study a case of prolonged dying of a 45-year-old patients with lung cancer metastasis who is leaving behind his wife, 15-year-old daughter, and 9-year-old son. Immediately after his death, the wife started psychodynamic therapy. The son experienced various fears, and the mother insisted his inclusion in supportive therapy with a clinical psychologist. The daughter withdrew into herself and was refusing any available help. **RESULTS:** The wife was able to achieve emotional balance, to re-establish family cohesion. Currently, she is going through the process of understanding her position in a new family constellation. The son’s fears vanished, and currently, he is at the stage of idealization of a therapist as a person who will reinforce his fragile self and temporarily replace a fathers’ figure, due to mother’s emotional inability for that role. The daughter is still in resistance and projective toward the medical staff. The psycho-oncological team recognizes the regressive position of family members. Therapeutic interventions are being held selectively due to the dilemma between active expert’s involvement in an early bereavement stage and/or allowing a natural mourning

process. **CONCLUSIONS:** This present case raises an important question for mental health experts about boundaries in providing psychological support during the bereavement process. Furthermore, specific questions are discussed concerning the effectiveness of individual or system therapy, and differential reasons behind the choice (e.g., degree of regression of each member), all that in the context of respecting the natural mourning process with its unique characteristics.

Research Implications: Involvement (individual or as a team) in an early stage of bereavement process, choosing an appropriate time, defining goals and selecting an effective technique, and using benefits of normal mourning

Practice Implications: Using/developing a valid psychometric instrument for psychological assessment of symptoms relevant for predicting pathological bereavement

Acknowledgement of Funding: None

P2-212

Care Needs in Chinese Advanced Lung Cancer Patients' Caregivers

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BACKGROUND/PURPOSE: Due to the high mortality rate, advanced lung cancer patients' caregivers face big threats. However, relatively few studies have examined their care needs. **METHODS:** A cross-sectional correlation study was conducted to recruit advanced lung cancer patient-caregiver dyads in a medical center in Taipei, Taiwan. Primary caregivers' needs were assessed by Supportive Care Need Survey-Partners and Caregivers 44 (SCNS-P&C 44), which includes seven domains of care needs. Patients' background information and distress were assessed. Institutional review board approval was obtained before data collection. **RESULTS:** We recruited 110 patient-caregiver dyads. The domains of needs in their descending order were healthcare professional needs, information needs, financial needs, psychological needs, daily care needs, interpersonal needs, and other needs. Factors associated with caregivers' higher care needs include patients without work, patients with older age, patients' with lower performance status, and patients having higher anxiety and symptom severity. Caregivers' factors were female caregivers, older age, unmarried, and lower education. **CONCLUSIONS:** Our findings provide a clear direction to healthcare professional in providing more appropriate care to respond to lung cancer caregivers' needs. Further research to examine the effects of interventions on caregivers' needs is suggested.

Research Implications: To examine the effects of interventions on caregivers' needs is suggested.

Practice Implications: To provide a clear direction to healthcare professional in providing more appropriate cares is suggested.

Acknowledgement of Funding: None

P2-213

Postoperative Experiences of Patients after Colorectal Cancer Surgery: A Focus Group Study

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BACKGROUND/PURPOSE: Patients having undergone colorectal cancer surgery might encounter physical, psychological, and social challenges. However, only few studies have investigated the past experiences of this group of patients after colorectal surgery. The purpose of this study was to explore the postoperative experiences of patients after colorectal cancer surgery. **METHODS:** A purposive sampling was used to recruit 30 participants (20 males and 10 females) from a tertiary hospital in Singapore. Five focus group interviews were conducted in July 2014 using a semi-structured interview guide. Thematic analysis was used to analyze the data. **RESULTS:** Four distinct themes were generated from the thematic analysis: (1) 'physical fatigue' related to high frequency of bowel movements and stoma care; (2) 'emotional impact' related to physical changes of carrying a stoma and feelings of isolation after surgery and anxiety on prognosis; (3) 'social support' from family, medical staff, and peer support; (4) 'unmet needs' such as dietary information, expectations of post-surgical outcomes, and practical needs. The patients illustrated their unexpectedly difficult road to recovery and the need to adapt to physiological changes resulting in feelings of vulnerability and anxiety. **CONCLUSIONS:** Patients were most vulnerable to physical and emotional distress in the initial 2 months following colorectal cancer surgery.

Research Implications: Future research is needed to evaluate specific aspects of physical and psychological consequences of surgery in order to provide targeted individual information and emotional support to address patients' concerns and reduce their anxiety level.

Practice Implications: Psycho-education interventions will be beneficial to prepare patients for better recovery and to improve overall well-being.

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P2-214

Stigmatic Aspects of Cancer Theme in the Turkish Cinema and Television Sector

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BACKGROUND/PURPOSE: Stigmatization—to brand somebody with some mark of reproach or infamy—is the whole of the actions taken by the society against some patient groups—as much as to isolate them. When human beings meet something that intimidates them, they often resort to isolating and alienating it. This process contributes to the stigmatization of some diseases, too. Cancer is one of the diseases on which stigmatization is based most. Stigmatized cancer patients are socially isolated, cannot find jobs, are frequently hospitalized, and undergo situations that reduce recovery. Also, they have difficulty making friends and finding spouses. Those not having cancer may remain distant from them due to the possibility to get cancer or death fears. Today, cancer, which the whole world has been in difficulty to fight against, has already been in TV series and scenarios. Cinema, which has an important effect on the society and individuals due to the technical methods used, employs psychological components, but sometimes, it uses these components exaggeratedly and falsely. Considering the power to affect the masses of the cinema sector, its potential to create stigmas in many issues is evident. **METHODS:** In our study, 18 Turkish TV series and 8 Turkish films produced between 1973 and 2005 were reviewed. **RESULTS:** We are not a stranger to the fact that cancer, being a merciless disease all the time, has been used in Turkish films and TV series. Today, cancer is treated in Turkish films and TV series with tragic stories. These films and TV series generally reflect some wrong messages that cancer treatment is not possible in Turkey and is impossible. **CONCLUSIONS:** Despite the modern treatment opportunities in the developing health sector in Turkey, attraction of cancer theme in Turkish films and TV series seems as if it were abused, which—it should be kept in mind—will drive people with cancer to despair and intensify stigmatization.

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P2-215

Quality of Life after Prostate Cancer—Effectiveness of Outpatient Rehabilitation

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BACKGROUND/PURPOSE: As only few studies exist to examine the effectiveness of outpatient rehabilitation in Germany, the aim of the study was to analyse its impact on long-time psychosocial outcomes. We compared the data to those of inpatients as this setting is much more common in Germany and its effectiveness has already been proven. **METHODS:** Six hundred nineteen inpatients and 95 outpatients with diagnosed localized prostate cancer answered psychosocial questionnaires (HADS, EORTC QLQ-C30 and EORTC QLQ-PR25) at the beginning (t1), the end (t2) and 1 year post-rehabilitation (t3). We conducted descriptive analyses (*t*-tests and χ^2 -tests) and conducted analyses of variance with repeated measures in regard to the effects of the setting (including medical and sociodemographic covariates to avoid confounding effects as well as baseline data to increase the statistical power). **RESULTS:** All cancer patients reported a significantly worse quality of life compared to a German population sample at t1 (EORTC QLQ-C30, $p < 0.001$). In both groups, especially the physical, role and social functioning increased significantly over time (t1 to t3; $p < 0.001$), while prostate cancer-specific symptoms decreased significantly (EORTC QLQ-PR25, t1 to t3; $p = 0.013$ to < 0.001). Depressive symptoms decreased significantly too in both groups (t1 to t3; $p = 0.008$, HADS). The setting did not have an independent significant effect in the multivariate model. **CONCLUSIONS:** Both groups started with a reduced quality of life at the beginning of rehabilitation but reported better well-being 1 year after the rehabilitation. Due to the results, both settings seem to be supportive in the recovery process. Hence, both programmes can be recommended to patients.

Research Implications: The research question of this study focused on psychosocial outcomes, and results depend on a homogenous group of patients who were diagnosed with non-metastatic prostate cancer. To support our results, studies are needed, which include a wider range of patients to generalize the conclusions.

Practice Implications: Both settings offer different advantages. Those who need to stay close to home during this process might prefer the outpatient setting as a useful alternative to inpatient rehabilitation. The results might support official efforts to establish more possibilities so that patients have the chance to choose between both settings.

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P2-216

Gardening Intervention Increases Telomerase Levels in Breast Cancer Survivors

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BACKGROUND/PURPOSE: Cancer survivors are at a greater risk for decreased quality and quantity of life due to unhealthy aging (e.g., comorbidities and poor health). Telomerase, an enzyme that preserves telomere length, can show significant changes in as little as 12 months and is a reliable indicator of healthful aging. **METHODS:** Telomerase levels were assessed at baseline and 12-month follow-up from 35 breast cancer survivors enrolled in the Women's Breast Health Fund Harvest for Health gardening intervention randomized controlled trial (RCT). In this RCT, half of the study participants are waitlisted, and half are immediately assigned to a yearlong intervention in which they are mentored by an Alabama Cooperative Extension Master Gardener and receive gardening supplies, plants, and seeds to support three vegetable gardens (spring, summer, and fall). **RESULTS:** Survivors in the immediate intervention arm saw a 38.2% increase in telomerase, while the waitlisted group saw a 3.3% decrease in telomerase from baseline to 12-month follow-up. Paired *t*-tests revealed significant between-group differences ($t=1.55$, $p=0.023$). **CONCLUSIONS:** Gardening interventions, particularly those that support vegetable gardening, show promise in increasing telomerase levels and may increase healthy aging in cancer survivors. This improvement in healthy aging has favorable implications in increasing not only quantity but also quality of life in cancer survivors.

Research Implications: Future research may wish to further investigate the influence of gardening interventions on telomerase, as well as other markers of quality of life (i.e., physical functioning).

Practice Implications: Clinicians may recommend gardening as a way to promote healthy aging in breast cancer survivors.

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P2-217

Do Pre-transplant Psychological Factors Predict Health Outcomes in Allogeneic Stem Cell Transplant Patients?

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BACKGROUND/PURPOSE: Psychological factors have been shown to be related to a number of health outcomes in cancer patients. However, there is less research examining these relationships among stem cell transplant patients receiving cells from other sources. These patients face arguably the most intensive cancer treatment, with high risks for complications and mortality. Psychological factors are key to wholistic care for transplant patients. The aim of this study is to examine relationships between pre-transplant psychological factors (i.e., distress, anxiety, and depression) and health outcomes (i.e., number of days hospitalized) in allogeneic stem cell transplant patients. **METHODS:** Data were collected from a retrospective chart review of 36 patients who completed evaluations in preparation for allogeneic transplant during 2014. Data extracted include information regarding demographic factors, psychosocial measures for distress, anxiety, depression, cognitive deficits, and quality of life using validated tools. This study also included diagnosis, treatment, and health outcome data, such as number of days hospitalized, and survival rates within 3 and 6 months post-transplant. **RESULTS:** Patients' mean age was 54.03 ($SD=12.96$), 5.6% were male, and 50% had a diagnosis of acute myeloid leukemia. Initial results ($n=36$) indicate participants had slightly elevated anxiety and cognitive deficit scores and decreased quality of life, even before transplant began. Participants spent an average of 42.94 days in the hospital ($SD=32.87$). Additional correlation and regression information will be reported once all data points for the sample are extracted. **CONCLUSIONS:** This research supports a relationship between psychosocial variables and health outcomes for allogeneic stem cell transplant patients.

Research Implications: This study will be useful in aiding in understanding key pre-transplant psychosocial factors that may influence post-transplant health outcomes. These factors may then be identified for use in pre-transplant intervention for patients.

Practice Implications: This study will be useful in aiding in understanding key pre-transplant psychosocial factors that may influence post-transplant health outcomes. These factors may then be identified for use in pre-transplant intervention for patients. Transplant, particularly for some diagnoses, happens at a very quick pace. Therefore, knowing where best to intervene in a short time frame may aid psychologists in optimizing outcomes for allogeneic patients.

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P2-218

Relationship between Distress and Prescription Antibiotic Use

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BACKGROUND/PURPOSE: Psychological distress is evident in most cancer patients and has the potential to affect numerous health outcomes, including medication use. The purpose of this study was to determine if there was a meaningful relationship between distress and number of prescription antibiotics used in the last 12 months, while controlling for demographic variables. **METHODS:** A retrospective chart review was conducted for 100 consecutive patients who completed evaluations at the University of Kansas Cancer Center between 2013 and 2014. Information about patient demographics, diagnoses, and number of antibiotics was extracted from the medical record. The Distress Screening Tool was completed at the second provider visit. Study participants' mean age was 62, and 47% were female. **RESULTS:** A stepwise multiple regression was completed with number of antibiotics prescribed in the past 12 months as the dependent variable. In the first step, demographic variables (gender, socioeconomic status, and age) were included, and the second step added patient's reported distress score. Results of the regression indicated that distress was related to number of antibiotics prescribed in the past 12 months, R^2 change=0.068, $F(1,89)=7.04$, $p<0.01$, above and beyond demographic variables. **CONCLUSIONS:** Current screening tools, such as the Distress Thermometer, are efficient and versatile. Distress is associated with health outcomes, specifically number of antibiotic prescriptions. The outcome of this study supports the importance in utilizing distress screening as a triage method to improve health outcomes and provide improved care to oncology patients.

Research Implications: This research promotes the continued application of distress screening. It also encourages further research on the examination of other possible health outcomes associated with distress scores. Most importantly, this research supports the use of distress screening in

identifying 'high-risk' patients and research examining possible preventative interventions.

Practice Implications: The results of the study support the continued clinical use of distress screening. It provides further support for the importance of utilizing such screening to identify patients in need of additional support early on in treatment, with the hope of decreasing the negative health outcomes associated with elevated distress scores.

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P2-219

Is There a Relationship between Objectively Measured Cognitive Changes in Cancer Patients Undergoing Chemotherapy Treatment and Their Health-related Quality of Life? A Systematic Review

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BACKGROUND/PURPOSE: The aim of this systematic review is to examine whether there is a relationship between objective measures of cognitive impairment following adjuvant chemotherapy treatment for solid cancers and health-related quality of life (QoL). **METHODS:** Ovid MEDLINE, EMBASE, PsycINFO, PsycARTICLES, CINAHL, PubMed and Web of Science were searched to identify articles published between 1980 and 2014 examining the extent of chemotherapy-induced cognitive deficits and its relationship with QoL in adult patients with solid tumours. Studies were required to include an examination of the relationship between changes in objectively measured cognition (if any) and QoL. Of 1966 potentially relevant articles, 14 studies met the inclusion criteria. The methodological quality of these studies was examined by two independent raters, using predefined criteria adapted for observational studies from the methodological quality assessment checklists of the 'Methods for the development of NICE public health guidance'. **RESULTS:** Evidence for the presence of cognitive impairment following chemotherapy treatment was established for executive function and memory. However, only three studies found a significant relationship between such impairment and health-related QoL. **CONCLUSIONS:** The lack of consistent associations between objectively measured cognitive impairment and QoL could be partly explained by variations in assessment methods, definitions of cognitive impairment, varying time frames and small sample sizes. Therefore, definitive conclusions on this issue cannot yet be reached. Further longitudinal studies are required to look

at the effect of chemotherapy on cognition in other solid cancer patient groups (as well as breast, which makes up the majority of studies in the research to date).

Research Implications: Researchers should establish and use a standard set of core neuropsychology test batteries in order to assess the extent to which cognitive impairment is a universal phenomenon associated with the cancer experience and systemic treatment before any relationships with QoL may be fully explored.

Practice Implications: Quality of life is an independent predictor of survival and response to therapy in cancer patients (Roychowdhury, 2003; Maisey, 2002; Marventano, 2013), and therefore, any relationship with chemotherapy-induced cognitive decline is important to know about. More longitudinal studies with larger sample sizes are required in other cancer groups (such as colorectal and prostate cancer) in order to properly identify the extent and duration of chemotherapy-induced cognitive decline. However, as recommended by the International Cognition and Cancer Taskforce, researchers should endeavour to use a set battery of cognitive measures and the same/or similar definitions of cognitive decline, so as to enable a pooling of results. There should also be more effort made to use a more homogenous group of cancer patients. Only then will it be possible to carry out useful investigations into the relationship between specific domains of cognitive impairment and health-related QoL outcomes.

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P2-220

Usability Testing for Cancer Distress Coach: A Mobile App to Manage Posttraumatic Stress Symptoms

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BACKGROUND/PURPOSE: The literature suggests that lymphoma and breast cancer survivors frequently suffer from posttraumatic stress disorder (PTSD) symptoms as a result of their cancer diagnosis and treatment. An effective, efficient intervention to mitigate PTSD and its late effects for cancer survivors is needed. Computer and Web-based programs are increasingly used to facilitate cost-effective access to cognitive behavioral therapy. There is a growing portfolio of effective psychiatry and behavioral mHealth interventions, but, to date, such programs have not been optimized nor tested for treating PTSD symptoms in cancer survivors. **METHODS:** In collaboration with the National Center for PTSD, we revised the content of PTSD Coach, an existing mobile application ('app') designed for war veterans, to make the content

more relevant to the cancer survivor population. Study participants met with a research assistant for 1.5 h, who performed a heuristic evaluation of usability that consisted of (1) think-aloud protocols; (2) cognitive debriefing; (3) user satisfaction and validity assessment; and (4) clickstream analysis. Data collection consisted of a demographic survey, technology familiarity survey, field notes, and post-satisfaction survey. **RESULTS:** Thirty cancer patients were recruited from the Duke Cancer Center Oncology Treatment Room for usability testing on iOS (Apple) devices. Of the participants, 97% agreed or strongly agreed that the app was 'easy to use', and 80% felt the app would be helpful to them in their lives. Extensive feedback during the 1.5-h sessions informed subsequent app revisions. **CONCLUSIONS:** The usability testing results are encouraging and demonstrate a desire for this technology solution. A pilot efficacy study of Cancer Distress Coach among breast and prostate cancer and lymphoma patients at the Duke Cancer Institute is currently underway; preliminary results will be added to this presentation as they become available.

Research Implications: Researchers will learn how mobile technology can be applied and studied in an oncology setting.

Practice Implications: Clinicians will learn about how mobile technology can be used to help manage symptoms of distress.

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P2-221

Comparison of Patient and Therapist Ratings of Session Depth and Smoothness in a Cognitive Behavioral Therapy Intervention versus a Supportive Therapy Intervention for Newly Diagnosed Gynecologic Cancer Patients

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BACKGROUND/PURPOSE: To assess whether patient/therapist ratings of session depth (e.g., 'deep' and 'powerful') and smoothness (e.g., 'relaxed' and 'pleasant') predict patient-reported session helpfulness over the course of cognitive behavioral therapy (CBT) versus supportive counseling (SC) interventions. **METHODS:** A sample of 82 newly diagnosed gynecologic cancer patients attended eight CBT or SC sessions over 3 months. Outcomes were patient-reported and therapist-reported depth and smoothness subscales from the Session Evaluation Questionnaire

(Stiles, 1980), administered after each session, and patient-reported session helpfulness, measured after the final session. Linear regressions were conducted to determine whether patient/therapist ratings of session depth and smoothness were associated with patient-rated helpfulness for sessions 1, 4, and 7. RESULTS: Patient ratings of session depth and smoothness were not significantly correlated with therapist ratings for session 1, 4, or 7. Regarding session depth, SC patient ratings were significantly associated with sessions 1, 4, and 7 helpfulness [$t(40)=3.56, p<0.001$; $t(40)=3.83, p<0.001$; and $t(40)=3.08, p<0.01$, respectively], whereas CBT patient ratings were significantly associated with session 4 helpfulness only [$t(37)=2.43, p<0.05$]. SC therapist depth ratings predicted session 7 helpfulness only [$t(41)=3.28, p<0.05$], and CBT therapist smoothness ratings predicted session 4 helpfulness only [$t(37)=2.33, p<0.05$]. SC and CBT patient smoothness ratings were not significantly associated with patient-rated session helpfulness. CONCLUSIONS: Patient-reported session depth was a better predictor of session helpfulness for SC than CBT. Therapist depth ratings were not as strong a predictor of patient-reported helpfulness. Session smoothness was not a strong predictor of helpfulness.

Research Implications: These results support previous findings that high ratings of session depth correlate with positive post-session evaluations (Stiles, 1994). However, these measures were taken during short-term therapy. Researchers may want to further explore the relationship between patient-reported session depth and helpfulness in a long-term therapy context. One important finding to note is that patient and therapist ratings of session depth and helpfulness did not correlate, which contradicts findings of previous research (Stiles, 1980). Future research may investigate why therapist and patient ratings of depth and smoothness did not correlate.

Practice Implications: These findings indicate that there may be different correlates of 'helpfulness' for different therapeutic approaches. That depth was a significant predictor of positive supportive therapy outcomes is consistent with the supportive therapy model, which focuses on emotional engagement and processing. That session depth was not as strong a predictor of CBT helpfulness is consistent with the didactic model and its specific goals of developing and encouraging coping and communication skills. Our finding that session smoothness was not as strong a predictor of session helpfulness as depth suggests that perhaps patients can still perceive benefits from sessions that they consider 'rough' or 'difficult'.

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P2-222

Use of Mind–Body Therapies among US Cancer Survivors by Survivorship Stage: An Analysis of the 2012 National Health Interview Survey

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BACKGROUND/PURPOSE: The symptom burden of cancer is high across the cancer trajectory; however, different survivorship stages call for different symptom management needs. Survivors report using a range of complementary and alternative medicines (CAM) to manage symptom burden. We examined the relationship between one subset of CAM use, mind–body therapies (MBT), and survivorship stage (acute: <1 year, short term: 1–5 years, long-term: >5 years) using the CAM supplement of the 2012 National Health Interview Survey. We also examined reasons for MBT use and MBT types. **METHODS:** The study sample included cancer survivors ($N=2939$) and controls ($N=30,299$) from the 2012 National Health Interview Survey CAM supplement. Logistic regression examined the relationship of MBT use and cancer survivorship stage. Weighted percentages were calculated by cancer survivorship stage for reported reasons for use and MBT types among those who reported MBT as their top therapy. **RESULTS:** Mind–body therapy use varied by cancer survivorship stage ($p=0.02$): acute (8.3%), short term (15.4%), long term (11.7%), and controls (13.2%). In the adjusted logistic model, short-term survivors had 35% greater odds of MBT use than controls (95% confidence interval [1.00, 1.82]). Reasons for MBT use varied among stages. For example, 71% of short-term survivors reported using MBT to improve memory (30% acute, 39% long term, 33% controls). Yoga was the most frequently reported MBT (4.3% acute, 9.9% short term, 7.4% long term, 9.4% controls). **CONCLUSIONS:** Short-term survivors were the most likely to engage in MBT, suggesting that this survivorship stage is a period directed towards self-care activities. Furthermore, as a non-invasive therapy, MBT may fulfill different symptom management needs at varying stages of survivorship.

Research Implications: The short-term survivorship stage (1–5 years since diagnosis) may represent a period when survivors engage in MBT for managing symptom burden, whereas the acute and long-term stages may pose barriers to engaging in or maintaining MBT activities. Additional research is needed to identify barriers to MBT use in the varying cancer stages.

Practice Implications: These findings may guide the allocation of supportive care MBT services to cancer patient populations.

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P2-223

Young and Worried: Increasing Access to Care through a Novel Video Chat Support Group for Young Adults with Cancer

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BACKGROUND/PURPOSE: Young adults with cancer are considered an ‘orphaned population’ in that they experience high levels of psychological distress and yet have been largely neglected by research in cancer control, prevention, and quality of life. Group interventions for cancer patients have been effective in reducing levels of psychological distress but suffer from high levels of attrition and serve a limited geographic area. The purpose of this pilot project was to design an acceptable and feasible video chat support group intervention for young adults with cancer across a geographically diverse area. **METHODS:** Young adults (18–40) with cancer were recruited from across Colorado. Participants received a Wi-Fi-equipped tablet loaded with Zoom, a Health Insurance Portability and Accountability Act-compliant video conferencing application. Participants attended six weekly supportive psychotherapy sessions led by licensed oncology mental health professionals. **RESULTS:** Participants found the group to be feasible and acceptable; the technology worked, they enjoyed the group format, and they would recommend it to others. The novel treatment interface allowed for low attrition rates due to the flexibility of the patient’s location during the intervention (e.g., home, work, or hospital). It also allowed for the provision of services to a geographically diverse population of medically ill young adults. **CONCLUSIONS:** The use of Web-based interventions increases access to mental health care and reduces geographic health disparities. Internet-based mental health or telemental health is an area of growing interest for providers, but few studies have evaluated their efficacy in patients with cancer, and even fewer in young adults with cancer.

Research Implications: This pilot project serves to uncover the feasibility of using video-based therapy groups

as an initial step for the development of future interventions using this platform.

Practice Implications: Incorporating advances in technology into clinical practice will increase access to care and provide more consistent services.

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P2-224

Psychosocial Services Use among Latina and Non-Latina White Breast Cancer Survivors

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BACKGROUND/PURPOSE: This study examined differences in psychosocial service use (i.e. social work, psychiatric, psychological, and spiritual/pastoral services) among Latina and non-Latina White survivors of breast cancer. **METHODS:** Survivors who received treatment in a National Cancer Institute-designated comprehensive cancer center in the USA completed a mailed questionnaire about quality of life and psychological symptoms, interest in help for distress, and psychosocial services use. Descriptive and non-parametric statistics (chi-squares) were used to explore ethnic differences in use of, and interest in, psychosocial services. **RESULTS:** A total of 33% reported needing mental health or psychosocial services after their cancer diagnosis (33% Latinas, 34% Whites); 34% discussed with their oncologist or cancer care provider their emotional problems or needs after the diagnosis (30% Latinas, 36% Whites). Only 40% of the survivors who reported needing services received a referral for psychosocial services (42% Latinas, 39% Whites). Sixty-six percent, of patients who reported needing services, had contact with a counselor or mental health professional after their diagnosis (57% Latinas, 71% Whites), and 61% reported receiving psychosocial services (53% Latinas, 67% Whites). Whites were significantly more likely to have contact with a social worker (33% vs. 17%, respectively) and to receive psychotropic medication (15% vs. 0%, respectively) than Latinas. However, Latinas were significantly more likely to receive spiritual counseling (11% vs. 3%, respectively) than Whites. Thirty-nine percent of survivors are currently using supportive services, Whites (49%) more frequently than Latinas (26%); about a quarter of the sample (23%) reported being currently interested in receiving individual counseling (25% Latinas, 23% Whites). **CONCLUSIONS:** About the same proportion of Latina

and White survivors reported needing psychosocial services after their cancer diagnosis, but White survivors had contact with psychosocial services providers more frequently. Latinas were more likely to use and prefer spiritual or pastoral services. The differences in contact with psychosocial services by ethnicity reveal potential differences in the availability, acceptability, and help-seeking behaviors of diverse cancer patients.

Research Implications: Patterns of psychosocial services use highlight ethnic differences in the extent to which specific services may be used, needed, and/or sought by patients. Factors that may explain differences in patterns of psychosocial services use between ethnic groups should be examined.

Practice Implications: Ethnically diverse survivors often have different preferences and use of psychosocial services. It is crucial for cancer care providers to understand and address potential differences in the psychosocial services availability, acceptability, and help-seeking behaviors of ethnically diverse cancer patients and survivors, when screening and managing distress.

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P2-225

Representation of Illness and Self-identity in Childhood Cancer Survivors

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BACKGROUND/PURPOSE: Long-term late effects of childhood cancer treatment have been gaining researchers' attention recently. Childhood cancer survivors (CCS) may suffer from some late effects of the treatment even after a long time after their cure. To understand the way childhood cancer experience affects current life of CCS and how they think about it is very important to help improve the quality of their life. **METHODS:** The research sample consists of 88 adolescent and young-adult survivors of childhood cancer. All of the participants were in the age of 12–25 years and have been in remission for 5–8 years at the time of the study. The impact of childhood cancer on adolescent's and young adult's daily life, their representation of illness, and their self-identity after cancer were assessed through the Brief Illness Perception Questionnaire and a single-item question to assess how individuals view themselves. Data were analyzed using descriptive statistics methods, Mann–Whitney *U*-test, correlations, and chi-square test.

RESULTS: The impact of childhood cancer on CCS's daily life is related to their current age. The younger the age, the less impact of the illness on current daily life. No differences were found within gender. In terms of self-identity, none of the survivors involved felt like a victim. With respect to gender, 45% of boys felt like 'someone who was sick' after cancer treatment. Girls felt like a 'winner' mostly (330.3%). **CONCLUSIONS:** Despite the overall good adjustment in CCS, there is an at-risk population of survivors at late adolescence and early adulthood.

Research Implications: Results point out basic age-related differences in representation of illness and its treatment consequences for adolescent and young-adult survivors of childhood cancer. Further research is needed to specify these differences in terms of diagnosis, time of treatment, coping, and other psychological variables.

Practice Implications: Results provide clinicians with a better understanding of at-risk population problems, which helps them to improve the care for CCS by adjusting to their special needs.

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P2-226

Physical Activity and Quality of Life among Adult African-American, Hispanic, and White Childhood Cancer Survivors and Controls

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BACKGROUND/PURPOSE: Childhood cancer survivors (CCSs) report lower quality of life, partially due to treatment late effects. Physical activity may diminish some of the treatment sequelae, yet evidence mostly stems from small samples with limited diversity. **METHODS:** Four hundred fifty-two adult CCSs (150 African-American, 152 Hispanic, and 150 White) and 375 ethnically matched non-cancer controls completed a 2-h in-person interview. Correlations between quality of life measured by the Short Form-36 and physical activity measured with the Modifiable Activity Questionnaire as moderate (MPA) and vigorous (VPA) physical activity hours per week were run by cancer group and race. Spearman's rho correlations were run as a robust alternative to Pearson's *r* due to non-normal data containing outliers. Bonferroni correction ($p < 0.002$) was applied to control family-wise error rate due to multiple comparisons. **RESULTS:** Significant

positive relationships were seen between VPA and vitality for African-American CCSs and for VPA and the physical component among both African-American CCSs and controls. Among Hispanic CCSs, we observed significant positive relationships for MPA and physical functioning as well as between VPA and physical functioning, general health, vitality, and the physical component. No associations were noted for Hispanic controls. Among White CCSs, MPA was significantly positively associated with physical functioning, general health, and the physical component, as well as between VPA and physical functioning. White controls reported significant positive relationships between MPA and vitality and VPA and physical functioning and vitality. **CONCLUSIONS:** Physical activity is associated with better quality of life among CCSs compared to non-cancer controls. Within CCSs, the associations vary across exercise intensity and racial/ethnic group.

Research Implications: It would be beneficial if future research seeks to understand the racial/ethnic differences in the relationship between physical activity and quality of life within adult CCSs as well as between the survivors and non-cancer controls. Additionally, understanding the mechanisms of these differences would be important in order to develop future culturally tailored interventions that focus on the health behaviors, and physical activity in particular, for adult CCSs.

Practice Implications: Although a physically active lifestyle and regular exercise are recommended, adult childhood cancer patients experience differential impact on quality of life dependent on intensity of exercise and race/ethnicity. Thus, interventions aimed at increasing frequency or intensity of physical activity may need to consider whether and how soon improvement in various domains of quality of life is noted alongside a consideration of the type of physical activity that effected improvement. In situations where little progress or benefit is noted, the clinician may want to consider integrating problem-solving and/or motivational enhancement strategies.

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P2-227

Care needs and psychological functioning among newly diagnosed Mexican breast cancer patients

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BACKGROUND/PURPOSE: Breast cancer has a prevalence of about 34% among Mexican women. However, there are currently hardly any data available regarding their psychological functioning and care needs, whereas such knowledge is a prerequisite when hospitals want to systematically implement psychosocial care for these patients. The aim of this ongoing study is to evaluate the incidence of psychological complaints and care needs among newly diagnosed Mexican breast cancer patients. **METHODS:** The study has an observational longitudinal design. The analyses reported here are on the 88 patients who completed the first assessment, that is, after diagnosis but before the start of medical treatment. Patients are being recruited in a public hospital in Mexico city. The State-Trait Anxiety Inventory-6 was used to measure anxiety, the Patient Health Questionnaire-9 for depression, and the Supportive Care Needs Survey-34 for the care needs of the patients. **RESULTS:** Of the participants, 59% reported clinical symptoms of anxiety and 24% clinical symptoms of depression. Patients reported the highest care needs in the 'health system and information needs' domain, while the lowest were in the 'physical and daily living' domain. The *t*-test showed significant differences on the five care needs dimensions between patients with clinical levels of anxiety and/or depression, compared to those without clinical symptoms. Patients with clinical symptoms of anxiety and/or depression had higher care needs. **CONCLUSIONS:** These findings suggest that Mexican breast cancer patients with clinical symptoms of anxiety and/or depression after diagnosis, could be in need of higher assistance and care.

Research Implications: Up to now, most of the previous research in terms of care needs has been conducted among cancer patients from developed countries. The results of the present study offer evidence on the care needs among breast cancer patients from a developing country. In order to plan and standardize the psychosocial care services in Mexico, further research should be conducted with other cancer populations from Mexico, to determine which are the main needs and factors that might play an important role in the patient care.

Practice Implications: A clear understanding of the breast cancer patients' care needs will be relevant to establish a framework for the provision of psychosocial care among

Mexican breast cancer patients. Specifically, the results of this study will allow us to identify the care needs that have not been met yet, which could have a detrimental impact on the recovery of the Mexican breast cancer patients.

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P2-228

Adapting Meaning-centered Psychotherapy in Advanced Cancer for the Chinese Immigrant Population

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BACKGROUND/PURPOSE: The Chinese immigrant community faces multiple barriers to quality cancer care and cancer survivorship. Meaning-centered psychotherapy (MCP) is an empirically validated treatment shown to significantly reduce psychological distress and increase spiritual well-being in advanced cancer patients but has not yet been adapted for minority populations for whom the concept of 'meaning' may significantly differ. We conducted a community needs assessment to inform the cultural adaptation of MCP for Chinese patients with advanced cancer, in accordance with Bernal *et al.*'s Ecological Validity Model and the Cultural Adaptation Process model of Domenech-Rodriguez and Weiling. **METHODS:** We conducted interviews with 11 key Chinese-serving community leaders and health professionals with a range of areas of expertise (i.e., oncology, psychology, palliative care, and cancer support services), to examine community needs, priorities, and preferences within the context of the MCP intervention. Sessions were audio recorded and transcribed. The research team analyzed the transcripts using Atlas.ti. **RESULTS:** Frequently occurring themes included (1) family; (2) culture; (3) immigration; (4) end of life; (5) distress and symptom control; and (6) adaptations to treatment. Interviewees described the importance of the role of the family, traditional Chinese values, cancer stigma, and social norms (e.g., saving face) in end-of-life care. **CONCLUSIONS:** Researchers should incorporate the unique cultural needs of this population in adapting MCP.

Research Implications: Future studies should further explore the role of cultural values in developing/adapting interventions aimed at enhancing spiritual well-being and meaning.

Practice Implications: Future interventions should frame treatment goals and approaches in a culturally responsive manner.

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P2-229

Easing the Transition of Care: An Evaluation of a Workshop for Endometrial Cancer Survivors

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BACKGROUND/PURPOSE: Upon completion of cancer treatments at The Ottawa Hospital, Ottawa, Canada, endometrial cancer survivors' follow-up care is transferred to primary care providers since 2005. The experience of transfer of care can generate many concerns among cancer survivors and their healthcare providers. To ease the transition and meet endometrial cancer survivor's needs, the gynecology team at the Ottawa General Hospital developed a one-time 60- to 90-min workshop as part of the *Wellness Beyond Cancer Program*. This workshop aims to empower patients during the transition of care and facilitate their taking charge of health. The purpose of this study is to evaluate this workshop by (1) determining participants' satisfaction with the workshop and (2) exploring which patient factors predict workshop attendance. **METHODS:** Evaluation forms of the workshop have been filled out by participants who attended the workshop from 2005 to 2014 and were later analyzed to determine perceived usefulness of the workshop using basic statistics. A chart review will also be completed to determine which endometrial cancer survivor's characteristics (demographic, needs, and empowerment) best predict workshop attendance. **RESULTS:** Sixty workshop attendees completed an evaluation form. They have expressed a high level of workshop satisfaction and have shown a heightened understanding of cancer follow-up care. Patients' needs assessment and level of empowerment will also be reported for 170 endometrial cancer survivors. **CONCLUSIONS:** Workshops can be an efficient way to meet cancer survivors' needs and complement the transition from specialized oncology care to follow-up care in primary settings.

Research Implications: This study will enable the scientific community to gain a better understanding of which individual characteristics, needs, and level of empowerment predict the attendance to a transition-of-care workshop for endometrial cancer survivors. This study will

also provide useful information regarding patients' needs and satisfaction with the transition-of-care workshop.

Practice Implications: This study provides useful information regarding the transition of care during cancer survivorship. It presents the benefits of implementing a workshop to educate cancer survivors and ease the transition of care from a specialized clinic to a general practice.

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P2-230

Body Image in Patients with Head and Neck Cancer: Predictors of Adjustment during Reconstructive Treatment

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BACKGROUND/PURPOSE: Head and neck cancer (HNC) and its treatment can introduce devastating changes to a patient's appearance and functioning and consequently have a deleterious effect on body image. The study objectives were to evaluate body image outcomes throughout the course of reconstructive treatment and consider predictors of body image adjustment. **METHODS:** One hundred and fifty adult patients with HNC undergoing reconstructive treatment at a large comprehensive cancer center completed the Body Image Scale (Hopwood *et al.*, 2001) prior to reconstructive treatment and at approximately 1, 3, 6, and 12 month(s) postoperatively. Demographic and clinical characteristics, including body mass index (BMI), gender, and tumor location (periphery versus midface), were collected. A mixed modeling approach was used to examine the data. **RESULTS:** Body image changed over time, exhibiting both linear ($p=0.012$) and quadratic trends ($p=0.039$). Predictions from the mixed model suggest dissatisfaction peaks at 7.76 weeks and returns to pre-surgical levels at approximately 19.3 weeks. Although the linear trend in body image showed improvement across the period of observation, those with tumors in the midface relative to the periphery had worse body image ($p < 0.04$). There was a trend for gender and BMI to contribute to body image, with female patients and patients with lower BMI reporting lower body image satisfaction ($p < 0.07$). **CONCLUSIONS:** Patients with HNC in the midface are particularly vulnerable to body image disturbance during reconstructive treatment. Special attention should be given to screening and referral for psychosocial distress early during reconstructive treatment.

Research Implications: Longitudinal analysis of psychosocial adjustment allows identification of periods of

vulnerability for patients during reconstructive treatment. In addition, identification of subgroups of patients who may be most in need of psychosocial services ensures targeted screening and referral.

Practice Implications: Patients with HNC may demonstrate the greatest need for psychosocial intervention within the first 3 months of reconstructive treatment. Collaboration between reconstructive surgeons and psychosocial oncologists is essential for ensuring patients with HNC, particularly in the midface, are screened and referred for needed psychosocial treatment.

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P2-231

The Use of Psychosocial Support Services among Breast Cancer Patients

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BACKGROUND/PURPOSE: Breast cancer patients have concerns and psychological distress. Although psychosocial support services are more available, the rate of use is low. Besides, a present state about the use is not well known. Therefore, we investigated the actual state of use among breast cancer patients. **METHODS:** We sent e-mail with URL that invited recipients to our questionnaire website to breast cancer patients who joined a mailing list of one of the breast cancer patients' association. People who consented to our study answered the questionnaire ($N=173$). We asked demographic information and a state of use of psychosocial support services. **RESULTS:** Participants who have used some psychosocial support services at least once are 65.9%. For example, most of the participants have used patients' associations outside and inside of hospitals (46.5% and 26.3%, respectively). Excluding the patients' associations, support groups inside and outside of hospital (20.2% and 19.3%, respectively), cancer consulting and support centers (20.2%), and psychiatry (16.7%), psychosomatic medicine (12.3%), and psycho-oncology departments (6.1%) have also been used. **CONCLUSIONS:** Most of the participants have used patients' associations, which may be caused by their joining the mailing list of the patients' association. The rate of use of psychiatry, psychosomatic medicine, and psycho-oncology departments in our study was higher than that of a previous work in Japan that showed a 10.8% rate (psychiatry and psychosomatic medicine). Joining a mailing list or patients' associations may tend to bring information about support resource to patients, which may lead to using such services.

Research Implications: We surveyed very limited participants. Therefore, it is expected that the survey will cover a large variety of cancer patients by a method like the Internet research system. We think that factors that facilitate use will be clear by investigating not only the use of psychosocial support services but also information or knowledge about these services and convenience of access.

Practice Implications: Giving information about available support resources in hospitals or community through patients' association and its mailing list may lead patients to the resources such as psycho-oncology departments and cancer consulting and support centers. Therefore, it is important to consider patients with distress who do not join patients' association or its mailing list.

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P2-232

Diagnosis of Familial Genetic Syndrome Following Pediatric Cancer Diagnoses: The Need for Direct Practice Social Workers in Helping Families with Li–Fraumeni Syndrome

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BACKGROUND/PURPOSE: Li–Fraumeni Syndrome (LFS) is a rare cancer syndrome characterized by aggressive tumors in the pediatric years, evolving intensive management strategies, and the increased risk for a shortened life span. **METHODS:** *Referral.* At age 12, Jack was treated for spinal ependymoma. Jack's father died at age 42 of glioblastoma; his half-sister Amy was treated for melanoma at 16 and kidney cancer at 22. Jack and Amy were referred to medical genetics for evaluation. Both tested positive for a *TP53* mutation and were diagnosed with LFS. Amy recently received abnormal MRI results next to her 4-year-old daughter's hospital bed where she is recovering from emergent surgery to remove a brain tumor. **RESULTS:** *Case conceptualization and treatment plan.* This complex, blended family has concurrent affected members across multiple generations. Referrals to social work had not been pursued as hospital social workers have limited flexibility to conduct ongoing counseling and crisis intervention often needed by LFS families. **CONCLUSIONS:** *Course of treatment.* Mother and daughter are concurrently in treatment, and the husband is experiencing anxiety and anger. Jack has regular contact with the genetic counselor and has chosen aggressive screening. The genetic counselor works with the whole family to distinguish *important* from *urgent* decisions and connect the family with supportive and informational resources.

Research Implications: Making decisions regarding genetic testing, cancer treatment, and risk management can pose significant psychosocial burden and require research attention.

Practice Implications: *Clinical significance of the outcome.* Medical family therapy, crisis counseling, and ongoing grief work, provided by therapists with expertise in hereditary cancer syndromes, are needed to support families such as these.

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P2-233

Integrated Behavioral Medicine in Cabncer Care: Utilizing a Training Program Model to Provide Psychological Services in an Urban Cancer Center

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BACKGROUND/PURPOSE: The American Cancer Society estimates that there will be over 1,658,000 new cancer diagnoses in the USA this year, afflicting individuals of all ages, racial backgrounds, and socioeconomic statuses. Patients experience a range of psychological distress marked by sadness, rumination or worry, anger, pain, body image issues, and identity disturbance. Approximately 25% of patients will meet criteria for clinical anxiety or depressive disorders. Psychological factors are major determinants of a patient's approach to treatment, medical health outcomes, and quality of life. Integrated behavioral medicine (IBM) services aimed at reducing cancer-related distress and improving patient outcomes offer a tremendous contribution to interdisciplinary treatment teams and are essential to comprehensive cancer centers. The aim is to present evidence for the growing importance, inclusion, and impact of an IBM team in an urban cancer center. **METHODS:** An internal multi-reviewer evaluation of an IBM program at a diverse urban cancer center was conducted, including analysis of program model, service utilization data, patient populations served, and continued program development. **RESULTS:** Utilizing a training program model, including pre-doctoral externs and a post-doctoral fellow, with the capacity to maintain an outpatient caseload of 30–34 patients weekly, the IBM team's outpatient referrals increased from 202 in 2013 to 306 in 2014 and are on par to total 428 for 2015, demonstrating an average monthly increase in referrals of 75% (range 15–200%) in the past 2 years. Inpatient encounters completed have increased from 643 in 2013 to 901 in 2014 (40% increase) and entail individual bedside intervention, family meetings, and multidisciplinary consultation. This model allows complementary

services for uninsured patients, with the most prevalent cancers seen including breast, leukemia, gynecologic, and lung. **CONCLUSIONS:** The IBM team has become an established part of the interdisciplinary medical team, led the establishment of a computerized distress screening procedure, played an integral role in end-of-life decision making, and become the primary service for assessment of cognitive dysfunction. Comprehensive cancer care includes IBM for inpatient and outpatient populations, for staff consultation, and for psychoeducation.

Research Implications: Integrated behavioral medicine teams in cancer care may be able to directly impact quality of life, treatment regimen adherence, coping with treatment side effects, hospital utilization, and health outcomes. Continued outcome studies should be conducted to validate the utility of integrated rather than outsourced mental health services. Medical teams report improved quality of care and patient relationship with the involvement of a behavioral medicine team.

Practice Implications: Integrated behavioral medicine teams in cancer care, including medical team consultation and education, both directly and indirectly improve quality of care and communication between physician and patient. Having IBM available to patients where they are being treated serves to improve treatment quality of life, patient education, coping with treatment side effects, and therefore medical regimen adherence. IBM clinicians are able to enhance continuity of care by collaborating directly and consistently with the medical team, providing targeted clinical interventions to address common cancer-related psychological experiences such as difficulty with adjustment to diagnosis, coping with treatment side effects, sexual dysfunction, body image dissatisfaction, pain management, insomnia, procedure anxiety, relationship issues, or end-of-life processes.

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P2-234

Pain Management in Nursing Practice SAGE with IASP: An Elaboration of the Nursing Curriculum of the International Association for the Study of Pain Featuring the IPOS Distress Thermometer in the Chapter on Cancer Pain as Part of a Focus on Metrics

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BACKGROUND/PURPOSE: This peer-reviewed publication elaborates the nursing curriculum of the International Association for the Study of Pain (IASP). There is

a discussion internationally regarding the need to include pain management as part of the undergraduate multidisciplinary core curriculum. However, pain management teaching can be hampered by the dispersed nature of curriculum content. The book aims to make curriculum material more readily accessible. The objectives of the book are to promote a critical thinking approach, a biopsychosocial model, and a culture of metrics to pain management in nursing practice and impart information regarding the nurse's key role in care of patients with pain of diverse age groups, cultures, and communities. **METHODS:** Following book proposal peer review by IASP and SAGE, in December 2012, the IASP Editorial Board gave permission to elaborate the IASP nursing curriculum into a book format. The book includes the International Psycho-Oncology Society Distress Thermometer as a best practice standard of care for patients with cancer pain and describes other validated clinical tools as standards of best practice to measure essential indices of pain and associated psychosocial variables. **RESULTS:** Review feedback is positive regarding the usefulness of the book for pain management teaching for nursing practice. **CONCLUSIONS:** The poster outlines the rationale for book content, which is available at <http://www.uk.sagepub.com/productSearch.nav?siteId=sage-uk&prodTypes=any&q=shelagh+wright>

Research Implications: The book emphasizes the rationale for pain measurement and biopsychosocial assessment and documentation and provides information about basic up-to-date clinical tools for best practice in care of patients with pain combined with a patient-centered approach to nursing care. Book content is relevant to improving nursing metrics and monitoring of quality care, standards, and patient outcomes in pain management in nursing practice.

Practice Implications: The book has implications for improved teaching and for promoting best standards of care in all aspects of pain management in nursing practice.

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P2-235

Efficacy of Interventions to Increase Colonoscopy Screening: A Systematic Review and Meta-analysis

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BACKGROUND/PURPOSE: Colorectal cancer (CRC) is the third most commonly diagnosed cancer and the third leading cause of cancer death, yet less than 60% of Americans between 50 and 75 years of age receive routine

screening. Colonoscopy screening is considered to be the most sensitive measure for the detection of colorectal polyps and the prevention of CRC. The primary aim of this meta-analysis was to identify the summary effect size of interventions to increase adherence to established CRC screening guidelines utilizing colonoscopy. **METHODS:** A systematic literature review of several databases was conducted utilizing PubMed, PsycINFO, Web of Science, MEDLINE, and CINAHL (until March 2015). Studies were included if (1) the study utilized a randomized controlled trial (RCT) design, (2) was testing an intervention to increase colonoscopy screening, and (3) tested in individuals who were at least 50 years of age. Of 151 references, 16 eligible RCT studies were identified. The Physiotherapy Evidence Database scale was used to assess the methodological quality of each study by two independent reviewers. This evaluation yielded 14 studies included in the analysis. Publication bias was explored. **RESULTS:** Subgroup analyses were conducted based on the nature of the study intervention. This yielded nonsignificant findings for mailing-based and interactive-based interventions. The risk ratio estimates for telephone-based interventions were significant (95% CI [1.009, 1.455]; $p < 0.05$). A subsequent subgroup analysis was conducted on studies with high-risk populations yielding significant results (95% CI [1.027, 2.062], $p < 0.05$). **CONCLUSIONS:** These results suggest that phone-based interventions could be an effective method for increasing colonoscopy screening. Additionally, high-risk populations may benefit the most from these types of interventions.

Research Implications: This study is relevant for other researchers because it can help provide insight into the types of interventions that are effective for increasing colonoscopy screening.

Practice Implications: This study is relevant in clinical practice to help determine effective programs for increasing colonoscopy screening that could be applied in the clinical environment.

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P2-236

How Have Psychosocial Factors That Influence Help-seeking Behaviour Been Measured? A Review

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BACKGROUND/PURPOSE: The incidence of advanced stage cancer at diagnosis is frequently attributed to delays in presentation to a healthcare professional. It is therefore important to understand the reasons underlying help-

seeking behaviour in order to develop ways of reducing undue delay and measure them using valid and reliable tools. This review aimed to identify how existing studies have measured psychosocial factors affecting actual time to presentation (i.e. symptom appraisal and/or help-seeking behaviour) for (potential) symptoms of cancer. This will help inform the development of items for a theory-based questionnaire (the 'Pathways to Healthcare Questionnaire') that can be used to examine factors contributing to patients' decision to seek help for (potential) symptoms of cancer. **METHODS:** A systematic search of the literature, systematic data extraction and narrative synthesis were performed. Papers were included if studies (a) collected quantitative data through primary research, (b) investigated actual time to presentation for (potential) symptoms of cancer and (c) looked at the contributing psychosocial factors that affect actual time to presentation for (potential) symptoms of cancer. **RESULTS:** Forty-two studies were identified as suitable for analysis. The vast majority of studies were atheoretical and failed to use valid and reliable tools to measure psychosocial factors that may influence help-seeking behaviour. **CONCLUSIONS:** To improve the quality of measurements, it is suggested that future questionnaire development should be guided by theoretical models and psychometric principles.

Research Implications: Due to the link between delay, advanced clinical stages of cancer and survival, it is important to be aware of the deficits of current instruments that measure psychosocial factors affecting actual time to presentation (i.e. symptom appraisal and/or help-seeking behaviour) for (potential) symptoms of cancer. This awareness will help researchers improve future instrument development in order to adequately and methodically assess the decisional and behavioural processes that determine the pathways to diagnosis and treatment.

Practice Implications: The ultimate aim of developing valid and reliable instruments, guided by theoretical models, is to adequately quantify the correlated psychosocial factors that may influence help-seeking behaviour so that targeted interventions can be designed and implemented. It is hoped that these targeted interventions would then encourage early detection, presentation, and treatment of illness and therefore improve prognosis.

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P2-237

The Growth and Development of an Inpatient Pediatric Oncology Massage Program

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BACKGROUND/PURPOSE: In the last 10 years, the Oncology Massage Therapy program at Nationwide Children's Hospital (NCH) has grown tremendously. As was commonly believed a decade ago by most physicians, many at NCH felt massage was contraindicated for oncology patients, who were viewed as too medically fragile. **METHODS:** At NCH, licensed massage therapists have provided years of education for the medical staff and through their demonstrated gentle, focused techniques have built the foundation for this program. **RESULTS:** Massage therapists are now a part of the hematology–oncology medical team, and licensed massage therapists follow patients once physician orders are received. Patients of all ages may receive massage at NCH, from infancy through adulthood. Treatment includes working with patients and families at initial diagnosis, during treatment, during times of increased fragility (including the intensive care setting), and even in the patient's home when they may be in palliative or hospice care. As a part of the oncology psychosocial team, therapists often co-treat with psychology, therapeutic recreation, music therapy, and others to allow patients maximal benefit from their massage sessions. **CONCLUSIONS:** There is growing evidence that massage therapy is a supportive service in pediatric oncology settings (Hughes, Ladas, Rooney, & Kelly, 2008), but further research is needed to document the various benefits to patients and families. The Oncology Massage Therapy program at NCH is an example of the success that comes from including massage therapy as part of an interdisciplinary oncology team.

Research Implications: There are many potential possibilities for increased research in the field of Massage Therapy specifically with the Pediatric Oncology Population.

Practice Implications: There is a limited amount of inpatient massage therapy programs within the USA, especially within the pediatric setting. This information demonstrates an example of how a program may be built and be extremely beneficial to the patients.

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P2-238

Innovative eLearning Course to Promote Lifelong Health for Teens

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BACKGROUND/PURPOSE: Most teens are touched by cancer, yet they are unaware of cancer risk factors. Teens need and want to be informed about cancer risk factors

and how choices they make today can impact their risk of cancer in the future. **METHODS:** *Cancer Education for Teens* is an in-person and interactive online course delivered as part of a health education class to raise teen awareness about cancer risk factors. The course provides teens with education on the following: what is cancer and who gets it, understanding the risk factors for cancer, ways to reduce cancer risk, and supporting those with cancer. **RESULTS:** From 2005 to 2015, 36,500 high school students in Washington State have completed the course. A majority of students (75%) have been touched by cancer (gender: 50/50 boys/girls; race: 50% White, 11% Hispanic, 11% Black, 9% Asian, 9% mixed race, 8% other, and 2% American Indian/Alaskan Native). Self-reported changes in behavior include wearing sunscreen, making healthier food choices, being physically active, stopping tanning, and stopping smoking. There is a high interest in the course: in the 2014–2015 school year, 3000 'seats' were filled within 48 h. **CONCLUSIONS:** Teens have an interest in learning about cancer. Both educators and students found the course informative and relevant to the lives of the students. The students felt informed and planned to make positive changes in their life. The next steps are to expand access of the online course across the USA and evaluate short-term lifestyle changes.

Research Implications: After this course, teens have planned lifestyle changes. Evaluation of short-term and long-term outcomes will inform the impact of this course.

Practice Implications: An in-person or interactive course on cancer education is acceptable to teens. This method of delivering health education may translate into other topics relevant to teens.

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P2-240

Effectiveness of Japanese SHARE Model in Improving Taiwanese Healthcare Personnel's Perception for Cancer Truth Telling

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BACKGROUND/PURPOSE: Communication skills training (CST) based on the Japanese SHARE model of family-centered truth telling in Asian countries has been adopted in Taiwan since 2010. However, its effectiveness in Taiwan has only been preliminarily verified.

This study aimed to test the effect of SHARE model-centered CST on Taiwanese healthcare providers' truth-telling perception, determine the effect size, and compare the effect of 4-h, 6-h and 12-h CST programs on participants' truth-telling perception. **METHODS:** For this one-group, pretest–posttest study, 107 CST programs were conducted from March 2010 to November 2014 under certified facilitators and with standard patients. Participants (1849 healthcare personnel from northern, central, southern, and eastern Taiwan) chose the 4-h ($n=1093$), 6-h ($n=266$), or 12-h ($n=490$) CST program as convenient. Participants' self-reported truth-telling perception was measured before and immediately after CST programs, with CST program assessment afterward. **RESULTS:** The CST programs significantly improved healthcare personnel's truth-telling perception (mean pretest and posttest scores \pm SD: 186.78 ± 16.34 vs. 198.54 ± 15.33 , $p < 0.001$). The CST programs effected a significant, large ($d=0.82$) improvement in overall truth-telling perception and significantly improved emotional support, positive attitude, question response, condition/treatment explanation, environment setting and additional information and decreased negative method of disclosure/attitude ($p < 0.001$). Participation in 4-h, 6-h, or 12-h CST programs did not significantly affect participants' truth-telling perception ($p > 0.05$) except for the condition/treatment explanation ($p=0.036$) and negative truth-telling method ($p < 0.001$) subscales. Most participants were satisfied with the CST programs (94.3%) and were willing to recommend them to colleagues (93.8%). **CONCLUSIONS:** The SHARE model-centered CST programs significantly improved Taiwanese healthcare personnel's truth-telling perception. Future studies should objectively assess the effectiveness of the CST, for example, by cancer patients, their families, and other medical team personnel and at longer times after CST programs.

Research Implications: Further studies are needed to assess the long-term benefit of CST on patients' outcomes and to compare the effectiveness of different CST programs and the factors affecting physicians' method of truth telling.

Practice Implications: The SHARE model CST improved Taiwanese healthcare providers' preferences for cancer truth telling. Truth-telling knowledge and skills should be replenished every few years for all healthcare personnel, including clinically experienced attending physicians.

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P2-241

Development and Evaluation of Communication Skills Training Program for Oncologists Based on Patient Preferences for Communicating Bad News

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BACKGROUND/PURPOSE: The purposes of this study were to identify patient preferences regarding oncologists' communication skills, to develop a communication skills training (CST) workshop program based on patient preferences, and to identify the effects of the CST program for oncologists. **METHODS:** A total of 529 patients were asked to respond to a questionnaire regarding preferred communication when breaking bad news. The CST program was developed, based on the survey regarding patient preferences. To evaluate the effectiveness of the newly developed CST program, 30 oncologists were randomly assigned to either an intervention group (IG) or control group (CG). Participants were assessed on their communication performance during a simulated consultation and their confidence in communicating with patients at baseline and follow-up. A total of 1192 patients who had consultations with the participating oncologists at baseline and/or follow-up were assessed regarding their distress using the Hospital Anxiety and Depression Scale. **RESULTS:** The 2-day participants' centered CST program adopted the conceptual model consisting of four dimensions, referred to as SHARE: S, setting up the supporting environment of the interview; H, considering how to deliver the bad news; A, discussing various additional information; and RE, provision of reassurance and emotional support, based on the surveys regarding patient preferences. In the results of the intervention study, the performance scores of the IG had improved significantly at the follow-up survey, in terms of their emotional support, setting up of a supportive environment, and ability to deliver information, compared with those of the CG. Oncologists in the IG were rated higher at follow-up than those in the CG in terms of their confidence in themselves. Patients who met with oncologists after they had undergone the CST were significantly less depressed than those who met with oncologists in the CG. **CONCLUSIONS:** A newly developed CST program based on patient preferences is effective for both oncologists and patients with cancer.

Research Implications: This study might provide a direction for future research in the application of CST for more health professionals in oncologic practice to help oncologists deal with unrecognized distress among patients diagnosed with cancer.

Practice Implications: Communication skills that comply with patient preferences can be taught to oncologists, and their use decreases patient distress. Oncologists should consider CST as an approach to enhancing their communication skills.

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