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SUPPLEMENT ABSTRACTS

Cancer Survivorship and Work

039 | Engagement and experiences of a workbook based intervention to support return-to-work for cancer survivors

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Returning to work is recognized as a key aspect of cancer survivorship and returning to normality posttreatment. However, returning to work can present a number of challenges. WorkPlan is a workbook based intervention to support cancer survivors in the return to work process. This study aimed to explore the engagement and experiences of cancer survivors participating in a workbook based intervention (WorkPlan) to support return to work.

Sixty-seven cancer survivors were recruited and randomized into either the intervention or the usual care arm of a feasibility RCT trial. Qualitative interviews (n = 23) were conducted with participants in the intervention arm at one month post-intervention and again at 12 months. Interviews at both times explored how participants managed their return-to-work and how engagement with the intervention provided supported that process. Interviews were audio recorded, transcribed verbatim and analyzed using a Framework approach.

A total of 23 participants were interviewed. Results indicate that the workbook supported participants to create a return to work plan and communicate with their employer; participants cited this as crucial to managing their return-to-work. In addition, the workbook format of the intervention was well received with participants and they suggested ways in which hard copy materials and the act of writing were preferable to online interventions.

The present study demonstrates how a workbook based intervention can support cancer survivors to successfully cope with a return to work following cancer treatment.

742 | The impact of functioning on the career development process of young adult CNS survivors

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Research consistently finds that a large number of young adult CNS survivors failing to reach critical career development milestones. This study will examine the impact of physical and mental functioning on all phases of the career development process in a group of young adult CNS survivors.

For this study, 81 CNS survivors age 18–30 participated and completed questionnaires regarding physical/mental functioning and career development.

Multiple regression and multiple mediation analysis was utilized to examine the relationship between mental and physical functioning and career development within a group of young adult CNS survivors. Regression results indicated that mental and physical functioning accounted for a significant portion of the variance in all three career domain areas (awareness, $R^2 = .28$; acquisition, $R^2 = .25$; and maintenance, $R^2 = .23$) with mental functioning making a unique contribution to awareness ($\beta = .43$), mental and physical both making a contribution to acquisition ($\beta = .34$, $\beta = .27$), and physical functioning making a unique contribution to maintenance ($\beta = .52$). Mediation analysis found that functioning partially mediated the relationship between late effects and awareness, fully mediated late effects and acquisition, and partially mediated late effects and maintenance.

Results indicate that functioning has a differentiating effect on the specific domains of career development, suggesting that specific interventions and supports may be warranted depending on the domain. In addition improving functioning would appear to be important in reducing the impact of late effects on the career development process.

Addressing physical and mental functioning is critical in enhancing career development of young adult CNS survivors.

863 | Predictors of not returning to work in prostate cancer survivors one and three years after a rehabilitation measure

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Return to work (RTW) is an important step in coping with the disease and returning to normal life in cancer survivors. Studies on RTW often focus on 12 to 18 months after diagnosis, while prospective studies with longer follow-up are still rare.

In this prospective multicenter study, we investigated 837 working-aged prostate cancer survivors (mean age 57 years) at the beginning and the end of a three-week inpatient rehabilitation measure as well as 12 ($n = 711$) and 36 months ($n = 519$) after the end of the measure. Survivors self-reported on sociodemographic, psychosocial (quality of life, anxiety, and depression) and work-related parameters (occupational stress and coping). Medical variables were obtained from rehabilitation physicians. Predictors of not returning to work were identified with logistic regression models.

One year after the end of rehabilitation, failed RTW was significantly associated with older age, higher tumor stage, longer sick leave before rehabilitation, and the survivor's perception of not being able to work or intention to apply for disability pension at the beginning at the rehabilitation measure (Nagelkerke's R^2 : 0.279). Three years after rehabilitation, failed RTW was significantly associated with older age, lower socio-economic status (SES), higher fatigue scores, and unambitious or resigned occupational coping styles (R^2 : 0.545).

These findings indicate that RTW is associated with different factors in the short term (medical factors and survivor's perception of his abilities) and in the long term (SES, fatigue, and coping styles). Survivorship programs should consider this when tailoring interventions to support survivors with regard to work-related issues.

249 | Sustained employability and health-related quality of life in cancer survivors up to four years after diagnosis

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Most cancer survivors are able to return to work. However, literature on sustained employability and health-related quality of life (HRQoL) is limited. The aims of this study were to explore the influence of change in employment status on HRQoL in cancer survivors long term after diagnosis and to identify predictors of work continuation in occupationally active survivors.

Prospective data from a cohort of cancer survivors (employment contract; of working age ($N = 252$)) were used. Groups were formed on the basis of change in employment status: 'continuously not working', 'positive change in employment status', 'negative change in employment status', and 'continuously working'. ANCOVA was used to explore the relationship between change in employment status and HRQoL.

GEE were used to identify predictors of work continuation in occupationally active survivors.

'Continuously working' survivors scored significantly better on the HRQoL scales: role functioning, fatigue, pain, constipation, global health/QoL and the Summary Score, than 'continuously not working' survivors, and better on physical, role and emotional functioning, fatigue, financial impact, global health/QoL and the Summary Score than survivors with a 'negative change in employment status'. In occupationally active survivors, a high score on current work ability was associated with work continuation one-year later (OR 1.46; 1.11–1.92).

Cancer survivors 'continuously working' function better and have a better health and QoL than those who are not able to work. However, in occupationally active cancer survivors, one should monitor those with low self-perceived work ability, because they have an increased risk to discontinue their work.

859 | Results of a feasibility randomised controlled trial of a workbook based intervention to support cancer patients in returning to work

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Over 100,000 people of working age receive a diagnosis of cancer annually in the UK and returning to work is recognised as a key aspect of cancer survivorship. However, returning to work can present a number of challenges. This feasibility randomised controlled study trialled and evaluated the WorkPlan guided workbook intervention, which is a theoretically led intervention aimed at targeting known psychological factors to improve work-related outcomes among cancer survivors. The intervention is delivered as a 4-week guided intervention, consisting of structured sections and activities to provide guidance and support to patients.

Participants were randomised into either the intervention or the usual care arm of a feasibility RCT trial. Data on working, mood and satisfaction with the return to work process were collected at baseline, 4 weeks, 6 months and 12 months following randomisation. Qualitative interviews were conducted with intervention participants at 4 weeks and 12 months post-randomisation to explore application of the intervention materials during return to work.

Sixty-seven cancer survivors with a diagnosis of either breast, bowel, gynaecological or urological cancer were randomised to either the control or intervention group. The intervention group showed improvements in mood and satisfaction with the return to work process at 4 weeks post randomisation. In addition, the workbook format of the intervention was well received with participants.

Preliminary results demonstrated that WorkPlan is a low-tech intervention that support cancer survivors to successfully cope with a return to work following cancer treatment.

Communication Skills and Physician Empathy

150 | Predictors of physicians' communication performance in a decision-making encounter with a simulated advanced-stage cancer patient: a longitudinal study

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Physicians' characteristics that influence their communication performance in decision-making encounters have been rarely studied. In this longitudinal study, predictors of physicians' communication performance were investigated with a simulated advanced-stage cancer patient.

Physicians ($n = 85$) performed a decision-making encounter with a simulated patient. Their communication performance was calculated by analyzing encounter transcripts with validated interaction analysis systems. Potential specific psychological predictors were physicians' empathy towards the simulated patient (Jefferson Scale of Physician Empathy, JSPE) and their decisional conflict about the treatment (Decisional Conflict Scale, DCS). Potential general psychological predictors were physicians' empathy towards cancer patients (JSPE), their decisional conflict about cancer patients' treatments (DCS), and their affective reactions to uncertainty (Physicians' Reactions to Uncertainty, PRU).

Physicians' communication performance was predicted by their decisional conflict about the simulated patient's treatment (DCS) ($\beta = .35$; $p < .001$) and their affective reactions to uncertainty regarding cancer treatments (PRU) ($\beta = -.31$; $p = .003$).

During encounters with advanced-stage cancer patients, physicians' awareness of uncertainty about which treatments to consider may facilitate their communication performance, whereas physicians' affective reactions to uncertainty may inhibit their performance.

Physicians' decisional conflict and reactions to uncertainty should be addressed in communication skills training programs.

718 | Exploring the communication of clinicians, patients and family members in breast cancer treatment decision making consultations

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Family members (FMs) often accompany patients to cancer-related consultations, especially in collectivist cultures, like Chinese, which

emphasize family goals above individual needs. Little is known about FMs' roles and involvement in treatment decision-making (TDM) consultations for breast cancer in Chinese contexts. The current study documented FMs' roles and their participation behaviours during breast cancer TDM consultations in a Chinese community.

As part of an ongoing study of breast cancer TDM consultations, 125 consultations among breast surgeons, breast cancer patients, and accompanying FMs were videotaped and evaluated using the family interaction coding system (KINcode).

Mostly, FMs were coded as "passive observers" in the diagnosis disclosure (83%) and treatment discussion stages (83%). During the deliberation and decision-making and logistical arrangements stages, almost half (46%) FMs were coded as having "active partner/watchdog" roles. Meanwhile, 35% of FMs during deliberation and decision-making and 39% in logistical arrangements stages maintained passivity. During consultations, breast surgeons often invited FMs to ask non-TDM-related questions (25%) but seldom TDM-related (8%) questions. The majority of FMs actively (82%) asked non-TDM-related questions, but only 40% of FMs asked TDM-related questions. The number of TDM-related questions asked by FMs was associated with surgeons' invitation ($\chi^2 = 4.076$, $p < 0.05$).

The current study highlighted that FMs roles varied during the consultation in this community. Clinicians' encouragement promotes questions raised by FMs in making treatment decision. Current communication skill training focuses on dyadic interaction. This study highlights a need to enhance clinicians' skills in triadic interaction.

680 | Evaluation of an online communications skills training programme for oncology health care professionals working with patients from minority backgrounds

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No communication skills training (CST) resources specifically targeting cultural competency in oncology healthcare are currently available. This project aimed to develop an online interactive CST program and assess its feasibility and potential efficacy in improving perceived competence of oncology health professionals (HPs) in communicating with people with cancer from minority backgrounds.

An online CST program providing strategies exemplified in vignettes-based professionally produced videos was developed through an iterative process with input from a large multidisciplinary team. The CST program was tested with medical oncologists, radiation oncologists and oncology nurses. Participants were asked to complete self-report questionnaires at 3 time points-pre-CST program (baseline) and post-CST program, (a) 2 weeks after completion and (b) 3 months later.

To date, 54 participants completed the first two questionnaires. Preliminary analysis demonstrates that participants' evaluations were overwhelmingly positive. Ninety-eight percent found the CST program was helpful in working with patients from minority backgrounds, and 84% stated that they have gained new skills in working with these patients. Ninety-one percent stated that they would recommend the program to their colleagues. Analyses of changes from baseline to the first follow up show that HPs felt more competent in communicating with patients from minority backgrounds ($Z = -2.286$, $P = 0.022$), and they perceived the program will bring positive change in their practice and their readiness to communicate in a culturally competent manner ($Z = -2.991$, $P = 0.003$).

The program was judged highly acceptable by HPs, and initial results indicate that it may be effective in increasing perceived competence.

216 | Preferences of patients with advanced cancer in end-of-Life decision-making – the effect of an ethics policy for advanced care planning and limiting treatment (EPAL – Ethics Policy for Advanced care planning and Limiting treatment)

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Decisions about life-prolonging treatment belong to the most difficult and sensitive challenges in end-of-life care and are often accompanied by psychological, moral and clinical conflicts. The aim of the EPAL study is to investigate the impact of an ethics policy about limiting treatment through a pre-post evaluation.

The pre-implementation survey-study (V₂) took place in the Department of Haematology/Oncology (LMU/Munich) during 02/2014–07/2015 with $n = 50$ patients and their respective physicians and nurses. The results were fed into the EPAL policy (developed 5/14–7/15). The aim of the post-implementation survey-study (N₂; $n = 50$; 05/2016–12/2016) was to evaluate the impact of the EPAL policy with

emphasis on improved communication regarding patients' preferences in end-of-life decision-making.

Results show that patients who want to play an active part in medical decisions ("I want to decide for myself which medical treatment I get") report significantly higher rates of distress ($r = -.208$; $p = .042$) and significantly higher preference for quality of life ($p = .008$). Significant differences could also be shown with patients rating quality of life higher in post N₂ than in pre V₂ ($p = .031$).

First results show differences concerning patients' preferred role in decision-making and their quality vs. quantity of life preference after the implementation of the EPAL policy. Whether this difference can be attributed to the implementation of the policy alone has to be further investigated.

752 | When and for which patients does physician empathy improve cancer patient emotional quality of life?

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Research into the effect of physician empathy on cancer patients' quality of life (QoL) has provided contradictory results: in some studies, empathy was associated with a better QoL, while in other studies, no association was found. We hypothesized that the link between physician empathy and QoL would depend both on patient emotional skills (emoSkills) and on the type of consultation (bad news versus follow-up consultations). Patients with high emoSkills would benefit from physician empathy (as they would be sensitive to empathy and encouraged by it), while those with low emoSkills would not (because of a lack of emoSkills to cope with the disease). The effect of empathy could be more expected and thus stronger in bad news consultations.

In a cross-sectional design, 296 lung and oesogastric cancer patients completed questionnaires about their physician's empathy (22 physicians assessed using the CARE), their emoSkills (S-PEC) and QoL (FACT-G emotional dimension). Multiple regressions with a two-way interaction were performed.

Controlling for patient medical and sociodemographic variables, we found a significant interaction between patient emoSkills, physician empathy and the type of consultation to predict patient QoL ($p < .005$). In follow-up consultations, physician empathy improved patient QoL regardless of patient emoSkills, whereas in bad news consultations physician empathy improved patient QoL only in patient with high emoSkills.

This study demonstrates the importance of medical empathy in cancer settings. However, in bad news consultations, it highlights that patients with low emoSkills are at risk of psychological distress even with an empathetic doctor.

Fatigue and Cognitive Impairments

262 | Cancer-related fatigue: do we need a more differentiated view?

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Fatigue is common in cancer patients and survivors but remains often insufficiently treated. Various interventions have shown some benefits on this complex syndrome, but a “one-fits-all” approach seems not appropriate. To gain more information on influencing factors and potential subtypes of fatigue, we investigated the determinants of different fatigue dimensions in breast cancer survivors during and after adjuvant therapy.

Physical, affective, and cognitive fatigue were repeatedly assessed during and up to 12 months after chemo- or radiotherapy with the multidimensional 20-item Fatigue Assessment Questionnaire in 255 breast cancer survivors. Using linear mixed models, we investigated determinants and correlates of the different fatigue dimensions.

Chemotherapy appeared as significant precipitating factor for physical fatigue. However, for fatigue at 12 months follow-up, chemotherapy was no significant determinant. Obesity was significantly associated with increased physical fatigue throughout all time points, whereas exercise was associated with decreased physical fatigue. In contrast, chemotherapy, obesity, and exercise played no significant role regarding affective fatigue, which in turn was associated with poor social support and worries about the future. In addition, poor sleep quality and previous use of psychopharmaceuticals were significantly associated with physical, affective, as well as cognitive fatigue. Further, hot flashes were associated with increased physical and cognitive fatigue.

Fatigue in cancer survivors needs to be recognized as a diversity of symptoms determined by specific characteristics. Taking those factors into consideration and disentangling such symptoms with different pathophysiologies subsumed under the broad term “cancer-related fatigue” might enable a better, individually tailored fatigue treatment.

499 | Associations among physical activity, fatigue, and executive function in breast cancer survivors

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Breast cancer survivors (BCS) experience physical and psychological symptoms related to cancer and its treatments, such as decreased physical activity (PA), increased fatigue, and cognitive impairment. Engaging in PA during treatment and survivorship has shown to ameliorate fatigue. Emerging evidence suggests fatigue may be one mechanism of cancer-related cognitive impairment (CRCI), and PA may be a promising treatment. The purpose of the study was to examine the path from PA to CRCI via fatigue in BCS.

BCS (N = 298; 57.51 years old) wore an accelerometer for 7 days and completed tablet-based measures of fatigue (FACIT-F) and executive function. PA was defined as average daily minutes of moderate-to-vigorous PA (MVPA). Executive function was modeled as a latent construct using Task-switch Switch Reaction Time, Flanker Incongruent Reaction Time, Mazes Drawing Time, and Trails B Time. Relationships were examined using a path analysis controlling for age, body mass index, treatment(s) received, and menopausal status. Effects were bootstrapped to estimate biased-corrected 95% confidence intervals (CI) of the effects.

The hypothesized model provided an excellent fit ($\chi^2(21) = 23.17$, $p = 0.20$; CFI = 0.989; RMSEA = 0.019; SRMR = 0.03). Greater MVPA was associated with reduced fatigue ($B = 0.16$, $p = 0.05$, 95% CI: 0.05/0.28). In turn, reduced fatigue was associated with better executive function ($B = -0.24$, $p = 0.001$, 95% CI: -0.25/-0.09). The indirect path from MVPA to executive function, via reduced fatigue, was also significant ($B = -0.04$, $p = 0.065$, 95% CI: -0.06/-0.007).

Findings suggest PA may represent a promising treatment for CRCI through its influence on fatigue. To help BCS manage fatigue and improve cognition, it is critical to develop PA interventions.

204 | Reducing cognitive impairment due to cancer treatment – a feasibility study

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Estimates suggest that cancer-related cognitive impairment affects up to 75% of patients and warrants research attention.

A single-arm, before-and-after study was undertaken to assess the feasibility of a theory-based, multi-component intervention to reduce cognitive impairment. Early-stage (I-III) breast and colorectal cancer patients underwent a neuropsychological assessment (based on International Cognition and Cancer Taskforce recommendations) before their first cycle of chemotherapy. The same assessment will be repeated after their last chemotherapy cycle. Patients with cognitive decline (using predefined criteria) will be invited to participate in the intervention.

Thirty-nine percent (15/38) of participants underwent (~1 hour) baseline assessments. On average, participants were 57 years old, spent 18 years in education and had no comorbidities. Participants were predominantly female ($n = 12$), had breast cancer ($n = 10$), were married ($n = 12$) and were not working ($n = 8$). Most scores were within the normal range compared to normative values. However, eight individuals had cognitive impairment. For example, one participant indicated significant/severe impairment on both parts of the Trail Making Test. Six participants performed in the 25th percentile on the Digit Span Forward or Backward test. Five and six participants, respectively, scored at least one standard deviation below normal performance on at least one trial of the HVL and Stroop test.

Fifty-three percent (8/15) of participants demonstrated impairment in executive functioning, learning and memory pre-chemotherapy. Baseline results suggest it is feasible to conduct cognitive assessments of cancer patients pre-chemotherapy and the assessments appear to be acceptable to participants. Currently, patients are being followed up.

226 | Web-based cognitive rehabilitation for survivors of adult cancer: a randomised controlled trial

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Cognitive dysfunction associated with cancer is frequently reported and can reduce quality of life for survivors of cancer. We evaluated a web-based cognitive rehabilitation therapy program (eReCog) in cancer survivors compared to a waitlist control group.

Adult cancer survivors with self-reported cognitive symptoms who had completed primary treatment at least 6 months prior were recruited. Participants completed telephone screening and were randomly allocated to the 4-week online intervention or waitlist. Primary outcome was subjective cognitive function on seven measures: two subscales from the Brief Assessment of Prospective Memory; four subscales from the Functional Assessment of Cancer Therapy – Cognitive Function version 3; and the European Organisation for Research and Treatment of Cancer Core Quality of Life Questionnaire cognitive functioning subscale. Secondary outcomes were objective cognitive functioning and psychosocial variables.

The 76 women were allocated to the intervention ($n = 40$) or waitlist ($n = 36$). A significant interaction was found on the instrumental activities of daily life measure of self-reported prospective memory (PM), whereby the intervention group reported a greater reduction in PM failures than the waitlist group. Interaction trends were noted on perceived cognitive impairment ($p = .089$) and executive functioning ($p = .074$). No significant interactions were observed on other measures of objective cognitive functioning or psychosocial variables.

The web-based intervention shows promise for improving self-reported cognitive functioning in adult cancer survivors. Further research is warranted to better understand the mechanisms by which the intervention effects contribute to improve self-reported cognition.

915 | Randomized controlled trial of a dyadic yoga program for lung cancer patients undergoing radiotherapy and their family caregivers

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Although lung cancer leads to debilitating physical and psychological sequelae, the role of mind-body medicine in the QOL management of lung cancer patients is largely unknown. Moreover, the needs of family caregivers are rarely addressed. The purpose of this randomized controlled trial was to establish feasibility and preliminary efficacy of a dyadic yoga (DY) intervention.

Patients with stage III lung cancer undergoing radiotherapy (RT) and their caregivers were randomized to a 15-session DY or a waitlist control (WLC) group. Prior to RT initiation and randomization, both groups completed measures of mental and physical QOL (MCS and PCS of SF-36, respectively). Patients also completed the 6-minute walk test (6MWT) to measure functional capacity. Participants were reassessed at the last day of RT. Feasibility data were captured.

We approached 47 eligible dyads of which 32 (68%) consented and 26 (81%) completed all assessments. Patients (mean age: 73 yrs., 63% female) and caregivers (mean age: 62 yrs., 38% female, 63% spouses) completed a mean of 12 sessions (SD = 3.7), and 95.5% of them rated the program as "very useful". Controlling for baseline levels and other relevant covariates, ANCOVA revealed a clinically and statistically significant difference in the 6MWT (DY mean = 481 m vs WLC mean = 409 m, $d = .91$; $p < .05$) and clinically significant differences in the PCS for patients (DY mean = 42.49 vs WLC mean = 35.20, $d = .65$). No significant differences were found for caregivers.

This novel supportive care program appears to be feasible and beneficial for lung cancer patients. A larger efficacy trial with a more stringent control group is warranted.

Cancer Survivorship and Quality of Life

567 | Enhancing breast cancer survivorship for Korean American women using a randomized controlled trial to improve quality of life and decrease stress

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Korean-American women have experienced a surge of breast cancer incidence and report low levels of quality of life (QOL) and high levels of stress. However, few studies have examined breast cancer survivorship in this population. We developed and assessed the effectiveness of one of the first linguistically and culturally tailored randomized controlled trial (RCT) aimed to improve QOL and decrease stress for Korean American breast cancer survivors (KABCS).

The 77 KABCS attended seven weekly sessions and one follow-up session. The standard intervention (SI) group ($n = 37$) were provided linguistically and culturally appropriate information on breast cancer survivorship, whereas the enhanced intervention (EI) group ($n = 40$) were provided the SI content and information on practicing relaxation, enhancing coping, reducing stress, using social support, etc. The Functional Assessment of Cancer Therapy-Breast (FACT-B) was used to assess QOL, and the Perceived Stress Scale (PSS) was used to measure stress at baseline (T1), end of the program (T2), and follow-up (T3). Generalized estimating equations (GEE) models were used to examine program effects on QOL and PSS.

The EI had a 5.2 unit greater increase in FACT-B and a 2.4 unit greater decrease in PSS from T1 to T2 compared to the SI. Those who resided in the USA for less than 10 years, the EI had a significantly greater decrease of 6.8 units in PSS from T1 to T2 compared to the SI ($p = 0.03$).

Findings support the use of a linguistically and culturally tailored support program to improve QOL and decrease stress among KABCS.

389 | Mental health and quality of life during cancer survivorship: the effects of physical activity levels pre-cancer to post-treatment

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Little is known about associations between pre-cancer and post-treatment physical activity (PA) and mental health during cancer survivorship. The purpose was to examine the effects of PA pre-cancer to

post-treatment on fatigue, depression, anxiety, and quality of life in breast cancer survivors (BCS).

BCS ($N = 390$) completed a tablet-based battery including measures of PA (before diagnosis, currently), fatigue, depression, anxiety, and quality of life. Analysis of covariance was used to examine differences in mental health among BCS categorized into one of four PA levels: (A) low-active pre-cancer, low-active post-treatment ($n = 128$); (B) low-active pre-cancer, active post-treatment ($n = 74$); (C) active pre-cancer, low-active post-treatment ($n = 52$); and (D) active pre-cancer, active post-treatment ($n = 136$). Participants were classified as active (≥ 24 units) or low-active (< 24 units) using Godin Leisure-Time Exercise Questionnaire cutpoints.

Adjusting for age, hormonal therapy, and years since diagnosis, fatigue and depression were lowest and quality of life was highest among women in category D, followed by categories B, A, and C. Women in category D differed on all significant outcomes from both inactive categories (A and C), p 's ≤ 0.001 . Women in category B also differed on all significant outcomes from category C, p 's ≤ 0.01 .

Regardless of BCS' activity pre-diagnosis, low PA after treatment was associated with greater fatigue and depression and lower quality of life. The detrimental effects of low PA post-treatment on mental health were most salient in women who were active pre-diagnosis. Efforts to help patients increase or maintain PA may be critical to helping BCS maintain their mental health and quality of life.

114 | Mindfulness-based cognitive therapy for persistent pain in women treated for primary breast cancer: a health economic evaluation

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To investigate the cost-effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) compared with a wait-list control group as a pain intervention for women treated for breast cancer.

A total of 129 women were randomly allocated to MBCT or a wait-list control group. The primary outcome was the Minimal Clinically Important Difference (MCID) in pain intensity (≥ 2 point reduction on a 11-point Numeric Rating Scale). Analyses were conducted from the healthcare system perspective and included data on healthcare utilization and prescribed pain medication retrieved from national registries for the time from baseline (T1) to 6 months post-intervention (T4). Bootstrap simulations were used to estimate incremental costs, incremental effect, and the Cost-Effectiveness Acceptability Curve (CEAC).

The cost of the MBCT intervention was 240€ per participant. While no statistically significant between-group difference was found for total healthcare costs (mean difference: 492€; $p = 0.27$), the cost-effectiveness analysis indicated that MBCT was associated with better outcome and fewer costs than the control group. The CEAC showed that at a threshold of 1000€ per additional woman achieving MCID, MBCT was cost-effective with a probability of 90%.

Our results extend existing knowledge about the efficacy of MBCT for pain, suggesting that MBCT may be a cost-effective pain intervention for women treated for breast cancer. Future studies could include utility measures, indirect costs, and active control groups to increase the generalizability and pragmatic value of the results.

521 | Effectiveness of a peer led intervention for prostate cancer survivors to increase exercise participation and improve quality of life: a randomised controlled trial

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Exercise in men with prostate cancer has been demonstrated to reduce morbidity, increase survival and improve quality of life. Effective ways to implement programs outside carefully controlled clinical trials remains uncertain. We evaluated whether a peer-led multimodal intervention was effective for increasing exercise participation and improving quality of life in prostate cancer survivors. Randomized controlled trial with 463 prostate cancer survivors from metropolitan and rural areas in the state of Queensland, Australia. Survivors were randomised to intervention (INT) ($n = 232$) or usual care (UC) ($n = 231$) with INT targeting exercise and unmet supportive care needs. The intervention included self-management materials, home-based exercise equipment, and monthly telephone-based group peer-support for 6 months.

Patients were assessed for psychological distress, quality of life, and compliance with exercise guidelines at baseline, 3, 6 and 12 months. INT had significantly higher Quality of Life Relationships subscale scores at 3-month follow-up ($p = .038$) compared with UC, with no change in any other QOL domains or psychological distress. For exercise participation at 3 months, 40.3% of UC were inactive compared to 29.3% of INT ($p = .013$), while 7.8% of UC were sufficiently active compared to 18.0% for INT ($p = .003$). These results were not sustained at 6- or 12-month follow-up.

A peer-led intervention was effective in increasing the proportion of prostate cancer survivors meeting exercise guidelines. However, these changes were modest and not accompanied by improvements in psychological distress or quality of life. Methods to increase effectiveness and maintain long-term adherence require further investigation.

341 | Could unmet needs mediate poor psychosocial outcomes among patient-support person dyads in haematological cancer?

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There are limited data regarding dyadic effects on psychosocial wellbeing among cancer patients.

This study aimed to explore the relationships between unmet need, depression, disease factors and socio-demographic factors in a sample of people diagnosed with haematological cancer and their support persons.

Adult survivors diagnosed with a haematological cancer were recruited to a cross-sectional mailed survey via five cancer registries in Australia. Participating survivors were asked to invite a support person to complete a survey. Structural Equation Modelling was used to explore the relationship between survivor and support person depression, anxiety and unmet needs.

Of the 4,299 eligible haematological cancer survivors contacted by the registries, 1,511 (35%) returned a completed survey as did 1,004 support persons. There were 787 dyads with complete data for all variables of interest. After adjusting for age, gender, rurality and cancer type and whether the support person was a relative, positive correlations were found between survivor and support person scores for depression ($p = 0.0029$) and unmet needs ($p < 0.001$), but not anxiety scores ($p = 0.075$). Survivor unmet needs were significantly related to support person depression ($p = 0.0036$). Support person unmet needs were significantly related to higher depression score for survivors ($p = 0.0067$). Greater support person unmet needs were significantly related to higher anxiety score for survivors ($p = 0.0083$).

The psychosocial experiences of haematological cancer survivors and their support persons exhibit a significant measure of inter-dependence, with the role of unmet needs being a mediator of these effects.

Psychological Interventions I

004 | Psycho-behavioral treatments to enhance sexual function in female survivors of pelvic cancer: A systematic review of randomized clinical trials

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Diminished sexual function can be an iatrogenic disability in pelvic cancer survivors and is associated with decreased quality of life, disease-related distress and symptom severity. Currently, there is no prescribed standard of treatment for this condition in females. The primary aim is to determine the effectiveness of psychological and behavioral interventions in managing cancer treatment-related sexual dysfunction in female pelvic cancer survivors.

Search Methods: MEDLINE (1945 to July 2015), EMBASE (1980 to July 2015), CINAHL (1982 to July 2015), PsychINFO (1967 to JULY 2015) and the Cochrane Systematic Review Database and Controlled Trials Register, Web of Science and Current Controlled Trials. Reference lists from eligible trials were hand searched.

Randomized controlled trials were included of a psychological or behavioral intervention to treat diminished sexual function in adult women who survived pelvic cancers.

Data Collection and Analysis: Four studies were selected and outcome data relating to quality of life and female sexual function index were analyzed.

The four studies that met inclusion criteria examined four different interventions. Two trials of integrated psychobehavioural intervention were of poor methodological quality and were unqualified for assessment of efficacy. Another trial of sex therapy intervention had not provided relevant sub-population data for analysis relevant to this review.

One trial suggested short-term benefit for telephone counseling. There is no convincing evidence to support the use of any psychobehavioral intervention for sexual dysfunction in female pelvic cancer survivors.

250 | Face-to-face versus individual internet-based MBCT versus TAU for distressed cancer patients: the BeMind study

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Mindfulness-based interventions have shown to reduce psychological distress in cancer patients. The accessibility of mindfulness-based interventions could be further improved by providing mindfulness using an individual internet-based format. The aim of this study is to test the effectiveness of face-to-face group Mindfulness-Based Cognitive Therapy (MBCT) for cancer patients in comparison with individual internet-based MBCT and treatment as usual (TAU). A three-armed multicenter randomized controlled trial compared face-to-face group MBCT and individual internet-based MBCT to TAU in cancer patients who suffer from at least mild psychological distress (Hospital Anxiety and Depression Scale (HADS) ≥ 11). Participants initially allocated to TAU were subsequently randomized to either group- or individual internet-based MBCT and received a second baseline measurement after 3 months. Secondary outcomes were fear of cancer recurrence (FRCI), rumination (RRQ), positive mental health (MHC-SF), mindfulness (FFMQ-SF) and quality of life (SF-12).

The 245 patients were randomised (77 group-based, 90 internet-based, 76 treatment as usual). Mean age was 51.7 (SD = 10.7), 14.3% was male, and 15.9% was treated with palliative intent (no differences between conditions). Both face-to-face and internet-based MBCT were effective compared to TAU in reducing psychological distress. Secondary outcomes will also be presented. Providing internet-based MBCT holds promise in terms of increasing accessibility: patients do not have to travel and treatment planning is more flexible in the light of individual circumstances. This trial provides further insight into the accessibility, effectiveness and cost-effectiveness of face-to-face and internet-based MBCT in the reduction of psychological distress in cancer patients.

421 | Effects of existential interventions on physical, psychological and spiritual outcomes in adult patients with cancer: systematic review and meta-analysis

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Existential distress may occur during all stages of cancer and result in worsened patient outcomes. The aim of the present systematic review and meta-analysis was to evaluate the effectiveness of existential interventions in adult cancer patients compared to an active or non-active control.

A systematic literature search was performed in Embase, MEDLINE, CENTRAL, CINAHL, PsycINFO and PSYINDEX. Random-effects meta-analyses were conducted on physical, psychological and spiritual outcomes at different time points. A priori defined moderators were investigated by subgroup analyses and meta-regression. Risk of bias was assessed using the Cochrane Risk of Bias Tool.

Twenty-four studies (3511 participants) were included in the review of which 19 studies were included in meta-analyses. Existential interventions showed moderate effects on existential well-being ($g = 0.52$, $k = 11$, 95%

CI: 0.13 to 0.91, $p = 0.009$) and hope ($g = 0.52$, $k = 10$, 95% CI: 0.12 to 0.93, $p = 0.011$) at post-treatment. No significant effects were found on spiritual well-being, anxiety, depression, physical well-being, pain, self-efficacy and desire for hastened death. Overall, heterogeneity was substantial. Evidence regarding outcomes in the medium and long term was scarce. Moderator analyses did not yield any significant results.

The present systematic review and meta-analysis provides limited evidence that adult patients with cancer across all stages might benefit from existential interventions. Future research should strive towards a higher standardization and include caregivers. Opportunities and challenges of integrating existential interventions into modern eHealth applications will be discussed.

513 | Being mindful of mindfulness interventions in cancer: what really is the level of evidence?

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Mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) have demonstrated efficacy in clinical populations. Numerous studies have investigated the potential therapeutic benefit of mindfulness in the context of cancer across a range of patient populations and clinical outcomes. The aim of this review was to critically appraise the methodological quality of studies reporting mindfulness-based interventions.

Studies utilizing RCT design and/or a control arm were included. PubMed, Medline, PsycINFO, CINAHL and Embase databases between January 1999 and July 2016 were searched. Studies were assessed on (1) reported theoretical framework, (2) intervention description, and (3) justification of modifications to standardised MBSR/MBCT. The overall quality of study design and research methodology were also assessed.

Of 24 studies identified, none adhered to the gold standard MBSR, eight were modified-MBSR and three were MBCT. Six studies inadequately documented intervention/theoretical framework. Overall, component and timeline modifications were poorly documented and justified. The mean intervention contact time was 16.97 hours (SD 6.08) for modified MBSR and 20.5 hours (SD 8.6) for MBCT. Target outcomes were poorly justified, and 11 studies failed to identify a primary aim while reporting multiple outcomes. Only 7 of 13 studies recruiting clinical populations included clinical cutoffs.

Mindfulness is increasingly considered a standard therapy in psycho-oncology. While many studies proclaim benefits, there is considerable variability and modifications of the intervention delivered and claims of benefit often reflect decreases in sub-clinical supportive care

symptomology rather than therapeutic relief of clinically significant psychological disorders such as clinical depression.

247 | The adaptation of meaning-centered therapy for Turkish advanced cancer patients

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Manualized psychotherapy interventions targeting the advanced cancer patients are lacking in Turkey. Currently, there are no manualized psychological interventions addressing the unique psychological needs of Turkish advanced cancer patients. Therefore, it is an urgent unmet need to adapt an already established treatment intervention that has demonstrated efficacy. Individual Meaning Centered Psychotherapy (IMCP), by Drs. Breitbart and Poppito, is a brief, structured, manualized psychotherapy with proven efficacy, may be an ideal intervention to adapt for this patient population in Turkey.

The initial step will be the translation of the original clinician manual to Turkish. Following the translation, clinician experts and Turkish cancer patients will be consulted regarding the cultural adaptation of the manual. After revisiting the manual based on both clinician and patient feedback, the lead authors, who have been trained in IMCP at MSKCC will train a cohort of Turkish clinicians. A pilot randomized controlled trial of IMCP versus usual care will be conducted with a group of stage III, IV solid tumor cancer patients to assess feasibility and preliminary efficacy. Results of an ongoing study testing IMCP will be discussed in consideration with specific cultural differences.

Conclusions will be made highlighting specific areas in the adaptation requiring improvement.

Family and Caregiver Needs

601 | Psycho-social and socio-demographic aspects of family life with a child with brain tumor (BT) or acute lymphoblastic leukemia (ALL)

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The objective was to examine the impact of diagnosis-related features of BT and ALL on the quality of life (QOL) of the children and their parents and on the family's medico-social and psychological functioning in terms of family behavior (matrimonial, reproductive).

The subjects were 70 children aged 2–18 with BT; 60 children aged 2–18 with ALL, 120 their parents, 36 their healthy siblings. The

children were administered the PedsQL™ Quality of Life Inventory for children, and the parents – the SF-36 for adults. Additionally, there were 1085 mothers aged 21–49 (median 36) who completed special 98-item questionnaires.

In ALL group marital relationship and the relationship with close supportive social environment changed more, improved more, and deteriorated less than in BT group. Mothers in ALL group reported less deterioration in health and lower QOL (in the indicators role-physical functioning and health). The healthy siblings of BT children had a lower QOL in all indicators except role functioning than the siblings of ALL. There were differences in the family's reproductive behavior: in the BT group fewer children were born than in the ALL group and more families reported effects on family planning, especially in delaying pregnancy.

The impact of a child with BT on the families is more extensive and severe, possibly because the treatment and ensuing disability for the children are more difficult. This justifies planning rehabilitation and support for the families from the very beginning.

839 | Specific supportive care needs of families with minor children when a mother has cancer

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Cancer disease in parents of minor children poses major challenges for all family members. To provide a basis to assign supportive interventions as necessary, the aim of this study was to investigate the specific support needs of families affected by maternal cancer.

We used a qualitative design with semi-structured interviews. All interviews were transcribed verbatim and analyzed using thematic analysis. Twenty-nine ill mothers and ten healthy fathers were interviewed. Parents were between 31 and 51 years old. Mean time since diagnosis was 18 months (range 2–77 months). We identified six support needs of ill mothers, e.g. psychological support or information about coping in children. Both ill mothers and healthy fathers expressed the wish for information regarding how to deal with the children and how to talk about the disease. Additionally, some parents articulated a need for diagnostic view on their children and for the exchange with other parents. Parents wished, for example, psychological support, age-appropriate information or cancer-free times for their children and support in talking about the disease, but also attending cancer-free family activities and meeting other families for the whole family. Almost all parents expressed the need for practical support regarding household and child-care. Some families also wished information on financial support and general information about 'cancer and family'.

The diversity of needs and wishes during cancer trajectory of families affected by maternal cancer illustrates the challenge to support these families adequately. Assessing the specific needs systematically may help to provide support individually.

800 | The development and piloting of a 3-day program for young people who have had a family member die from cancer

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Having a parent or sibling die whilst young can have substantial impacts on well-being and adjustment. Regardless, there is a paucity of theoretical based and empirically evaluated services for this cohort of young people. A 3-day manualised residential program, *Good Grief*, was developed for young people (12–25 years) using the Dual Process Model. The program consists of a mix of recreational activities and 8 psychosocial sessions with the aim of providing grief education; increasing capacity to accept loss associated feelings; support seeking; and reducing isolation experienced by bereaved young people.

Two pilot programs were run and completed by 49 young people (M age = 16.1 years, SD = 2.6; 35% male). Surveys evaluating grief intensity, meaning reconstruction, coping and unmet needs were completed pre-, post-program and at 3-month follow-up. Program feedback and fidelity was also obtained from participants and facilitators.

Results indicate that there were statistically significant improvements in participants' personal growth ($t_{28} = 3.09, p = .005$), valuing life ($t_{28} = -2.08, p = .047$) and unmet needs in dealing with feelings ($t_{28} = 2.09, p = .047$). Participant feedback was extremely positive with 100% of participants recommending the program to others. Program satisfaction (M = 3.6/4), perceived program benefits (M = 3.5/4), facilitator engagement (M = 5.4/6), and participants' ratings of each session (M = 8.1/10) were all high.

The current results highlight the benefits of the *Good Grief* program for young people who had experienced the death of a parent or sibling from cancer. Next steps include program revision based on pilot findings and national roll-out of the program accompanied by a full evaluation.

801 | How does parental cancer affect adolescent and young adult offspring? Recent developments and important considerations for future research

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Parental cancer can have a substantial and long-lasting impact on adolescent and young adult (AYA) offspring. While this vulnerable population has been increasingly studied over the last 30 years, the last comprehensive systematic reviews were conducted in 2007.

A systematic review and thematic synthesis was conducted of studies regarding the impact of parental cancer on AYA offspring published since 2007 to identify evidence and methodological gaps addressed during this period and highlight those requiring further attention. Searches yielded 1723 articles, 47 of which were relevant. Twenty-seven reported negative impacts related to parental cancer, while 7 identified positive post-traumatic growth-related outcomes. Five returned null/mixed findings. Unmet needs were frequently explored, and a validated measure developed. Communication and information are particularly important but unmet needs for offspring, and parents want guidance regarding discussions with their children. Offspring adopt a variety of coping strategies, some of which appear maladaptive, and may cycle between different approaches. One intervention protocol and one pilot of a culturally adapted family-based intervention were identified. Further evidence has emerged that poorer family functioning predicts worse psychosocial outcomes for offspring. Although additional evidence for the negative psychosocial impact of parental cancer on adolescent and young adult offspring, their needs and factors predicting outcomes has emerged, substantial gaps and methodological issues remain. Evidence for the development, efficacy or implementation of interventions for this population is almost entirely absent. There is also a need for greater focus on bereaved and young adult offspring and those from non-western cultural groups.

787 | Do researchers, clinicians, managers, and caregivers agree on the priorities for cancer caregiving research? A national and international online Delphi survey and meetings

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With increasing investment in psychosocial caregiver research, it is important to establish clear and strategic priorities. This study engaged stakeholders (caregivers, clinicians, researchers, and managers) across Canada, Australia, the USA, and the UK to identify priority topics for caregiver research in cancer care. A three-round, online Delphi survey was undertaken. In Round 1, stakeholders generated caregiver research topics by answering an open-ended question. Content analysis of stakeholders' answers identified topics to be included in the Round 2 survey to rate their importance. The Round 3 survey included topics with less than 80% agreement for stakeholders to reconsider in

light of others' responses. The 92 topics generated by 101 clinicians, 66 researchers, 61 caregivers, and 24 managers in Round 1 across 10 content areas: impact of cancer; support programs; vulnerable caregivers; technology; caregivers' role in health care; caregiver-centered care; knowledge translation research; environmental scan; financial cost of caregiving; and policy. In Round 2, 11 to 29 topics achieved consensus across stakeholder groups, with five topics achieving consensus for all groups (e.g., "screening for burden"). In Round 3, 11 to 23 more topics achieved consensus across groups, with three more topics achieving consensus for all groups (e.g., "training for clinicians"). Online meetings (6–10) are currently being conducted to further interpret differences among groups. Findings provide a list of research priorities agreed on by stakeholders, ensuring the interests of key groups are integrated in strategic directions. However, findings identified key differences reflecting the specific stakeholders' roles in practice, education, and/or policy.

Family Issues and Bereavement

933 | Risk for prescription of antidepressants, anxiolytics, and hypnotics in partners of glioma patients: a population-based registry study in Denmark

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Glioma is characterized by intensive treatment, complex symptoms, fluctuation in the severity of symptoms and poor survival: glioblastoma patients, representing the largest histological subgroup, have a 5-year relative survival of less than 5%. Partners of glioma patients may suffer from severe psychological distress, but their psychiatric morbidity has not been described objectively. Our aim is to determine the risk of partners of glioma patients for being prescribed psychotropic medication (antidepressants, anxiolytics, or hypnotics).

In a population-based registry study, we included all partners of adults with glioma, diagnosed in 1998–2013 in Denmark and a cohort of partners of glioma-free persons individually matched (1:10) on the birth year and sex of the patient. In Cox proportional hazard models, we estimated hazard ratios (HRs) for a first prescription of psychotropic medication (antidepressants, anxiolytics, or hypnotics) according to the partner's glioma status, taking into account age, comorbidity, and sociodemographic factors. For partners

of glioma patients, we estimated HRs for a first prescription of psychotropic medication according to disease characteristics and sociodemographic factors.

We identified 4,373 partners of glioma patients and 43,808 partners of glioma-free persons. Preliminary results will be presented on the risk for prescription of antidepressants, anxiolytics, or hypnotics.

To our knowledge, this is the first study to examine the effect of being the partner of a glioma patient on objectively measured psychiatric morbidity. The results will be important for health care professionals during treatment of glioma patients.

614 | Perceived family functioning predicts baseline psychosocial characteristics in U.S. participants of a family focused grief therapy trial

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Screening and baseline data on 170 American families (620 individuals), selected by screening from a palliative care population for inclusion in an RCT of Family Focused Grief Therapy (FFGT), were examined to determine whether family dysfunction conferred higher levels of psychosocial morbidity. We hypothesized that greater family dysfunction would indeed be associated with poorer psychosocial outcomes among palliative care patients and their family members.

Screened families were classified according to their functioning on the Family Relationships Index (FRI) and consented families completed baseline assessments. Mixed effects modeling with post hoc tests compared individuals' baseline psychosocial outcomes (psychological distress, social functioning, and family functioning on a different measure) according to the classification of their family on the FRI. Covariates were included in all models as appropriate.

For those who completed baseline measures, $n = 191$ (30.0%) individuals were in low-communicating families; $n = 313$ (50.5%) were in uninvolved families and $n = 116$ (18.7%) were in conflictual families. Family class was significantly associated (at $ps \leq 0.05$) with increased psychological distress (BDI, BSI) and poorer social adjustment (SAS) for individual family members. The Family Assessment Device (FAD) supported the concurrent accuracy of the FRI.

As predicted, significantly greater levels of individual psychosocial morbidity were present in American families whose functioning as a group was poorer. Support was generated for a clinical approach that screens families to identify those at high risk. Overall, these baseline data point to the importance of a family-centered model of care.

672 | Prolonged grief is distinct from severe depressive symptoms in the first year of bereavement for caregivers of terminally ill cancer patients

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Severe depressive symptoms and prolonged grief (PG) are recognized as distinct forms of emotional distress that negatively influence bereaved family caregivers. However, most studies of these dynamic constructs during bereavement have been cross-sectional, precluding longitudinal validation of their distinctiveness.

To validate the distinctiveness of severe depressive symptoms and PG over the first year of bereavement for family caregivers of cancer patients.

Descriptive, longitudinal study of 394 bereaved Taiwanese family caregivers. Severe depressive symptoms and PG were measured using the Center for Epidemiologic Studies Depression Scale (score > 15) and PG-13, respectively, at 6 and 13 months postloss. Structural distinctiveness was analyzed using confirmatory bifactor modeling. Agreement between severe depressive-symptom and PG cases was verified by Cohen's kappa.

Agreement was poor between cases with severe depressive symptoms and PG at 6 and 13 months postloss (kappa: 0.16 [0.09, 0.22] and 0.11 [0.03, 0.19], respectively). Confirmatory bifactor models showed structural invariance (difference in confirmatory fit index [CFI] < 0.01, chi-square $p > .05$) and adequate goodness-of-fit (CFI: 0.805, RMSEA: 0.060). Severe depressive symptoms and PG shared a common factor, but were distinct (shown by significant specific factor loadings for both severe depressive symptoms and PG at 6 and 13 months postloss). The common and specific factors explained $\geq 50\%$ of their respective variances.

Healthcare professionals should carefully distinguish between severe depressive symptoms and PG, identify high-risk bereaved family caregivers, and provide appropriate care tailored to their unique needs to facilitate recovery from bereavement-related emotional distress.

585 | Anticipatory grief and psychological adjustment in couples coping with a poor prognosis cancer

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Although clinically observed, empirical evidence identifying the role of anticipatory grief in psychological distress is close to non-existing in the psycho-oncology literature. Thus, the current cross-sectional, dyadic study seeks to establish associations between anticipatory grief, psychosocial constructs and cancer symptoms in couples coping with a poor cancer diagnosis. Patients receiving chemotherapy and/or radiotherapy for advanced lung cancer ($n = 50$) or high grade glioma ($n = 50$) and their spouses/romantic partners were approached during routine clinic visits and asked to complete questionnaires. Patients and partners completed standard measures of depressive symptoms, cancer symptoms, illness communication, cognitive and emotional avoidance and mindfulness. Partners also completed the Anticipatory Grief Scale. Patients were mainly female (60%) and patients and partners were all in a heterosexual relationship (mean length: 30.12 +/- 15.1 yrs), mainly non-Hispanic White (80%), married to each other (93%) and well educated with a mean age of 57.9 years (range: 28.5–79.0 years). Controlling for demographic and medical factors, partner's anticipatory grief was associated with patient and partner depressive symptoms ($\beta = .38, P < .05$ and $\beta = .68; P < .0001$, respectively) and illness disagreement ($\beta = -.40, P = .01$); patient cancer symptoms ($\beta = .56, P < .01$) and partner avoidance ($\beta = .67, P < .0001$) and mindfulness ($\beta = -.58, P < .0001$). Dyadic multivariate analyses revealed that anticipatory grief was uniquely associated increased depressive symptoms ($t = 4.17, P < .01$) and avoidance ($t = 2.87, P < .05$). Anticipatory grief plays a unique role in patient and caregiver depressive symptoms. Avoidance behavior may significantly contribute to this association. Longitudinal studies are needed to delineate directionality of these effects and identify implications for caregivers' bereavement adjustment after the patient's death.

598 | The development of a hospital-wide bereavement program – an essential component of care

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Although bereavement programs are a common element of hospice and palliative medicine, the development of bereavement services has lagged behind that of other elements of palliative care. In the USA today, even though approximately 65% of deaths occur in institutions, very few hospitals, cancer centers and nursing homes offer organized bereavement services for families of deceased patients. Given that bereaved individuals are at increased risk of serious physical and mental health problems, a strong argument needs to be made for the development of universal institute-based bereavement programs as a standard of care.

In this presentation, the development of the bereavement program at Dana-Farber Cancer Institute (DFCI) in Boston, USA, will be described, where we conceptualized bereavement services as a preventive model of care. We identified education, guidance and support as the primary constructs of the program and

identified five essential components, including acknowledgement of the death of the patient by the Institute, information about grief and support services. Currently, DFCI experiences approximately 2800 deaths each year of adult patients, many of whom travel long distances, including internationally. The model we adopted and the challenges we faced will be discussed, including findings from a survey of 140 bereaved families about the program and their insights into how the care of the patient impacted their bereavement. The results indicated that a formal letter of condolence and the psycho-educational grief guide had a positive impact on their grieving, in addition to

Psychological Aspects of Childhood Cancer

079 | A systematic review of post traumatic growth in survivors of childhood cancer

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Children and adolescents experience and survive cancer and the long-term impact is important to consider. Although some are impacted negatively in many domains for an extended period, for others the experience can lead to growth. This review aims to identify demographic, medical, and psychosocial correlates of this growth as identified in existing empirical literature.

A systematic search based on terms including “post-traumatic growth,” “neoplasms,” and “pediatric” retrieved 905 records. The results of 18 studies were synthesized.

After the removal of outliers, post-traumatic growth was significantly and positively associated with age at diagnosis ($r = .20$), age at survey ($r = .17$), post-traumatic stress symptoms ($r = .11$), optimism ($r = .31$), and social support ($r = .25$). It was negatively correlated with time since diagnosis ($r = -.14$) and time since treatment completion ($r = -.19$).

Family functioning is associated with child adjustment across the course of cancer treatment. Research and clinical recommendations should include screening for family-based risk and resilience factors into pediatric cancer care to improve adjustment and outcomes for all family members.

Comparison of results obtained with an adult population highlighted consistencies. Results suggest that targeted social support, may facilitate positive growth following childhood cancer diagnosis. Longitudinal research in individuals affected by childhood cancer would allow an examination of the trajectories of posttraumatic growth, and the effects of predictor variables over time.

Findings highlight protective factors that may facilitate post-traumatic growth, allowing for directed social support, intervention, and followup care.

564 | Acquired disability in adult childhood CNS tumour survivors: self-experienced dysfunction and severity of sequelae, in relation to long-term aftercare and rehabilitation needs

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Within the longitudinal Swedish childhood CNS tumour LIFE study, we aimed at identifying self-experienced prominent dysfunction (SPD) in very long-term survivors (VLTS), and the extent to which dysfunction was experienced as disabling. SPD was analysed in relation to self-experienced needs of -, and ongoing clinical surveillance or rehabilitation.

Study cohort comprised 706 Swedish 24–46 years old (mean = 32) VLTS diagnosed 1982–2001. SPD status was assessed using a study-specific questionnaire in second data collection wave in the longitudinal study. Predictor factor data emanated from prior wave ~6 years earlier. SPD was addressed by open-ended questions. Five-point Likert scale was used for difficulty ratings. Analyses were quantitative and qualitative.

The 65.7% of 507 data providers reported prevalence of one to several SPDs. Sixteen problem categories, experienced by ≥20 survivors, covered SPDs of medical, neurological, neurosensory, or neuropsychological origin. Most prevalent dysfunctions involved one or several of vision, balance, endocrinopathy, fatigue, hearing, pain, memory, and seizures/epilepsy. SPD was experienced as harmless (7.4%); somewhat (33.4%), clearly (28.5%), or very (24.8%) difficult; or completely disabling (5.9%). Occurrence and severity varied with age, gender, sub-diagnosis, and whether tumour treatment had involved cranial radiation therapy. Of 132 survivors with considerable to entirely disabling SPD, concurrently experiencing need of surveillance/follow-up, 21% lacked access to such. Health status 6 years earlier predicted SPD later in life.

A majority of CNS tumour VLTS experience late effects that intrude upon functioning and quality of survival. Today, as many as one of five studied CNS tumour VLTS may lack required specialised surveillance within a customized program for life-long follow-up.

228 | Associations between family functioning and child adjustment after pediatric cancer diagnosis: a meta-analysis

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A systematic review and meta-analysis was conducted to investigate associations between family functioning and child adjustment, both patient and sibling(s), after a pediatric cancer diagnosis; and to make recommendations for future research in this field.

Database searches were performed using Web of Science, Pubmed, Cochrane, PsycInfo and Embase. After screening 5563 articles, 35 were identified regarding this topic and 30 contributed data for meta-analyses. Pearson's *r* correlations were the effect of interest. Omnibus and family functioning domain-specific random-effects meta-analyses were conducted.

A statistically significant association was found between family functioning and child adjustment (patient/siblings) after cancer diagnosis ($r = 0.19$; 95% CI: 0.13 to 0.24). Greater family cohesion, expressiveness, and support and less family conflict were each associated with better child adjustment outcomes. However, limitations in the existing literature preclude strong conclusions about the size and validity of these effects.

Family functioning is associated with child adjustment across the course of cancer treatment. Research and clinical recommendations should include screening for family-based risk and resilience factors into pediatric cancer care to improve adjustment and outcomes for all family members.

396 | Mothers' and fathers' distress 6 months after a pediatric cancer diagnosis

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This study aimed to assess parental distress at 6 months post-pediatric cancer diagnosis compared to a reference group.

A sample of 98 fathers and 119 mothers completed the Distress Thermometer for Parents (DT-P). The DT-P consists of a thermometer score (ranging from 0 to 10, ≥4 is clinical distress), problem domains (total, practical, social, emotional, physical, cognitive, and parenting <2 years and ≥2 years of age), and wish for referral. Parental distress was compared to a reference group of 463 fathers and 671 mothers of healthy children. Logistic Regression Analyses (DT-P clinical distress, wish for referral) and Mann-Whitney U tests (DT-P problem domains) were conducted.

Parents of children with cancer more often reported clinically elevated distress than parents of healthy children on the DT-P thermometer

score (fathers: 59.2% versus 32.3%, $p < .001$, mothers: 63.0% versus 42.3%, $p < .001$). Furthermore, they indicated more often that they (might) want to be referred to a professional (fathers: 42.9% versus 12.5%, mothers: 47.1% versus 17.1%, $p < .001$). Also, both fathers ($p < .001$ -.042) and mothers ($p < .001$ -.020) reported more problems on all DT-P problem domains, except for the parenting domain for children <2 years of age (fathers: $p = .382$, mothers: $p = .059$). Effect sizes were small to medium.

Overall, both fathers and mothers of children with cancer report significantly more distress, experience more problems in their daily life and indicate a wish for referral. Families should therefore be monitored during the.

388 | First experience with electronic feedback of the Psychosocial Assessment Tool in pediatric cancer care

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The electronic Psychosocial Assessment Tool (ePAT) is a brief family screener, identifying families at universal or elevated risk for psychosocial problems. This study aimed to determine the feasibility and usability of the ePAT in pediatric cancer care.

The 123 parents of newly diagnosed children (0-18 years) participated (response 84%). Answers on the ePAT were transformed into an electronic PROfile (PAT-ePROfile) and fed back to the psychosocial team. Feasibility: % website registrations, completed ePATs, and PAT-ePROfiles reviewed or discussed by the team. Team members completed a semi-structured evaluation questionnaire. Usability: % perceived match of PAT-ePROfile with team's own risk estimation, added value, and extra actions undertaken as a result of the PAT-ePROfile. Families with ePAT elevated versus universal scores were compared on feasibility/usability outcomes using Chi-square tests.

Feasibility was 70% for website registration, 87% for completed ePATs, 85% for PAT-ePROfile reviewing, and 67% for ePROfile discussion. Team members perceived the PAT-ePROfile to match with their own risk estimation in 84% of the cases, but did not perceive added value in 87%. According to the team, extra actions were undertaken for 25% of the families as a result of the PAT-ePROfile. More actions were undertaken for families with elevated risk scores compared to universal risk scores ($p = .007$).

The ePAT seems generally feasible and usable, but it is not always clear how this screener informs current clinical practice. Strategies should be developed to integrate the PAT-ePROfile in pediatric cancer care and maximize its perceived usefulness for team members.

End-of-life care: patient and clinicians experiences when planning for living and dying

864 | Desire for death in advanced cancer and the interpersonal theory of suicide

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The desire for death (DFD) in patients with advanced cancer can have multiple influences, and the existing research has been exploratory rather than theoretical. The interpersonal theory (IPT) of suicide posits that two dominant psychosocial issues – perceived burdensomeness and thwarted belongingness – are primary determinants of the DFD among people who are contemplating suicide. This secondary analysis of data from the Canadian National Palliative Care Survey (collected 2001–2003) examined whether IPT might also be applicable for DFD among patients receiving palliative care for cancer.

Patients ($N = 373$) from 8 Canadian centres underwent assessments with the Structured Interview of Symptoms and Concerns (SISC), which examined the presence and severity of 20 physical, psychological, existential, and interpersonal concerns. The SISC included questions about perceived burdensomeness, thwarted belongingness, and DFD. SISC items that correlated significantly with DFD were used as predictors in a hierarchical linear regression analysis, in which the key IPT variables were entered last.

Significant individual predictors included hopelessness ($t = 2.99$, $p = 0.003$), anxiety ($t = -2.07$, $p = 0.039$), resilience ($t = 2.60$, $p = 0.010$), sense of suffering ($t = 2.82$, $p = 0.005$), and the IPT variables of thwarted belongingness ($t = 2.20$, $p = 0.029$) and perceived burdensomeness ($t = 2.71$, $p = 0.007$).

These findings suggest that the IPT of suicide may be relevant to understanding the development of the desire for death among some patients with advanced cancer. When patients express a desire for death, it may be helpful to inquire about their social isolation, lack of connection to others, and their sense of having become a burden to loved ones.

866 | Psychosocial aspects of end-of-life care and the wish to hasten death: clinician perspectives

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Significant challenges for clinicians in caring for dying patients have been long recognized. The most salient of these challenges is discussing end-of-life care with patients and families, along with both the recognition and management of psychological concerns. Clinician-related factors may influence and curtail these discussions, especially regarding patients' wishes to hasten death. This paper aims to review research findings in this field and to identify implications for clinical practice, with particular focus on improving clinician understanding of the wish to hasten death in advanced cancer.

This paper synthesizes evidence regarding clinician perspectives on psychosocial aspects of end-of-life care, and clinical studies investigating the wish to hasten death among cancer patients receiving palliative care, again with the focus on clinician factors and impact.

Findings point to significant barriers to identification and effective treatment of psychological distress in cancer patients receiving palliative care. These include the considerable challenges for clinicians in communicating with and caring for dying patients, including discussion of end-of-life care. There is limited evidence regarding the impact of end-of-life decisions such as assisted death on clinicians.

Clinician-related factors represent an important clinical context to consider in the psychosocial care of dying patients and in understanding the clinical factors relevant to the request for hastened death.

865 | On the Reception of Assisted Dying in Canada

Christopher Lo

University of Toronto, Canada

Medical Assistance in Dying (MAID) has recently been legalized in Canada and is being implemented across the country. Conceptually, assisted dying can be argued to be within the scope of palliative and supportive care practice, but it has been uncomfortably received by many Canadian leaders and practitioners in the field. In this conceptual talk, I focus on the values held by the current generation of palliative care professionals as an underlying factor behind this chilled reception. Many contemporary palliative care professionals pursued and built their careers during a time when palliative care was not necessarily regarded as a valid field of medicine, which has always tended to value curative intent above palliation. Much of the fight for that generation has been to win legitimacy for their practice and the key concept that they fought for was that of quality of life (to be maximized for as long as possible) as opposed to survival. Within this social context, it may be unsurprising that many of these professionals would feel that assisted dying betrays the very heart of the discipline that they have created

and at great sacrifice. In this talk, I hope to clarify how assisted dying can be ethically right and yet feel morally wrong, owing to the history, perspectives and values of the people involved.

872 | Are older and seriously ill Australians planning for their future medical care?

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There is limited Australian data describing the manner in which people prefer end of life decisions to be made; and the extent to which people discuss, record and share preferences with those called on to make decisions on their behalf.

Two cross-sectional descriptive survey studies on end of life care were undertaken in two NSW hospitals. Study 1 involved 200 medical oncology outpatients. Study 2 involved 170 patients (*to date*) admitted to medical wards and either: aged ≥ 80 years; or diagnosed with: metastatic cancer, COPD, heart failure, chronic renal failure.

Low rates of advance care directive completion (O:14%; I:23%) and enduring guardian appointments were reported (O:45%; I:50%). Patients were more likely to have discussed preferences with family (O:47%; I:48%) than with clinicians (O:8%; I:24%). Patients preferred end of life care to be decided by their doctor in consultation with family (O:47%; I:50%); or by care plans they made in advance (O:46% I:13%). Most preferred end of life care focused on relieving symptoms and maintaining QoL (O:64%; I:73%). Home was the most preferred location of care (O:47%; I:62%); followed by hospice (O:34%; I:2%), hospital (O:19%; I:9%), NH (I:18%). Views about timing and type of end of life issues that should be discussed will also be presented.

Patients are willing to plan for future care; however, few have done so. A systematic approach to discussions between patients, providers and families is required across care settings, with adequate time and resources to ensure that preferences can be feasibly achieved.

The Death Anxiety Symposium

622 | A developmental perspective on adaptation to advanced disease

Christopher Lo

University of Toronto, Canada

The confrontation with mortality imposed by advanced cancer may trigger existential concerns about the meaning and value of one's life.

In this conceptual talk, I use Erikson's theory of psychosocial development to interpret these existential threats and individual resiliencies against them, as based upon one's developmental history. The confrontation with mortality may accelerate individuals into the final life stages, regardless of personal readiness. Individuals who were at earlier stages of development may be less prepared to undergo life review and less able to make sense of their foreshortened lives. The experience of advanced disease may also re-activate all developmental challenges, or stress test one's level of adaption to each developmental task, as physical deterioration removes functional capacities in a manner reminiscent of a reversal of development. Ultimately, Erikson's themes of relationality and generativity are discussed as offering protection against death anxiety, because the meaning of life may often reside in feelings of continuity and legacy afforded by our social relatedness.

588 | Terror management in advanced cancer

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Circumstances of advanced cancer typically heighten mortality salience, death-related distress, and demoralization. Terror Management Theory (TMT) postulates that humans rely on specific psychological mechanisms to protect themselves from such states, including the regulation of self-esteem, the sense of meaning, and social relatedness. Although TMT is supported by empirical findings in healthy adults, it has not been applied to individuals facing literal threats to life.

To adapt and test a TMT model in individuals with advanced cancer.

Baseline data were collected from 312 patients with advanced cancer participating in a psychotherapy trial. Measures include the Death and Dying Distress Scale, Demoralization Scale, modified Experiences in Close Relationships Scale, Quality of Life Evaluation – Cancer scale, Memorial Symptom Assessment Scale, and the Karnofsky Performance Scale. We tested a structural equation model of protective and risk factors for death-related distress.

A tailored model of TMT had acceptable fit. Demoralization was associated with death-related distress (standardized path coefficient = 0.86, $p > 0.0001$) and with mortality salience (0.18, $p < 0.0001$), and negatively associated with social relatedness (-0.63 , $p < 0.0001$).

This study confirmed the relevance of TMT constructs for the management of death-related distress in patients with advanced cancer. These findings may help to identify those at greatest risk for death-related distress and to inform the design of therapeutic interventions in this population. Further exploration of the role of demoralization in heightening death-related distress is needed.

624 | A concept map of death-related anxieties in advanced cancer

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Fear of death and dying is common in patients with advanced cancer, but can be difficult to address in clinical conversations. We aimed to show that the experience of death anxiety may be deconstructed into a network of specific concerns and provide a map of their interconnections to aid clinical exploration.

We studied a sample of 382 patients with advanced cancer recruited from outpatient clinics at the Princess Margaret Cancer Centre, Toronto, Canada. Patients completed the 15-item Death and Dying Distress Scale (DADDS). We used item ratings to estimate a regularized partial correlation network of death and dying-related concerns. We calculated node closeness-centrality, clustering, and global network characteristics.

Death-related anxieties were highly frequent, each associated with at least moderate distress in 22% to 55% of patients. Distress about "Running out of time" was a central concern in the network. The network was organized into two areas: one of practical and physical fears concerning the process of dying and another of psychosocial concerns including relational problems, uncertainty about the future and missed opportunities. Both areas were yet closely connected via important bridges, e.g., fear of suffering and a prolonged death was linked to fear of burdening others.

Individuals with advanced cancer may have multiple interconnected death-related concerns, forming patterns that vary with individual priorities and fears. The bridging links between more practical and more psychosocial concerns emphasize that the alleviation of death anxiety may require interventions that combine symptom management, advance care planning, and psychological treatment approaches.

625 | Characterizing death acceptance among patients with cancer

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Death acceptance may indicate positive adaptation in patients with cancer. Little is yet known about what characterizes patients with, high, moderate, and low death acceptance. We aimed to broaden the understanding of death acceptance by exploring associated demographic and psychological adaptation characteristics.

We studied $N = 307$ patients attending the University Cancer Center Hamburg and a specialized lung clinic (age: $M = 59.6$, 69% female,

69% advanced cancer). $N = 153$ were reassessed at 1-year follow-up. We assessed death acceptance using the 8-item subscale of the Life Attitude Profile-Revised (7-point-Likert scale from 1="strongly disagree" to 7="strongly agree"). We assigned patients to groups of low, moderate, and high death acceptance based on the first, second, and third quartile of the sample. Patients further completed the PHQ-9, GAD-7, Demoralization Scale, MSAS, and COPE.

At baseline, the mean death acceptance score was 4.3 (SD = 1.3). Death acceptance was stable to 1-year follow-up ($p = .26$). Patients with high death acceptance were older ($p = .02$) and more likely male ($p = .01$) compared to those with low and moderate death acceptance. Patients with moderate death acceptance were most likely diagnosed with advanced cancer ($p = .040$). Death acceptance was not related to denial ($p = .16$), symptom burden ($p = .40$) and depression ($p = .97$). At follow-up, patients with high death acceptance reported lower anxiety ($p = .02$), lower demoralization ($p < .001$), and higher personal meaning ($p < .001$).

High death acceptance was adaptive and predicted lower anxiety and existential distress after one year. Younger and female patients may have higher difficulty in dealing with death anxiety and may benefit from supportive interventions.

Psychological Interventions in Advanced Cancer

77 | Factors associated with distress in patients with incurable cancer: addressing disparities at distinct healthcare system in Brazil

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Evidence supports the early integration of palliative care in oncology setting. We sought to describe rates of distress in patients diagnosed with incurable cancer and identify factors associated with these symptoms.

A cross-sectional analysis of data from patients diagnosed with cancer stage IV, undergoing chemotherapy treatment at two cancer settings (public and private), was performed.

It was enrolled 468 patients (61.8% public hospital). Most of them were female, white, married and diagnosed with GI and breast cancers. A greater proportion of patients from public hospital reported significantly more distress (44.6% vs 23.5%) and anxiety symptoms (22.1% vs 12.8%). However, the proportion of patients reporting depressive symptoms (17.3% vs 16.8%) did not significantly differ. Patients from public hospital tends to report significantly more financial (38.4% vs 16.8%),

transportation (15.9% vs 2.2%), breathing (30.8% vs 11.2%), fatigue (60.2% vs 45.8%), and pain (52.9% vs 30.7%). Pain ($B = 1.4$), fatigue ($B = 1.2$) and breathing ($B = 1.6$) were associated with distress ($ps < .001$). Our findings highlight the substantial emotional morbidity experienced by patients at stage IV and also emphasize the benefit from targeted palliative care and psychosocial interventions. Patients treated at a public setting is at particularly risk for distress. Earlier intervention in patients' disease course may prevent ongoing burden and enhance their ability to cope with their disease.

901 | Psychosocial and spiritual care in terminally ill patients during specialized inpatient palliative care: extent and determinants

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Responding to patients' and family caregivers' psychosocial needs are essential aims of palliative care. This study investigates the extent of psychosocial and spiritual care during specialized inpatient palliative care (SIPC) and associated factors.

We conducted a retrospective study in terminally ill patients at an SIPC ward. Outcomes were the average minutes/day of general psychosocial support (doctors, nurses) and specialized psycho-oncological, social and spiritual care services. Demographics, symptoms at basic assessment and outcomes were determined using the National Hospice and Palliative Care Evaluation (HOPE) and medical records. We conducted multivariate linear regression analyses to estimate the relationships between patient-related factors and outcomes.

Analyses included 634 patients (55% male, median age 67 years). Average general psychosocial support was 52.2 ± 21.9 min/day for patients and 23.7 ± 23.9 for caregivers, psycho-oncological care 14.1 ± 11.6 , social counselling 5.7 ± 5.9 and spiritual care 4.3 ± 6.6 . Shorter stay, less fatigue, less symptoms of dry mouth and greater sleeping problems were associated with increased patient-directed support ($p < .001$ to $.016$). Younger age, partnership, shorter stay and inpatient death was associated with increased caregiver-directed support ($p < .001$ to $.014$). Younger age, female sex, shorter stay and inpatient death was associated with increased psycho-oncological care ($p < .001$ to $.032$). Shorter stay and less anxiety was associated with increased social counselling ($p < .001$ to $.024$), and shorter stay, inpatient death and higher pain levels with increased spiritual care ($p < .001$ to $.027$). These findings help to identify factors related with provision of general psychosocial support and specialized services targeting psychological, social and spiritual issues during SIPC.

482 | Emotion and symptom-focused engagement (EASE): an intervention for individuals with acute leukemia (AL)

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AL patients may experience severe physical and psychological distress. To address this issue, we developed an intervention called EASE, which includes 1) tailored psychotherapy and 2) early involvement of palliative care.

Patients were recruited from a comprehensive cancer center and randomized to receive EASE or usual care (UC). Physical and psychological symptoms were assessed at baseline, 4, 8 (primary endpoint), and 12 weeks. Intervention patients received 6–10 psychotherapy sessions over 8 weeks, weekly assessment of physical symptoms, and referral to palliative care, when needed. One-way ANOVA was performed to assess mean change scores over time between groups.

Forty-two patients were randomized to EASE ($n = 22$) or UC ($n = 20$). Predefined feasibility outcomes were all met: 86% (19/22) of EASE participants (goal >64%) completed $\geq 50\%$ of psychotherapy sessions; 64% (14/22) completed symptom screenings (goal >50%); and 100% of those with moderate to severe symptoms had >1 meeting with the palliative care team (goal 100%). There were statistically significant findings favoring EASE for satisfaction with care at 8 and 12 weeks (Δ : 7.39 vs -3.12, $p < 0.04$; 0.01 vs -6.19, $p < 0.03$) and trends favoring EASE for traumatic stress symptoms, depressive symptoms, quality of life, attachment security, and number, severity, and distress related to physical symptoms at 4, 8, and 12 weeks.

This randomized pilot trial of EASE showed promising reductions in psychological and physical distress and supports the feasibility and need for a larger RCT.

888 | Mindfulness and compassion-oriented practices trained directly at the workplace – results of a mixed-method study for palliative care practitioners

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Mindfulness based meditation programs have been demonstrated to be beneficial to health care providers and patients alike. Less is known about the effects of compassion oriented-contemplative practices like *Metta* and *Tong-len* Meditation. A further question often raised in implementing these programs is how to facilitate transfer from external courses into practice. We aimed to explore the effects and implementation of a 10-week pilot trial that was delivered directly into the work context and contained elements of mindfulness meditation and compassion-oriented practices that have been adapted from Buddhism to be taught in a secular fashion. The pilot study took place in a palliative care setting with 27 employees and was assessed with a mixed-method approach. For the purpose of this study, a meditation teacher was present once a week in the ward and offered regular short meditation classes and individual sessions. This approach was complemented by homework. The evaluation of the intervention revealed significant improvements in burnout, anxiety, perceived stress, emotional regulation competences and work enjoyment. Compliance and acceptance rates were high, and qualitative data revealed a perceived enhancement of self-care, integration of mindful pauses in work routines, a reduction in rumination, distress generated in the patient contact as well as an enhancement of interpersonal connection skills. Improvement in team communication was also identified. The trial provided supporting results, demonstrating the feasibility of this on the job approach and elicited relevant aspects regarding transfer and integration of practices aiming to strengthen self-care and compassionate feelings in the hospital context.

840 | How to deal with patients' desire to die: evaluation of two pilot courses

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Although health professionals (HP) in palliative care (PC) are regularly confronted with desires to die (DD), considerable uncertainty in dealing with them exists. In this study a needs oriented training programme was developed and evaluated.

A training programme with six modules was developed, consisting of exchange of experience, reflecting own attitudes, knowledge background of DD, recommendations of responding, practice (roleplay) and self-care. Two pilot courses were held and evaluated using pre/post self-reporting questionnaires on self-reported confidence in dealing with DD: before the course, directly after the course and 3 months later and qualitative data.

The 60 persons were interested, 24 HPs from different professional backgrounds were chosen for the courses. Good marks were given to all modules, especially for the module-concerning knowledge and the practice module with recommendations on how to deal with DD with roleplay. The multiprofessional approach was highlighted. Self-reported confidence improved after the course. Participants reported also enhanced knowledge on dealing with DD, possible reasons for DD and the legal and psychiatric background. Participants expressed the need

for deeper reflection on their attitudes and the incorporation of spiritual and cultural aspects and the phenomenon of a strong will to live. The follow-up after 3 months indicated sustained practice transfer.

A training course on dealing with DD meets a need of HP in specialized and non-specialized PC. The course improved self-reported confidence, follow-up evaluation indicates sustainability of improvements and integration into practice. Effects for patients will be tested in a following project.

Screening for HPV, HPV vaccinations and the updates in cancer prevention

788 | The new HPV screening program in Australia, attitudes and beliefs of women with or without previous experience screening using the Papanicolaou test

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Cervical cancer screening programs using the Papanicolaou test (colloquially known as Pap smear) were introduced in many countries across the world in the 20th century and have led to a sharp drop in cervical cancer incidence. New programs using screening by human papilloma virus testing are now being introduced, leading to changes in screening starting dates and interval.

Qualitative interviews will be undertaken with women with or without prior experience with cervical cancer screening using the Papanicolaou test to determine attitudes, opinions and beliefs for screening by HPV test. Interviews will be continued until saturation of themes is reached. They will be analyzed using the framework approach.

Women with experience in the past screening program and those naïve to testing by Pap smear are expected to express different attitudes, beliefs and opinions about the change in the screening program. Personal experience with Pap smears, self-efficacy for attending for screening and social support for regular attendance are also expected to influence women's views on the new screening program.

Given the profound changes in the cervical cancer screening program, more information is required about how women with experience and those new to the screening program feel about their participation, and factors that could help them stay engaged with regular screening.

792 | Developing and pilot testing a decision aid supporting Chinese parental and young women's HPV vaccination decision-making

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HPV vaccination uptake remains extremely low among Hong Kong Chinese adolescent girls. We designed a novel HPV vaccination decision aid (DA) and pilot-tested the acceptability and utility of the DA among Chinese young women aged 18–26 and parents of adolescent girls aged 9–17.

At Phase-I pilot (2015 summer), 30 parents reviewed the 1st draft DA. After revision, we conducted Phase-II pilot (March to May, 2016). Total 101 parents and 109 young women completed baseline survey assessing knowledge of HPV vaccination, decision self-efficacy (DSE), decisional conflict scale (DCS), and HPV vaccination intention. Two weeks after receiving the revised DA, 84 (83.2%) parents and 92 (84.4%) young women responded to re-assessment.

After reading the revised DA, participating parents and young women's knowledge of HPV vaccination and DSE significantly increased ($p < 0.001$), and decisional conflict significantly reduced ($p < 0.001$). Parents deciding to vaccinate daughters against HPV increased from 41% to 66.3% ($p < 0.001$). Young women leaning toward receiving HPV vaccination increased from 55% to 63% ($p < 0.001$).

The DA appears acceptable and useful for most Chinese young women and parents of adolescent girls. Comprehensive evaluations of the efficacy and impact of educational interventions are crucial to reduce HPV vaccination decisional conflict and increase vaccination uptake. The DA is currently being evaluated using a randomized controlled trial.

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793 | HPV vaccine decision-making correlates in two critical Canadian populations: parents of eligible children and college-aged young adults

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National immunization advisory bodies recommend women and men (ages 9–26) receive the HPV vaccine as a prevention strategy for cervical and anal, penile, vaginal and oropharyngeal cancers.

Over the past decade in Canada, we surveyed population-based, nationally representative samples of parents of children, and samples of college-aged men and women. We used theoretical frameworks (Health Belief Model, Precaution Adoption Process Model) to inform survey development and assess attitudinal and behavioural correlates of vaccine acceptability, intentions, and uptake. We measured the 'status' of vaccination using the PAPM and their relationship to variables such as knowledge, perceived harm, benefit, and barriers. We developed two psychometrically robust scales to measure knowledge and attitudes.

We found several factors related to HPV vaccine acceptability. HPV and HPV vaccine knowledge was generally poor. Perceived benefits of the HPV vaccine and threat of harm were significant correlates, but in opposite directions. Across all studies, discussion and/or recommendation by a health care (HCP) professional was significantly related to HPV vaccine acceptability.

School-based public health vaccination programs with parental consent are key avenues to educating parents and young adults more effectively. These programs could be buoyed by HCPs consistent, clear messages to parents about the vaccine's benefits in preventing disease. College students, who are at greater risk for virus transmission, must make individual decisions to act, require similar messaging, in addition to the potential use of innovative media communications.

795 | Exploring views regarding targeted HPV vaccination in young men who have sex with men and their healthcare professionals

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There is no public human papillomavirus (HPV) vaccination programme for boys in the UK. As men who have sex with men (MSM) may be at greater risk for HPV-associated cancers, they have been offered targeted HPV vaccination at Genitourinary Medicine (GUM) clinics since 2016.

A mixed method study included questionnaires and focus groups with young (16–24 years) MSM, and an online questionnaire with GPs and GUM HCPs to investigate HPV knowledge and attitudes to targeted vaccination. GPs were included given their potential to vaccinate young MSM before sexual debut. T-tests and logistic regression were used to analyse quantitative data and a thematic analysis was performed to evaluate qualitative data.

18 MSM ($M_{\text{age}} = 20$) and 87 HCPs ($M_{\text{age}} = 41$) participated. Most MSM were aware of HPV (55.6%), but only 16.7% discussed HPV vaccination with their HCPs. MSM focus groups revealed vaccination barriers including 'unfamiliar and clinical' conversations about their sexuality with HCPs. MSM preferred being offered the vaccine by HCPs rather than requesting it and suggested universal school-based vaccination may be more accessible. GPs were less likely than GUM HCPs to believe there was sufficient evidence for vaccinating MSM (OR = 0.07 95%CI = 0.01,0.59); less likely to have skills to identify MSM who may benefit (OR = 0.03 95%CI = 0.01,0.15); and less confident recommending young MSM vaccination (OR = 0.06 95%CI = 0.02,0.21). To prevent HPV-associated cancers in MSM, greater education and support is needed targeting MSM (e.g. dissemination of

information about the targeted programme and GPs offering vaccination), but GPs may need education and implementation support for this.

What are the Effects of Immunotherapy for Advanced Melanoma Patients and Caregivers, and do they manage?

684 | Patient and caregiver experience of immunotherapy for advanced melanoma: developing supportive care guidelines

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Melanoma, fifth most common cancer in the UK, with rising incidence is relatively common in younger people, ~25% occurring in patients aged under 50. Melanoma is challenging with high risk of recurrence and aggressive in its advanced stage. Previously, prognosis for patients diagnosed with Stage 4 melanoma was poor, many dying within 3–12 months. New immunotherapies and targeted therapies improved survival, offering potential cure. Trials report toxicity and symptoms, but little research concerns the impact of living with these therapies and no supportive care guidance exists.

Objective: To understand experiences, needs and supportive care requirements of people with stage 4 melanoma receiving systemic treatment and their carers and develop supportive care guidance.

Methods: Phase 1 uses grounded theory methodology to explore experience of patients and carers living with immunotherapy treatment. The 62 interviews (41 patients, 21 carers) were conducted across 4 NHS Trusts. Findings showed side-effects from immunotherapies impact patients physically and psychologically which impact carers and family. Themes include process of diagnosis and illness trajectory, symptom management and burden, coping, finding new meaning and living well. Findings informed Phase 2.

Phase 2 uses a Delphi technique of experts (oncologists, CNSs, dieticians, physiotherapists, patients and carers) to produce evidence based supportive care guidance and a clinical pathway.

Conclusion: The symptom burden of immunotherapy treatment can markedly effect people living with advanced melanoma and their carers. We provide the first evidence based supportive care guidance. Further interventions and resources can be developed for patients and carers to live well with advanced melanoma.

691 | Exploring the experiences of people living with and beyond treatment for advanced melanoma and for those caring for them

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Australia has the second highest incidence of melanoma in the world. Melanoma is the most malignancy in young Australian adults (15–39 years) and increases in prevalence with age. Recent developments in targeted- and immunotherapies have improved survival in patients with advanced melanoma, but treatment-related toxicity and adverse events are known to impact quality of life.

Semi-structured interviews with 22 patients with stage IV melanoma who had received immunotherapy at an Australian public cancer hospital, and nine carers, were used to better understand the breadth of patient and carer experiences with novel therapies.

Patients and carers described the shock of diagnosis, the uncertainty of treatment efficacy, possible death, and the potential for severe and life-threatening side effects as distressing, like 'an emotional rollercoaster'. While grateful for the opportunity provided by targeted therapies, patients spoke of feeling depressed, lonely and scared; managing through internalised coping mechanisms such as 'being positive' or 'staying hopeful'. Carers wanted information to develop skills to identify and manage treatment side effects, to cope with the uncertainty around illness progression and with navigating the healthcare system. Carers spoke of wanting active support from healthcare professionals and others going through the same experience.

The successes of targeted therapy for advanced melanoma has meant that patients and carers now live with high uncertainty about sustained treatment efficacy and a need for information to recognise and manage side effects. Psychological support and self-management interventions could offer much needed support to this population.

693 | A supportive care intervention for people living with melanoma being treated with immunotherapy: a pilot study assessing feasibility, perceived benefit, and acceptability

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Metastatic Melanoma (MM) patients receiving pembrolizumab are a growing population. Its impact on their wellbeing is underexplored. Supportive care interventions for people living long term on immunotherapy are needed.

Objectives: To assess the feasibility of providing a multimodal supportive care program to people with MM patients being treated with pembrolizumab.

This pre-post-test feasibility cohort study recruited participants treated with pembrolizumab for MM into two cohorts: i) supportive care intervention and ii) usual care. The intervention comprised comprehensive medical assessment by supportive care physician, exercise physiologist, and dietitian after which a tailored supportive care

program was devised. Programs included exercise intervention, dietary advice, meditation, massage, acupuncture, and psychologist consultation. Outcome measures included adherence to individualized plan, patient reported outcomes (symptoms, anxiety and depression, and toxicity) were collected at 3-week intervals. Participants completed qualitative interviews (reported elsewhere). Descriptive data regarding symptoms are reported.

In total 28 participants were recruited, 13 intervention, 15 control; three did not complete the study due to complications or death. Those in the intervention cohort were mostly female (7/13) and aged 42–84 years. Symptoms most troubling at baseline were memory, sleep, fatigue, and appetite. Adherence was excellent, and all participants attended appointments with supportive care physician, exercise physiologist, dietitian. Attendance at exercise classes was 91%. Complementary therapies used were acupuncture, massage, mediation, and reflexology. No participants took up referral to the psycho-oncology service.

A holistic supportive care intervention that tailors a program to an individual's needs is feasible and warrants further investigation to determine impacts on outcomes.

694 | The experience of patients receiving pembrolizumab therapy for metastatic melanoma: living in uncertain spaces.

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Management of metastatic melanoma (MM) has shifted with the use of immune checkpoint inhibitors, anti PD-1 and anti PD-L1 agents. Patients may experience longer progression-free survival on treatment than expected at the time of their diagnosis. A comprehensive supportive care assessment and tailored support program including exercise, diet, psychosocial support, and complementary therapies was explored in a feasibility study with patient experience.

Objective was to explore the psychosocial experience of patients with stage IV melanoma who were receiving systemic treatment with pembrolizumab.

A pre-post-test feasibility study was conducted over 9 weeks. Qualitative interviews were conducted using semi-structured interviews. Interviews were audio-recorded and transcribed then managed in NVivo. Transcripts were analysed using a grounded theory approach with themes developed inductively.

In total, 28 participants were recruited, 26 completed qualitative interviews. Participants described their experience as living within uncertain spaces. Most were confronted with challenges due to their response to treatment, re-adjusting to daily life, need for ongoing treatment, and knowledge that disease can progress anytime. Feelings

of uncertainty were reported to increase leading up to imaging tests and medical review. Participants described apprehension regarding impacts on their family relationships that included diverse relationship concerns and experiences.

People living with MM treated with pembrolizumab commonly experience unexpected good health which creates feelings of uncertainty as to their current and future situation. Many are concerned with the impact of their disease on familial relationships, suggesting that additional support to adjust to changing health states may be useful for some.

Cancer Prevention: Vaccination and Early Detection

791 | Development of a screening algorithm for early detection of major depressive disorder and anxiety disorders in head and neck cancer patients post treatment: a longitudinal study

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Major Depressive Disorders (MDD), Anxiety Disorders (AD), and Substance Use Disorders (SUD) are unavoidable comorbidities in head and neck cancers (HNC), and their adjuvant targeting is crucial to optimize medical outcomes.

1) Determine lifetime and 3-month post-treatment period prevalence of MDD, AD, and SUD newly diagnosed first occurrence HNC patients; 2) characterize stability and trajectory of MDD, AD, and SUD from cancer diagnosis to 3 months; and 3) identify at-risk profiles of MDD, AD, and SUD at 3 months.

Prospective longitudinal study, including validated self-administered measures, SCID-I Interviews, the 9-point Observer-Rated Disfigurement Scale for HNC, and medical chart reviews.

A representative sample of 223 consecutive adults (71.9% participation) newly diagnosed (<2 weeks) with a first occurrence of primary HNC. Completion rates for 3-month questionnaires was 71%; 85% completed SCID-I.

Main Outcome(s) and Measure(s). SCID-I MDD, AD, and SUD modules. The 3-month period prevalence of MDD, AD, and SUD was 20.4%, 26.5%, and 4.8%; with point prevalences of 6.8%, 25.5%, and 4.2% upon HNC diagnosis; 14.2%, 16.6%, and 3.6% at 3 months, and

22.6%, 24.7%, and 23.7% lifetime. MDD, AD, and SUD showed stability ($p < 0.05-0.01$). Predictors of 3-month MDD included advanced-stage cancer ($p = 0.04$), radiation therapy ($p = 0.04$), past SCID-I AD ($p = 0.01$), and higher HADS Anxiety ($p = 0.05$). AD 3-month point prevalence was solely predicted by concomitant life stressors ($p = 0.001$). SUD was not further investigated due to small caseness. This study supports routine integration of a screening algorithm and supportive treatment approach for HNC patients.

479 | What are the psychosocial determinants of participation in colorectal cancer screening? A French qualitative study

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Early detected, colorectal cancer can be cured in nine cases out of ten, but it remains the second leading cause of cancer mortality in France (HAS, 2013). In this context, participation in organized screening must be improved. Following the recent change of screening test (change from Hemocult II to immunological test), it seems important to focus on the changes in the practices of users. Based on the Theory of Social Representations (Jodelet, 1984), this study aims to identify the main obstacles and facilitators to participation of screening.

Six focus groups were conducted with individuals from the general population (29 volunteer participants, recruited thanks to a French screening structure). A thematic content analysis (Bardin, 1993) and a discourse analysis (IRaMuTeQ software) were performed.

The main obstacles to screening that emerge from the analysis are the procrastination and the lack of time (necessity to visit the general practitioner), but also the fact that colorectal cancer refers to a part of the body linked to a taboo, and considered dirty. Conversely, the main aids to participation are the ease of the new test, having an entourage encouraging screening (relatives and general practitioner) and nudging (free test and appointment reminder by mail every two years). During the focus groups, exchanges were fed by the narration of experiences of cancer lived by the participants themselves or by their relatives.

This study allows a better understanding of adherence to screening and issues about test change through the analysis of social representations.

197 | Which social representations about cancer related to HPV infection and the associated vaccine from the teenagers?

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In the French context of low respected guidelines on HPV immunization, this study aims to investigate youths' representations about this vaccine. Theory of social representations (Moscovici, 2013) constitutes a relevant approach, allowing researchers to explore both processes of passing on knowledge and the content of this knowledge (Jodelet, 2015).

It is through a mixed methods approach (Belaid et al., 2016) that several tools were created. Thus, interventions based on a participatory action have been set up with middle school students. Groups of 3–4 students were asked to create posters illustrating the theme of cancer related to HPV infection and the associated vaccine. Focus groups and a questionnaire survey were conducted, both exploring cancer and HPV prevention. Four schools have been chosen because of their location, based on the idea that they would provide informations related to the impact of socio-economic factors on the anchoring of representations about HPV vaccine.

A triangulated analysis of the data (Flick, 2004) was carried. Our study highlights that, despite a lot of therapeutic advances, cancer is still perceived as extremely serious, causing much suffering and often having a fatal outcome. The link with sexuality (contraception, STIs, HIV/AIDS, etc.) appears almost systematically when cervical cancer is mentioned, although HPV infection is rarely known by students.

Based on these results, we believe that times dedicated to sexual health education at school, based on the lay knowledge of adolescents about the HPV vaccine and the cancers related to infection, are relevant to address the topic of cervical cancer prevention.

919 | A study protocol investigating Canadian parents' HPV vaccine attitudes, behaviour and vaccine uptake

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Human papillomavirus (HPV) is the most common sexually transmitted infection. Persistent infection can cause a number of HPV-associated cancers. Three HPV vaccines that prevent against oncogenic strains

are recommended for boys and girls ages 9 to 26; however, there is suboptimal coverage of the HPV vaccine in Canada, hindering cancer prevention efforts.

This study aims to 1) evaluate the HPV vaccine uptake rate in Canadian boys and girls; 2) assess the psychosocial correlates of HPV vaccine uptake in boys and girls; and 3) compare the impact of HPV vaccine program initiation and funding for boys (in six of Canada's 13 jurisdictions) on parents' attitudes and knowledge.

This study will use a cross-sectional design to collect self-reported data through an online questionnaire from a national sample of Canadian parents at two time points. Measures include socio-demographics; HPV knowledge; HPV vaccine uptake and decision-making stage; Health Care Provider recommendation; HPV attitudes and beliefs. The 4,600 parents were recruited at Time 1, equally divided between parents of boys and parents of girls, and we will retain as large a sample as possible at Time 2.

Increasing vaccination uptake is a priority in decreasing HPV-related cancers across Canada. This study will be the first to consider the correlates of decision making in both parents of girls and boys who are eligible for HPV vaccination in Canada. This study will improve the field's theoretical understanding of vaccine decision making and inform the development of immunization interventions.

799 | Untangling the psychosocial predictors of human papillomavirus (HPV) vaccine decision-making among parents of sons

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The incidence rate of HPV-associated oropharyngeal cancer has increased significantly in both men and women. If recent trends continue, the rate of oropharyngeal cancer in men is expected to surpass the rate of cervical cancer by 2020. HPV vaccination uptake in men is low particularly in the absence of publicly funded HPV-vaccination programs. Parents represent key decision-makers of HPV vaccination. Our objective was to assess the relationship between a broad range of psychosocial factors and parents of boys' HPV vaccine decision-making stage.

Data were collected through an online survey from a national sample of Canadian parents of boys at two-time points ($n_{T1} = 3117$ and $n_{T2} = 1427$). Psychosocial factors including socio-demographics, health behaviors, HPV knowledge, and attitudes were assessed.

Parents selected their decision-making stage based on the Precaution Adoption Process Model (PAPM). Multinomial logistic regression was used to test the association between predictors and PAPM stage.

Discussion with a healthcare provider, increased perception of risks in the absence of HPV vaccination, increased perception that others endorse HPV vaccination, increased HPV knowledge and positive vaccination attitudes were associated with higher odds of being in the *decided to vaccinate* stage. Believing that HPV vaccination is harmful increased, and perceiving the benefits of HPV vaccination decreased the odds of *deciding not to vaccinate*.

Targeted interventions that consider the impact of the healthcare provider address knowledge gaps as well as beliefs about the benefits of HPV vaccination should be implemented to increase HPV vaccination in order to prevent HPV-associated cancers.

Children with Cancer: Special Needs of the Children and Their Families

142 | Quality of life of pediatric cancer patients one month and one year after diagnosis: what are the differences?

Shulamith Kreitler

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The objective was to compare the quality of life (QOL) of pediatric cancer patients one month and one year after diagnosis from the points of view of the children, their parents and the parents' view of the children. The participants were 35 children 8–18 years old diagnosed with leukemia, solid tumors or brain tumors, and their mothers. The tools were the Children's Multidimensional QOL Inventory providing a summative score and scores in 15 scales and a matched questionnaire for the parents about themselves and about the children. (Kreitler & Kreitler). The statistical analyses were hierarchical linear mixed-effects modelling and generalized linear model (two-way analysis of variance with repeated measures). The results showed good matching between children and parents on children (all 8 domains with changes in the children's sample are included in the 10 domains with changes in the parents on children sample). The matching between the QOL of children and of the parents on themselves was poor. Domains showing improvement in all groups: Total, functioning at school, physical state, fun, mastery and independence. Domains without improvement in all groups: Worries, cognitive functioning, social functioning, self esteem, basic needs, and positive feelings. Conclusions: QOL in pediatric cancer patients needs to be assessed repeatedly; special attention needs to be paid to specific domains of QOL and to particular diagnostic groups, with special support for children with brain tumors.

141 | Health-related quality of life of children with medulloblastoma and acute lymphoblastic leukemia after treatment: a comparative study

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The presentation will report a study about health-related quality of life in 200 children aged 5 to 18 years with medulloblastoma (MB, 90 children) and acute lymphoblastic leukaemia (ALL, 110 children). The methods consisted of administering the Questionnaire PedsQL™ Quality of Life Inventory and Symptom Inventory in children with cancer NJC-CSI. Comparisons were made in terms of the major quality of life scores and symptoms, including the level of physical, emotional and social functioning of children who have finished treatment for MB and ALL. Age of disease occurrence and duration of remission were found to be major contributing factors to the children's quality of life. The results indicate that the children need support in their emotional and social functioning also after finishing the treatments.

143 | Psychological Assistance for the Family of a Pediatric Cancer Patient

Marina Ivashkina

Moscow, Russia

It has become obvious to the majority of pediatric cancer health professionals that parents of a child with cancer need psychological support and sometimes psychiatric assistance. Parents of a child with cancer suffer from myths, such as that cancer is contagious and deadly, as well as from fear of loss and guilt feelings, all of which may exacerbate existing psychological problems of the family members and may lead to a family crisis. The children react to the parents' traumatic experiences by frequent feelings of emptiness, fear, resentment, and uncertainty. Psychological assistance to parents performs the functions of a counseling and provision of support. There are various methods of psychological assistance, mainly non-directive suggestion, art therapy, psychodrama, and family systems therapy. The trust and support in the therapeutic relationship are the core factors which contribute to improving family relationships and the the quality of life of the family members. The report presents a method of psychotherapy of the fear of death in relatives of paediatric cancer patients through psychotherapeutic toys.

144 | Axiological factor of demographic behavior in families with cancer children – the results of a socio-demographic study in pediatric oncology.

Marina Guseva

Moscow, Russia

The purpose was to study in a large-cohort sample demographic (reproductive, matrimonial, self-preserving) behavior in the families of pediatric patients. Data were collected in 2009–2013 through individual interviews and questionnaires of 1298 families from 78 regions of the Russian Federation, including 1085 mothers in reproductive period aged 25–49 (average 36.6), with a cancer child aged 5–17, in remission from 1–12 years (average 4.2). The results were compared with the data of the Russian state statistics agency's demographic research of the same period (1118 female respondents of the same age range).

The results showed that childhood cancer impacted parents' relationship, with deterioration in about 20%. Most divorces occurred in the first two years of the child's treatment. There were more cases of marriage, more children born and higher reproductive attitudes than in the general population, whereby reproductive behavior was affected more by social and family values than by material concerns.

The conclusion is that childhood cancer considerably changes the system of values, life meanings and priorities towards a pro-family orientation, increasing the need in family ties, children, and self-preserving behavior. Thus, one of the main factors for demographic behavior in our group is axiological. The families need psychological, social and medical assistance to successfully overcome the crisis, improve their health, as well as social and psychological well-being.

Hope and Fatalism: Listening to Patients

894 | Hope, distress and social support among older cancer patients and informal caregivers: clinical implications

Gil Goldzweig

The Academic College of Tel Aviv Yaffo, Israel

The world's population is aging rapidly. Nevertheless, there is a lack of data and research findings concerning hope, distress and social support among older cancer patients and their familial caregivers. The presentation will concentrate on the implication of what is known about hope, social support and distress among older cancer patients to the clinical practice.

We'll present research findings implicating very high levels of distress and very low levels of hope among oldest old cancer patients. We'll also data indicating that the relation between social support and distress may be mediated for both patients and spouses by hope. We'll relate these findings to the case of Malik and Anna as presented by prof. Baider.

The common cognitive-based model of hope may not apply to oldest old patients or to patients and caregivers from different cultural backgrounds. We'll use the case in order to demonstrate the different meanings of hope for different family members and different cultural backgrounds.

Health care practitioners should identify the individual and specific meaning of hope within the family and address these while working with families in a multicultural environment.

890 | What is the added value of psychosocial screening in routine clinical practice?

Alex J. Mitchell

University of Leicester Department of Cancer Studies, United Kingdom

Most clinicians rely on their own clinical judgement. Numerous tools are available to help clinicians, what is their added value?

We first address the issue of the accuracy of clinical judgement. Next we aim to summarise the added value of tools for detection of distress, depression, anxiety (incl FoP), unmet needs, desire for help, quality of life, cognition and caregiver burden.

From Malik narrative there were likely unmet physical and psychological needs as well as treatment refusal. From Anna's narrative there was little communication and possible isolation. Which tools might help? Many tools have had diagnostic validity and reliability and several received meta-analytic testing. As an important baseline, the diagnostic sensitivity of clinical judgement is approximately 50% when examining clinical depression/anxiety/distress. Instruments for emotional distress/desire for help/caregiver burden might have helped and offer better reliability and accuracy but at a cost of increased burden. Multi-domain and e-screening may improve upon this. We review the application of these tools to the cases presented.

Patient care can be enhanced by screening for psychosocial issues but tools do not replace good quality care. In the narrative of Malik and Anna documentation of communication preference and treatment refusal remains a challenge.

Considerable research has been done in this area, but value of unmet need and desire for help assessment is unclear at this time.

Use of psychosocial tools bring possible added value and increased reliability but at additional cost in clinician burden.

892 | Family communication: inter-generational meaning of the cancer experience

Elisabeth Andritsch

Division of Clinical Oncology The Medical University of Graz, Austria

The family constitutes a world in itself with its own structure, communications patterns and coping mechanisms. All of these are in interaction with the family's cultural environment and background.

We'll discuss the communication and adaptation patterns of the family unit of Malik and Anna as presented in the case by Prof. Baider. We'll identify the impact of cancer on the family equilibrium and emphasise the changes in feelings, coping styles and meaning applied by the different family members.

The disclosure of truthful information to the family of cancer is directly related to their socio-cultural and religious system of beliefs. The perception of the threat of cancer may depend on the cultural and personal meaning that each one of family members project and appraise to the situation of terminal illness and death. The subjective perception of cancer, death and burden depends on the family communication

patterns, the roles that different family members take upon themselves and the cultural environment.

The health care practitioners should address the family needs to make sense of their own experience with their illness, and to support them making their communication an open and interactive family style or help to avoid silence, withdraw and fear of stigma and shame.

886 | The usefulness of communication interventions for helping formal and informal caregivers to better cope with an elderly patient's refusal of any cancer treatment

Libert Yves

Université Libre de Bruxelles, Belgium

Lea Baidier case presentation about Malik, a 80-year-old man with a non-small cell carcinoma of the lungs stage 4, and his wife Anna, will be an opportunity to discuss – beside theoretical hypothesis – appropriate communication interventions aiming to help formal and informal caregivers to better cope with an elderly patient's refusal of any cancer treatment.

After recalling theoretical frameworks needed to understand the dynamics underlying the clinical problems presented (i.e. uncertainty, spiritual issues and beliefs, distress, collective coping, and caregiving), suggestions about useful approaches to deal with patient refusal of any cancer treatment will be presented: on the one hand communication interventions aiming to help health care professionals to understand and address this refusal, and on the other hand interventions aiming to help patient's relatives to understand and support it.

This presentation will allow an in depth discussion about the transfer to clinical settings of theories, concepts and results of empirical studies on communication interventions in advanced cancer diseases.

Case presentation at an international meeting is an opportunity to discuss difficulties that arise while implementing recommendations derived from research and literature in the setting of advanced cancer care.

Extending the reach of psychosocial oncology by screening for distress

110 | Translating Knowledge Into Practice: Strategic Integration of Biopsychosocial Distress Data, Influential Communications, Clinical Skills to expand Psychosocial Programs, Present Challenges and Future Opportunities

Matthew Loscalzo¹; Barry Bultz²; Luigi Grassi³; Uwe Koch⁴; Wendy Lam⁵

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In medicine, referral to a medical oncology specialty by a family physician is based on recent history and physical examination, pathology, operation reports, imaging, and blood work.

When it comes to a referral to a psychosocial specialist, the current practice in most cancer centres has been to rely on a patient request or on the health care professional ability to assess the patient's emotional state. However, in cancer centres employing standardized screening for distress questionnaires patient's key concerns can rapidly be identified and referrals to the right professional in a timely way can be operationalized.

While there is little debate about the benefit of interdisciplinary clinics, health care remains siloed with the principle of whole patient care being considered the goal. Based on staffing models alone, clinical practice becoming truly multidisciplinary has a long way to go. This unfortunate reality has become as a catalyst for innovation. Branding Distress as the 6th Vital Sign has been one strategy to overcoming the resistance to extending the reach of psychosocial oncology. This presentation will present data demonstrating the benefits of multifactorial screening for distress from the patient perspective, and a large tertiary cancer program perspective.

111 | Conversation and communication in interpersonal relationships: the essential elements of care

Luigi Grassi

Department of Biomedical and Specialty Surgical Sciences University of Ferrara, Italy

Conversation and communication (CC) are the corner stones of the encounters with patients in all medical settings with several aims (e.g., exchanging information; making treatment-related decisions; assessing stressful events, coping mechanisms, emotional symptoms, existential and spiritual pain, distress and demoralization). Certain attitudes, behavior and skills (e.g. capacity to impart confidence; being empathetic; providing a "human touch"; relating on a personal level; being forthright; being respectful; being thorough) are part of effective CC. Some specific aspects influencing health care professionals – patient relationship, such as personality variables, coping and attachment styles, as well as cultural factors should also be taken in to account. Several models have been proposed to generate relationships contrasting the extremely technical conversations where a marked split between 'curing' (as a technical action dealing with the physical disease as an object in a material body – *Körper*) and 'caring' (as a holistic process dealing with the person as a subject in lived body – *Leib*) still exist. Compassionate, individually tailored, and effective responses to the mounting vulnerability and increasingly difficult physical, psychosocial, and spiritual challenges facing persons with serious physical illness should be constantly explored in the medical encounter.

112 | Developing acceptance for psychooncological thinking and services in a university medical center

Uwe Koch

Department of Medical Psychology University Medical Center Hamburg-Eppendorf, Germany

The background of the presentation is the author's observation and experiences of the implementation process of nowadays well-functioning psychooncological services in a university medical center over a timespan of 40 years. Described will be positive and restriction conditions within this development and measures (chances) to influence this implementation process. Important factors are:

- “mainstream-thinking” in oncology
- economic condition in the healthcare system
- support of influential oncologists/role models
- perceived restrictions of success in oncology treatment
- social skills and intelligent strategies of actors on the psychooncology side

The presenter will resume his experiences and discuss strategies for further development of psychooncology.

113 | Leveraging leadership and clinical skills for meaningful program growth and excellence

Matthew Loscalzo

City of Hope-National Medical Center, United States

Leadership matters. Clinical skills matter. Taken together leadership and clinical skills are highly influential in engaging and inspiring others to work toward a common vision and acquiring resources: especially during times of change, uncertainty and scarcity. Leadership is about being able to see and communicate the bigger picture while clinical skills are more about deeply engaging and motivating others to best manage threatening situations. Although there are significant differences between leadership and clinical perspectives (for example, priority criteria, time perspectives for outcomes, influence over resources, power differentials, etc) the chasm may still be more imagined than real. This portion of the symposium will focus on those areas where leadership and clinical skills diverge, intersect and most importantly—are strategically aligned to be mutually empowering. The provocative argument will be made that astute clinicians make the most effective leaders and may require a change in perspective to be more successful. Specific relevant clinical behaviors will be described that can be readily implemented in both low- and high-resourced settings to enhance leadership influence. Careful alignment with the two prior speakers around biopsychosocial distress screening and communication strategies, as essential resources for program growth, will then be followed by the final speaker who will address present barriers and more important near future opportunities.

Treating and Supporting Refugees and Immigrants with Cancer

761 | Psychological challenges faced when fighting childhood cancer during wartime in Syria

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Childhood cancer is a challenge for the child, his/her parents and medical care providers in limited resource countries. When war conditions and violence are present, treatment is much harder, physically and emotionally for all involved.

From observations and discussions with colleagues, patients and parents during the 7 years in which much of Syria has experienced war, we report on ways in which occurrence of war and associated hardships adds multiple burdens and challenges, threatening the psychological equilibrium and coping efforts of patients, parents and providers. Observations occurred at the Department of Pediatric Oncology at Al Bairouni Hospital in Damascus, one of 3 Syrian hospitals offering specialized pediatric cancer treatment.

Disempowerment was the major psychological burden. Fear, anxiety and loss of hope were also difficult. Psychological challenges faced when treating cancer during wartime include changing the life priority of the child and his/her family, lack of medication availability and increased costs, difficulties and dangers of transport of patients to and from the hospital location, and the heavy, resulting psychological impacts on patient, parents and medical care providers. Exposure to war and worry about the safety of near and distant family members affects medical care providers' attention, availability and energy as well.

Childhood cancer is a complicated problem in Syria. Unsafe hospital locations and difficulties of transport during wartime and other problems create challenge in childhood cancer management and increase the psychological burdens facing patients, their families and health care providers.

766 | Participatory approaches in fostering migrant access to cancer care: the community and the family point of view

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The recent economic crisis and the recurrence of many war crises have led to a relevant and uncontrolled flow of migration toward a few

Western (USA, European Union) as well as Eastern (China, United Arab Emirates) countries. At the same time, the so-called double crisis of welfare state (continuous cutbacks together with longer-term demands) is pushing healthcare systems as crucial and complex as oncology toward a no-return point of organizational and economic sustainability.

In the light of accumulating evidence regarding the cost-effectiveness of participatory action research (PAR) in marginalized communities and of family-centered care (FCC) in chronic diseases, we report two case-studies about their application in the field of psycho-oncology. The first case refers to a PAR intervention aimed to foster the access to cancer care in a multicultural community of migrants. The second case refers to an FCC psycho-oncology intervention with a Congolese breast cancer woman and her family. Finally, we compare the outcomes of these two studies with the existing literature about the effectiveness of similar approaches.

The first study focused on identifying and supporting a few community referents and on co-construing culturally sensitive communication processes. The second study showed the relevance of a family intervention based on fostering personal and social resources and coping strategies in adjusting to the long journey of cancer care.

The reported case-studies and the weight of the best available evidences suggests that PAR and FCC interventions foster the access to cancer care by reducing healthcare inequalities and seemingly costs.

781 | Health care access fears and impact across immigration status in a changing political climate

Francesca Gany¹; Debra J. Pelto²; Julia Ramirez²; Josana Tonda-Salcedo³; Stephanie Rosas-Garcia²; Karina Escamilla⁴; Olga Garduno⁵; Rosario Costas-Muniz⁶

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The right to equitable health care, to promote good health and cancer outcomes, should be independent of the political climate. However, with each new administration change, the right to access health care, both real and perceived changes. This study explores perceived access changes, the impact of these changes on health care seeking and the potential health ramifications among immigrants in the immediate 2017 US post-presidential inauguration period.

The Ventanilla de Salud (Health Window) (VDS) program, created by the Government of Mexico and located in Mexican Consulates across the USA, works to promote good health. It has reached of thousands of marginalized, low-income and migrant Latinos at 50 national sites. A Spanish language questionnaire was developed to query Mexican immigrants, of all immigration statuses, visiting the New York City VDS about their trust in the government, their health care access attitudes and concerns, and their health service seeking behavior. The questionnaire was administered to a convenience sample of 200 participants between July 2016 and March 2017.

There was a significant amount of fear of accessing health-related government benefits. Participants had heard numerous rumors about dire consequences for accessing services. These ranged from requirements for government payback, both monetarily and in military service in the military, to utilization leading to deportation. Community concerns worsened after the January 2017 presidential inauguration.

Political changes can have a chilling effect on immigrant utilization of health and associated services necessary to maintain good health. Interventions are needed to protect immigrants' right to health.

eHealth Interventions

770 | Improving patient experience and health outcomes using electronic patient-reported outcome measures: effects on distress and health outcomes

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The Improving Patient Experience and Health Outcomes Collaborative (iPEHOC) aimed to improve health outcomes through uptake of electronic patient reported outcome measures (e-PROMs) in oncology practices in Ontario and Quebec. Building on screening with the Edmonton Symptom Assessment System (ESAS-r), e-PROMs were triggered based on cut scores to focus multidimensional assessment and management of pain (BPI), fatigue (CFS), anxiety (GAD-7) and depression (PHQ-9).

Knowledge to action and the Adkar change model alongside evidence-based knowledge translation (KT) strategies were used to facilitate end-user engagement and practice change. A mixed-method, pre-post quasi-experimental design assessed process and impact of the intervention on patient experience and activation, clinician satisfaction, team collaboration and health care utilization. Examination of the slope of intra-individual change scores over time for anxiety shows a significant reduction during the 6 months post-iPEHOC implementation (treatment), compared to the 6 month pre-iPEHOC implementation (baseline), $p = 0.004$. Similar analyses for depression, fatigue and pain were not observed. A statistically significant increase was found in

Patient Activation scores from baseline to end-point ($p = 0.045$), as well as statistically significant decrease in emergency department visits ($p = 0.081$), and trend towards a decrease in hospitalization within 30 days of an e-PROMs completion ($p = 0.034$).

In spite of a short implementation period of 8 months to facilitate practice change, we observed some significant improvement in the detection and amelioration of general and specific forms of distress, suggesting that the iPEHOC intervention had impact on not only sharpening clinical processes but also on important patient outcomes.

855 | Implementation lessons learned in facilitating uptake of PROMs for patient management in Ontario

Doris Howell¹; Carole Mayer²; Nicole Montgomery³; Anne Snider⁴; Denise Bryant-Lukosius⁵; Lorraine Martelli⁴; Katherine George²; Julia Park¹

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The iPEHOC project was conducted in three Regional Cancer Centres across Ontario (Juravinski, Northeast, and Princess Margaret). All three sites adopted change management and knowledge translation strategies to facilitate “whole system” and practice change. Readiness differed for sites at entry. Tailoring implementation strategies to local site context was critical to the success of the iPEHOC program.

Process outcomes such as patient acceptability and clinician satisfaction were measured through surveys, interviews (clinicians) and focus groups (patients). Select results from the Patient Acceptability Survey (Ontario $n = 182$, Montreal $n = 54$) showed most patients found the PROMs facilitated communication of symptoms to the health care team, and helped with symptom self-monitoring. The Clinician Satisfaction Survey demonstrated a high degree of satisfaction at project endpoint. Overall, clinicians felt that the CFS (63%), BPI (72%), GAD-7 (77%), PHQ-9 (79%) provided them with additional important information to manage distress.

The presentation will highlight several key factors for achieving routine symptom screening and clinical uptake of PROMs. Clinician engagement is enhanced when resources are aligned with education to increase knowledge and confidence in interpretation and response to PROMs. Patient engagement is improved if the purpose and value for completing symptom-screening reports is communicated and clinical teams provide patients with self-management interventions and support.

857 | Successes and challenges in implementation and uptake of PROMs for patient symptom management in Quebec

Zeev Rosberger¹; Marc Hamel²; Rosanna Faria³

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The iPEHOC project was conducted at Rossy Cancer Network McGill-affiliated hospitals (Jewish General Hospital, McGill University Health Centre and St. Mary's Hospital). Previously, distress screening was limited to pilot projects. Introduction of routine distress screening and secondary PROM assessments was novel to these institutions and the Quebec healthcare system was undergoing large-scale reform concomitantly. The project was rolled out in several clinics with identified clinician champions. Patient flow and IT development were major challenges during implementation.

Quantitative and qualitative data were collected through patient and clinician surveys, semi-structured focus groups, and clinician interviews. Results indicated high levels of ESAS-r and PROM completion rates (45–80%). The majority of patients found the PROMs facilitated communication and severity of symptoms to the health care team and helped with their own symptom monitoring. Qualitatively, though most patients found the process most helpful in improving communication, some perceived that their clinician did not necessarily review the PROMs output, even though their needs may have been met. Patients with advanced disease more frequently reported PROMs completion more burdensome.

This presentation will illustrate key lessons unique to the Quebec sites, including the importance of organizational buy-in, the added value of site-based project champions, obtaining clinician engagement and ongoing educational support, tailoring strategies (e.g., clinician clarity about the PROMS output use) at each site. Important elements pertaining to sustainability will be discussed, such as the dissemination into routine clinical operations to new clinics, exploration of technological interfaces, and overall strategic alignment.

Utilising Patient Reported Outcome Measures for Tailored Clinical Care: Examples, Challenges and Solutions

245 | Integrating psychosocial care into cancer services: the path from evidence to implementation

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Integrated psychosocial cancer care aims to improve 1) identification of psychosocial needs; 2) support for self-management of illness; 3) aligning patients more effectively to services; and 4) coordination of care and systematic follow-up. This paper will briefly overview evidence regarding barriers to achieving these goals and examples from Australian health service-related psychoncology research.

Multicomponent intervention studies will be outlined that aimed to improve detection of psychosocial needs, coordination of care,

building skills among “front-line” cancer clinicians, and improving patient access to self-management resources. Evaluation included service uptake and implementation using health service audit and activity data. Clinician perspectives on implementation were investigated using qualitative methods.

While barriers to implementation included a range of organisational and system factors clinicians identify a range of clinical practice improvements and system gains from program implementation encompassing distress screening, clinician support and skill development in psychosocial care, coordination of care and attitudinal change. Conduct of such multifaceted health service research highlighted key challenges to implementation research in psycho-oncology.

Innovative models of integrated care and methods of implementation research in health services are necessary to address these gaps and barriers. Improved psychosocial outcomes requires health service research that attends to key patient, clinician and health system factors. Applicability to diverse geographic and socioeconomic settings of patient care is also necessary to overcome the well-recognised disparities in cancer care and outcomes.

Funding: Cancer Institute NSW, beyondblue.

335 | Computer-based interactive distress assessment: feedback if screening results may support patient's informed decision on psycho-oncological treatment offers (ePOS-react)

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Current German S3-guidelines recommend routine distress assessment for all cancer patients. There is no gold-standard regarding which screening instrument should be used. We've been able to show that the accordance of recommended instruments used for psycho-oncological treatment indications is poor and their correlation with patients' subjective need is limited. This study investigates the acceptance and impact of a direct online feedback of screening results and an additional and personalized treatment recommendation in a selected female patient group with breast cancer or gynaecological tumors.

A distress assessment using 7 recommended and often used instruments in psycho-oncology was applied to N = 103 patients with breast cancer and gynaecological tumours. At the end of the computer-based questionnaires, patients were given a recommendation (no treatment, information about psycho-oncological services and psycho-oncological counselling) based on their screening results. They chose which of these options they want to receive. In an additional structured interview patient's distress was assessed from blinded experts using a standardized interview (PO-BaDo).

The 71% of all patients chose the suggested treatment offer. There is a strong correlation between the expert's evaluation of a need for treatment and the screening-instruments' results. This drops to moderate level when comparing with the patient's wish for treatment.

A computer-based screening offers automated and immediate analysis of distress screening data which can be used to design an interactive screening procedure. This may include the possibility to strengthen patients' autonomy and help to support an informed decision about psycho-oncological treatment.

Funding: German Cancer Aid (DKH).

336 | Making screening assessment, referral and management of anxiety and depression in cancer care a reality: developing a system addressing barriers and facilitators to support sustainable implementation

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Clinical pathways have shown considerable success in bringing about change in patient management, however the context and implementation strategies utilised are critical. *The Clinical Pathway for the Identification and Management of Anxiety and Depression in Adult Cancer Patients* (Clinical Pathway) advocates routine screening across the cancer journey, promoting early identification and prompt access to evidence-based care as well as educational support of cancer care staff to guide appropriate and successful implementation.

Our barrier analysis identified lack of resources, education and training and support from leaders; poor uptake by patients; and lack of

integration within the community, as key. The Anxiety and Depression Pathway (ADAPT) research program in Australia has developed a suite of resources addressing these barriers and facilitators. These include (i) the ADAPT Portal, a flexible web-based system to operationalise the stepped care model incorporated into the Clinical Pathway for individual cancer services, recommendations for validated screening tools and evidence-based interventions for identifying and managing anxiety and depression; (ii) an online health professional training program focusing on skills related to screening and discussion about referral with patients; (iii) a purpose-built online CBT-based therapy program for managing anxiety/depression in the cancer context, iCanADAPT; and (iv) patient resources to inform, normalise and de-stigmatise routine screening and managing the impact of cancer on emotional wellbeing.

Lessons learned from pilot testing of these resources, ahead of the planned cluster RCT of implementation strategies in 12 cancer services in NSW, will be presented and discussed.

Funding: Cancer Institute NSW.

243 | PROMPT-Care: a fully integrated eHealth system to support patient-centred care and self-management

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Electronic patient-reported outcomes (ePROs) assessment is an important component of healthcare. PROMPT-Care (Patient Reported Outcome Measures for Personalised Treatment and Care) is the first fully integrated eHealth system in Australia that electronically captures information about a cancer patient's symptoms, distress and unmet needs, provides the ePRO summary and longitudinal reports to the cancer care team in real time to improve patient care, and empowers patients by providing self-management tools and resources tailored to their needs.

PROMPT-Care was developed with clinical ($n = 38$) and technical ($n = 23$) input and is currently implemented in 4 Australian cancer centres and used by 35+ clinicians to inform the care of 300+ cancer patients.

Most patients (96%) found ePRO completion to be easier than paper-pencil assessments, and reported high acceptability and value of assessment completion: "It actually gave me a handle to express something that I hadn't - couldn't figure out how to express to the

person [doctor] I was speaking to, and it prompted them to ask me." Oncology staff also reported high acceptability and feasibility "I would have an impression about a patient, that things weren't going fantastically, but it [reports] gave greater granularity and specificity about where the needs were".

ePRO assessments are highly acceptable to patients, supporting the feasibility of implementation as part of routine cancer care. The benefits of implementing this system, challenges experienced and how they are being addressed, and lessons from PROMPT-Care beyond cancer care, will be discussed.

Funding: Cancer Institute NSW, Bupa Health Foundation.

Physical and Psychological Symptom Burden

387 | Increased financial distress or spiritual distress predict increased magnitude of depression, anxiety and sleep disturbances in cancer patients

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The current study was designed to evaluate whether financial distress and spiritual distress influence mood symptoms in cancer patients. All adult patients seen in the MDACC outpatient psychiatry oncology clinic who provided informed consent were included ($N = 1,105$). The primary assessment tool was the ESAS. Data reflect percentages or Mean \pm S.D.

In this cohort, patients were predominantly female and White, and ~50 years of age. Financial distress was common among patients (74% reported 1–10 vs. 26% reported 0). Increasing magnitude of financial distress predicted significant linear increases in depression ($0^{\text{fd}} = 2.4 \pm 2.7$, $5^{\text{fd}} = 4.3 \pm 2.8$ vs. $10^{\text{fd}} = 6.9 \pm 2.6$; $F_{10,1094} = 29.8$, $p < .0001$), anxiety ($0^{\text{fd}} = 3.0 \pm 3.1$, $5^{\text{fd}} = 4.3 \pm 2.8$ vs. $10^{\text{fd}} = 6.9 \pm 2.9$; $F_{10,1094} = 21.1$, $p < .0001$), and sleep disturbance ($0^{\text{fd}} = 3.6 \pm 2.8$, $5^{\text{fd}} = 5.1 \pm 2.6$ vs. $10^{\text{fd}} = 7.0 \pm 2.8$; $F_{10,1094} = 18.9$, $p < .0001$). Spiritual distress was not as common among patients (50.4% reported 1–10 vs. 49.6% reported 0). Notwithstanding, increasing magnitude of spiritual distress predicted significant linear increases in depression ($0^{\text{sd}} = 2.6 \pm 2.7$, $5^{\text{sd}} = 5.8 \pm 2.5$ vs. $10^{\text{sd}} = 8.5 \pm 2.3$; $F_{10,1094} = 39.6$, $p < .0001$), anxiety ($0^{\text{sd}} = 3.3 \pm 2.9$, $5^{\text{sd}} = 6.3 \pm 2.6$ vs. $10^{\text{sd}} = 7.9 \pm 2.3$; $F_{10,1094} = 27.3$, $p < .0001$), and sleep disturbance ($0^{\text{sd}} = 3.9 \pm 2.9$, $5^{\text{sd}} = 6.3 \pm 2.3$ vs. $10^{\text{sd}} = 8.1 \pm 3.3$; $F_{10,1094} = 19.8$, $p < .0001$).

Our data indicate that 74% of patients undergoing active cancer treatment or maintenance therapy report financial distress and 50% of patients report spiritual distress. It was noted that patients who reported higher levels of financial or spiritual distress exhibited significantly greater levels of depression, anxiety and sleep disturbances.

909 | Worry in cancer patients

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Worry, the cognitive component of anxiety, is well documented in cancer patients and survivors. Worry is a component of fear of progression and fear of recurrence. However, excessive worry is also a feature of generalized anxiety disorder. Furthermore, worry is common in non-clinical populations, and some people show the personal disposition to worry a lot. Despite the recognition that many cancer patients worry excessively, the association between cancer-related worry, clinical worry, and dispositional worry has not been studied, so far.

The 341 hospitalized patients with gastrointestinal or hematological cancer participated. The Penn State Worry Questionnaire (PSWQ) was used for the assessment of clinical levels of worry. The dispositional tendency to worry excessively was assessed using the Worry Domains Questionnaire (WDQ). Furthermore, patients filled out the Fear of Progression Questionnaire (FoP-Q). The Structured Clinical Interview for DSM-IV (SCID-I) was used for the evaluation of anxiety disorders.

The mean age of the patients was 58.4 years (SD = 12.8); 68.2% were men. Clinical worry and dispositional worry were both significantly correlated with FoP: PSWQ $r = .64$, WDQ $r = .78$. The domains that were most often mentioned in the WDQ were finances (28%), concentration (20%), and personal goals (17%). Cancer patients who suffered from an anxiety disorder showed higher PSWQ and WDQ scores. Similarly, patients who expressed a clinical level of FoP showed high clinical and dispositional worry.

The results reveal that cancer-related worry is associated with other forms of worry in cancer patients.

569 | Addressing reported symptom and side effect burden on lung cancer patients and long-term survivors

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Research indicates those diagnosed with lung cancer have greater unmet supportive care, physical and emotional needs compared to those diagnosed with other cancers.

To more fully understand these needs, 471 lung cancer patients and survivors and 349 loved ones were surveyed through a community needs assessment survey, distributed electronically 11/9/2015 to 2/8/2016. Respondents identified the most prevalent and problematic symptoms and side effects experienced during

treatment, shortly after treatment ended and at 5+ years post-diagnosis, including which effects were most problematic during each time period.

With an overall completion rate of 72.6%, patients/survivors rated anxiety, fatigue and shortness of breath as the most challenging immediate, post-treatment and long-term. During treatment, gastrointestinal issues including constipation, diarrhea and nausea were also highly problematic. Importantly, both patients/survivors and loved ones reported physical effects were significantly more problematic during treatment but deemed emotional effects more difficult to manage post-treatment and in the long-term.

The survey included open-ended questions. Regarding unmet needs during and after treatment, nearly 25% of 221 responses indicated inadequate information and assistance to manage physical and emotional reactions.

Management of symptoms and side effects is a clear unmet need for people with lung cancer and their loved ones. In response to the survey, a four-part webinar series was developed to educate on the most problematic lung cancer-specific symptoms and side effects. The series is holistic, educating on medical options as well as providing practical management techniques that can be put to use immediately.

610 | Symptom clusters in cancer survivors

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Unrelieved physical symptoms are key predictors of distress among cancer survivors. This study examined patterns of symptom clusters in cancer survivors and identified associated factors.

Methods: 1,068 (86%) Chinese patients recruited sequentially from 6 oncology units shortly after completing treatments (breast (35%), head and neck (22%), colorectal (15%), gynecological cancer (11%)) completed a questionnaire assessing symptom distress, psychological distress, unmet needs, attention bias and optimism.

Latent class analysis identified a five-class solution. Class 1 patients (42%) showed no symptom distress; Class 2 patients (26.3%) reported more pain, fatigue, numbness, difficulty sleeping and itchy skin. Class 3 patients (14.3%) reported multiple oral-digestive symptoms including dry mouth, lack of appetite, difficulty swallowing, and changes in food taste, while Class 4 (13.6%) patients had multiple somatic and emotional symptom. Class 5 patients (4.1%) reported complex multiple physical symptom distress. Cancer type ($p < 0.001$), unmet psychological ($p < 0.05$) and physical and daily living ($p < 0.001$)

needs, anxiety ($p < 0.001$), depression ($p < 0.001$), and bias toward negative information ($p < 0.05$) differentiated symptom classifications. Patients with colorectal cancer reported little symptom distress; patients with head and neck cancer had more oral-digestive symptom.

One in two cancer survivors experienced multiple symptom burden. Greater symptom burden was associated with psychological distress and inadequate psychological support, as well as support in managing physical and daily living at home. The findings highlight the importance of continued symptom assessment and management in early cancer survivorship.

410 | Between the motion and the act: new insights into the cancer-suicide link

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Cancer populations have higher suicide risk, but the nature of the association has not been explored. Aim: To examine the link and clinical associations between cancer and suicide. Retrospective cohort study of Coroners Court of Victoria Suicide Register data, Australia. The link between cancer and suicide was assessed using contextual information recorded at time of suicide investigation and coded by two psychiatrists as 'probable', 'possible' or 'unlikely'. Associations were assessed using a chi-squared statistic.

The 118 suicide cases with active cancer between 2009 and 2013 were identified. Those cases with a probable link between cancer and suicide were likely to have: no history of mental illness ($p = 0.01$); engaged with a right to death organisation ($p = 0.002$); and used methods related to their cancer treatment (e.g. overdose medications) ($p = 0.007$). Persons with pre-existing mental illness were likely to have their suicide intentions known to family/friends (OR 6.6, 95%CI 2.6 to 16.2) and clinicians (OR 2.7, 95%CI 1.3 to 5.9) and used significantly different methods ($p = 0.04$) compared to those with no mental illness. Men's suicide intentions were less likely to be known to family or clinicians compared to women (OR 0.19, 95%CI 0.06 to 0.63). Significant differences were not observed between patients with cancers of different anatomic sites; 12% of cases received palliative care.

Clinically significant group differences emerge when exploring the strength of the link between suicide and cancer, with important implications for the prevention of suicide and provision of psychosocial care.

Care planning and Behavioral Issues

831 | Patient treatment summary and care plan: pilot study and implications for national implementation

Louise Mullen

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The number of cancer survivors in Ireland is predicted to double in the next 25 years. The National Cancer Control Programme of Ireland has identified the needs of cancer survivors as a priority. This study details a pilot of a Patient Treatment Summary and Care Plan (PTSCP) which is used to aid the transition of patients to follow-up care when active treatment is complete. The aim of the study is to identify facilitators and barriers to national implementation.

Qualitative research methodology and analysis is used to determine the patient and cancer staff experience with a PTSCP. Telephone interviews were conducted with patients to ascertain patient experience, acceptability and usefulness of content. The impact on cancer centre staff was also determined by interview. Patients indicated that the PTSCP was extra information that they did not have in their possession in a summary form before. Both patients and healthcare professionals used the PTSCP to initiate conversations. A number of challenges were identified including; patients seeing the hospital as 'looking after them' and not actively engaging with shared responsibility for self management, difficulty with constructing the treatment summary for the cancer centre staff and overall responsibility for delivery.

There are clear implementation challenges as the cancer centres have to construct and deliver the PTSCP. This has impact in terms of time and personnel. Patients will need to be actively prepared for living with and beyond cancer and be empowered to self manage with support after active treatment is complete.

704 | A randomized controlled trial of consultation recording use to enhance psychosocial well-being in patients with brain tumours

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To conduct a prospective, parallel randomized controlled trial (RCT) of consultation recording use to examine the impact of consultation recording on psychosocial well-being in patients with brain tumours. Patients were recruited from 3 Canadian cancer centres: Tom Baker Cancer Centre in Calgary; British Columbia Cancer Agency in Vancouver; CancerCare Manitoba in Winnipeg. Patients were block randomized to either receive an initial treatment consultation recording or not. Measures of three predictor variables – decisional control preference, information preferences, and coping style – were administered pre-consultation. Patient outcomes were measured immediately post-consultation (baseline), at 1 week post-consultation, and at 3 and 6 months post-consultation. Patient outcomes included psychological distress, perception of being informed, satisfaction with care, satisfaction with the oncologist, and consultation recording use and benefit. The hypothesis that patients who receive their consultation recordings will realize statistically significant benefit at 1 week post-consultation and at 3 and 6 months post-consultation in comparison to patients who do not receive their consultation recordings was tested using multi-variable mixed effects regression models. The 470 new clinic patients were screened. Of these, 231 did not meet eligibility criteria. Of the 239 patients who met the eligibility criteria, 106 either declined to participate or could not be reached. The final randomized sample was composed of 133 patients (Calgary-55; Vancouver-9; Winnipeg-69). Findings of the statistical analysis will be presented.

The study findings are valuable evidence to inform the use of consultation recordings in oncology to enhance the psychosocial well-being of patients with brain tumours.

811 | Understanding staff needs when implementing Patient Reported Outcomes (PROs) in the clinical setting: a qualitative study

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Two landmark studies presented findings in 2016 demonstrating that successful routine collection of PROs may improve the experience and outcomes of patient care. Yet despite these promising findings, hospitals struggle to successfully integrate PROs into their daily routine.

To identify staff needs to support implementation and seek multi-disciplinary staff guidance on implementation of PROs in the clinical setting.

Data collection and analysis was conducted with a qualitative approach guided by implementation science theory. Interviews and focus groups were conducted: 25 nurses, 9 medical trainees, 4 oncologists, 4 pharmacists, 2 dietitians, 2 social workers, 2 psycho-oncologists, 1 welfare staff member, 1 occupational therapist, 2 speech

therapists and 2 administration staff. Facilitators and barriers for implementation were identified.

Staff needs identified (1) immediate feedback of reports in a simple format, (2) a reliable structure for implementation integrated into the current patient care pathway, (3) a clear and structured pathway for referral and responding to information, and (4) PRO use for ongoing surveillance of patients. All clinician groups reflected on the use of PROs, as it may help them to work more collaboratively in patient care, and stated that they needed to be involved in the process of implementation.

Staff needs for this specific clinical environment are consistent with qualitative findings identified in other research settings. When implementing routine collection of PROs, staff engagement, use of technology and pathways to respond to PRO information are needed.

514 | Dealing with the physical and psychological challenges of a newly placed ostomy: a nursing and social work partnership approach

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The placement of a new ostomy in the setting of a cancer diagnosis creates several challenges to patients. Along with the need to quickly master ostomy management come psycho-social challenges. At the Columbia University Medical Center, the oncology Social Worker, along with WOC Nurses devised an approach partnering the two professions to meet with new ostomates for the first post-op intervention. During these meetings, patients were given preliminary information about ostomy care and equipment by the WOC Nurses and educated by the Social Worker about common feelings experienced by ostomy patients including the concept of "loss of healthy self," associated feelings of grief and the social implications of navigating the world with an ostomy appliance.

Practitioners involved in these patient interactions found that when the two professions worked in tandem, better communication was fostered, patient experiences were normalized and discharge needs were identified and addressed more efficiently. Noting this positive patient response to simultaneous WOC Nurse/Oncology Social Worker interventions on hospital inpatient units, the partnership approach was expanded to include a day of discharge meeting with the WOC Nurses and the outpatient oncology Social Worker. At that time the plan for ostomy care and follow-up was reviewed and the Social Worker reinforced that the oncology team would work jointly to provide ongoing nursing and psycho-social support.

This model yielded positive outcomes and resulted in an interdisciplinary care template for oncology ostomy patients.

Large Scale Distress, Depression and Anxiety Screening: From Diagnostic Performance to Implementation Yield

462 | Diagnostic accuracy of the distress thermometer in screening for mental disorders among patients with cancer

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The Distress Thermometer (DT) is one of the most widely used screening tools to detect clinically significant distress in cancer settings. We aimed to determine its diagnostic accuracy in a mixed cancer sample representative for major tumor types and treatment settings. We conducted an epidemiological multi-center study and assessed a proportional, stratified random sample of 2,141 cancer patients by the DT and the standardized Composite International Diagnostic Interview for Oncology (CIDI-O). Assessment for mental disorders included mood, anxiety, adjustment, somatoform, and substance-related disorders. We calculated receiver operating characteristics (ROC) and accuracy measures.

For diagnosis of any mental disorder, the DT had an area under the ROC curve (95% CI) of 0.66 (0.64–0.68) and a maximum Youden Index of 26% (24%–28%) for the cutoff ≥ 5 , with a sensitivity of 72% (68%–75%) and a specificity of 55% (52%–57%). For anxiety disorders, the area under the ROC curve was 0.65 (0.63–0.67) and the maximum Youden index was 23% (20%–26%) for the cutoff ≥ 5 , with a sensitivity of 75% (69%–80%) and a specificity of 48% (46%–51%). For major depression, the DT had an area under the ROC curve of 0.72 (0.70–0.74) and a maximum Youden index of 33% (28%–37%) for the cutoff ≥ 6 , with a sensitivity of 70% (62%–78%) and a specificity of 63% (60%–65%).

The diagnostic accuracy of the DT for mental disorders was poor. This emphasizes the use of the DT as a tool to detect subthreshold distress rather than mental disorders.

126 | Implementation of large scale distress screening: update on successes and failures

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Several centres have implemented distress screening on a large scale. Recently, we have seen results of large-scale diagnostic validity and implementation studies showing accuracy, yield and acceptability. A systematic search and meta-analysis of qualifying studies were those that reported diagnostic validity or implementation studies of the distress thermometer, ESAS, PHQ9, GAD7, HADS and/or Emotion Thermometer (ET).

We located over 200 qualifying studies and several meta-analyses. One meta-analysis found the DT had a sensitivity of 80% and specificity of 70% (Ma et al., 2015) but there is evidence that the DT can be improved by multi-domain screening using the ESAS or the ET. Four large studies have reported acceptability and/or yield of distress screening. Acceptability to clinicians is modest. Yield of screening is 10–20% when judged by the number of positive outcomes (eg referral) per every screen positive patient. Results from these data suggest screening can be a success but many barriers remain not least follow-up care, acceptability and cost.

Patient care can be enhanced by screening for distress/depression/anxiety but yield is modest and change in clinical outcomes modest. Multi-domain screening appears to have higher clinical utility than single-domain screening.

Considerable research has been done in this area although uptake, acceptability and yields are still understudied.

A major question is whether large-scale screening can bring about cost-effective change in clinical outcomes and whether low-cost screening can be successful in low-income settings.

194 | Depression screening in cancer patients: diagnostic accuracy of HADS and PHQ-9

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Depression screening in cancer patients is recommended by major clinical guidelines. The evidence on individual screening tools, however, is limited for this population, and questionnaires have not been compared directly. We assessed and compared two established screening instruments: the depression modules of the Patient Health Questionnaire (PHQ-9) and the Hospital Anxiety and Depression Scale (HADS-D) in a representative sample of cancer patients.

We conducted a multi-center study with a proportional, stratified random sample of 2,141 cancer patients across all major tumor sites and treatment settings. The PHQ-9 and HADS-D were assessed in terms of diagnostic accuracy and receiver operating characteristics (ROC) for DSM-IV diagnosis of major depressive disorder (MDD) using the Composite International Diagnostic Interview for Oncology (CIDI-O) as the criterion standard.

The diagnostic accuracy of the PHQ-9 and HADS-D was fair for diagnosing MDD with areas under the ROC curves (95% confidence interval) of 0.78 (0.76–0.79) and 0.75 (0.74–0.77) respectively. The two questionnaires did not differ significantly in their AUCs ($P = 0.15$). The PHQ-9 with a cutoff ≥ 7 showed the best screening performance with a sensitivity of 83% (78%–89%) and a specificity of 61% (59%–63%).

In cancer patients, the screening performance of both the PHQ-9 and the HADS-D may be worse than previously reported. Costs and benefits of routinely screening all cancer patients should be weighed carefully.

136 | Diagnostic accuracy of the HADS-A and GAD-7 as a screening tool for generalized anxiety disorder among cancer patients

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In light of the real threats of both cancer and its treatment, anxiety among patients represents a normal psychological reaction which does not need to be addressed in each case. Cost-effective methods are needed to detect pathological levels. We therefore investigated the diagnostic accuracy of the anxiety modules of the Patient Health Questionnaire (GAD-7) and Hospital Anxiety and Depression Scale (HADS-A).

We used data of an epidemiological multi-center study including a proportional, stratified random sample of 2,141 cancer patients to assess the accuracy of the GAD-7 and HADS-A in detecting generalized anxiety disorder (GAD). The Composite International Diagnostic Interview for Oncology (CIDI-O) served as a reference standard. We calculated accuracy measures including sensitivity, specificity, Youden Index and receiver operating characteristics (ROC) and compared the performance of the two screeners.

The GAD-7 and HADS-A reached maximum Youden indices (95% CI) of 54% (47%–57%) and 52% (45%–55%) and areas under the ROC curve (AUC) of 0.83 (0.81–0.84) and 0.82 (0.80 – 0.84), respectively. The screeners did not differ in their AUC ($P = 0.62$). Both the GAD-7 and the HADS-A showed AUC of good diagnostic accuracy and therefore can be recommended in routine screening for cancer patients. Recommendations for cut-offs should be carefully chosen on a case by case basis, dependent on the role of the screener within the diagnostic pathway.

Screening for Distress and Supportive Careneeds

64 | Emotional distress and perceived need for psychosocial support in cancer outpatients as compared to cancer inpatients. A large epidemiological study from Germany

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In Germany, certified tumor centers provide psycho-oncological care predominantly for their inpatients. This may well be justified as the time of diagnosis, and primary treatment constitutes a vulnerable period of the disease trajectory. However, less is known about emotional distress and perceived need for psychosocial support in cancer outpatients. We therefore assessed the prevalence of cancer patients' distress and perceived need for psychosocial support as well as the relation between both constructs, comparing inpatient acute care with outpatient settings (excluding rehabilitation).

In a multicenter, cross-sectional study, 4020 cancer patients (mean age 58 years, 51% women) were evaluated in five study centers in Germany (Freiburg, Hamburg, Heidelberg, Leipzig, and Würzburg). We enrolled cancer patients from inpatient acute care hospitals ($n = 1735$, 43.2%), outpatient facilities ($n = 1324$, 32.9%), and cancer rehabilitation clinics ($n = 961$, 23.9%). We measured distress with the National Comprehensive Cancer Network (NCCN) Distress Thermometer and obtained self-reports of need for psychosocial support.

Although the proportion of patients with elevated distress levels (cut-off 5) was slightly higher in inpatients than in outpatients (53.9% vs. 49.7%, $p = .025$), the proportions of those perceiving a need for psychosocial support did not differ significantly between both settings (28.0% vs. 30.6%, $p = .14$). However, only part of those with elevated distress levels perceived a need for support (inpatients: 36.6%; outpatients: 43.2%), whereas part of those without elevated distress levels still perceived a need for support (inpatients: 18.0%; outpatients: 17.9%).

Outpatients should be screened for distress and supportive needs and offered psychosocial care if needed.

452 | A Cochrane review on systematic screening and assessment of cancer patients' psychosocial well-being and care needs

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This review is conducted to assess the effectiveness of screening and assessment of psychosocial well-being and care needs on the well-being of cancer patients and to explore the characteristics of the studied interventions.

With a combination of controlled vocabulary and free text terms for 'cancer', 'psychosocial', 'screening', 'assessment', 'quality of life', 'distress' and 'care needs' a consecutive search for RCT and non-RCT studies is conducted in five databases (CENTRAL; MEDLINE; PsycInfo; Embase; CINAHL) and five trial registers (the National Research Register; the ISRCTN registry; the Dutch trial register; the RePORTER query tool). All records of two important journals, and the conference abstracts of the IPOS-Conference were searched from 2010 to 2016.

Database screening is still in progress. The screen of records from all other sources resulted in 13 studies being included for the review. In the majority of these studies there was no interventionist, but the completion of PROMs by patients. Mostly, the EORTC-QLQ-C30 and DT were used as intervention tools. Often care professionals were trained in interpreting the screening-results; however, a guide on how to use the obtained information was not always provided.

After the launch of recommendations and guidelines on systematic screening of distress and care needs in cancer care, calls were made to study the efficacy of these interventions. When finished, this Cochrane systematic review will result in a complete overview of the effects and characteristics of these psychosocial screening interventions, as well as on the conditions in which these interventions are implemented.

666 | A perceived physician recommendation along the clinical distress screening pathway predicts psycho-oncological support uptake.

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Only a moderate proportion of distressed cancer patients accepts referrals to or uses psycho-oncological support services (POSS). We know little about predictors of POSS uptake along the clinical distress screening pathway including about the patient-physician discussion when assessing psychosocial distress. We aim to assess predictors of uptake of POSS including variables of the patient-physician discussion about distress and support options.

This is a prospective observational one-center study. All newly diagnosed ambulatory cancer patients were screened with the Distress Thermometer (DT). Patients discussed the DT with their physician at their first ambulatory visit. Medical, psychological and sociodemographic variables, and aspects of patient-physician communication about distress and support options were examined (questionnaire and semi-structured interview) as factors that potentially predict uptake of POSS during a four-month period.

$N = 333$ patients participated (mean age = 61 yrs; 55% male; 62% curative treatment; $DT \geq 5 = 54\%$). Univariate analyses indicated that aspects of the patient-physician discussion are among the variables associated with POSS uptake. The final prediction model included patients' intention to uptake support (OR = 12.4; $p < .001$), a received physician recommendation (OR = 2.3; $p = .031$), and distress level (OR = 1.3; $p = .002$) (interim analysis).

Patients' perception of physician recommendation to uptake POSS affects their behavior to do so, while medical and sociodemographic characteristics had no systematic influence. Our results indicate that efforts to increase quality of distress screening programs and referral pathways should focus on aspects of the patient-physician communication about distress and support options.

554 | Screening for emotional distress in patients with pulmonary pathology on waiting list thoracic surgery

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Identify patients with pulmonary pathology on the surgical waiting list of the Thoracic Surgery Service with psychological care needs and to test the best screening tool applicable by the surgeon in a quick and simple way to refer to psychological assistance.

Emotional distress was evaluated in 100 patients, through a diagnostic interview conducted by two psycho-oncologists. The following screening instruments were analyzed: (1) Each physician's judgment in consultation (Yes / No); (2) Hospital Anxiety and Depression Scale (HADS) (with a possible score from 0 to 28); (3) unique question to measure depression (Chochinov): are you depressed? (Yes / No); and (4) unique question to assess anxiety:

are you anxious? (Yes / No), both questions with a Likert scale (0–5). Sensitivity and specificity were calculated for each of the instruments, generating ROC (Receiver Operating Characteristic) and AUC (Area Under Curve) curves.

The physician's judgment demonstrated a sensibility 58.3% and specificity 92.3%; HADS scale (>6) resulted sensibility 91.7%, specificity 65.4%; Anxiety question resulted sensibility 50% specificity 92.3%; Unique depression question showed sensibility 91.7% specificity 84.6%. AUC curves resulted in the question of depression, anxiety and HADS was 0.90/0.70/0.89, respectively.

Almost half of the patients in our series had emotional distress assessed by a clinical interview. The best instrument to detect emotional distress was the question of depression, finding that its application by the surgeon could optimize the detection and treatment of these patients.

Key words: Emotional discomfort, Screening tools, psychological assistance.

663 | Are suicidal thoughts more or less common in cancer vs other medical conditions: results from large-scale ET and PHQ9 screening (n = 1020)

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Recently, there has been more attention on people with suicidal thoughts who suffer medical illness. We aimed to study the frequency of suicidal thoughts in cancer vs mixed medical clinics.

Clinicians, researchers, and two therapeutic radiographers collected from Leicester Cancer Centre and Cardiff University Hospital from 2008 to 2017 using PHQ9 and Emotion Thermometers (ETs). We had complete data regarding suicidality on 1020 patients (642 with cancer and 378 with miscellaneous medical conditions). We measured suicidal thoughts on the PHQ9, question 9 "thoughts that you would be better off dead or hurting yourself in some way" scored as follows: not at all = 0; several days = 1; more than half the days = 2; and nearly every day = 3. We had comparative data on 378 general medical patients seen in outpatient clinics across the following medical conditions/clinics: cardiology/heart failure, HIV, immunology, rheumatology, neurology, and audiovestibular clinics.

Of patients with cancer, 11.1% had suicidal thoughts: 7.6% had occasional thoughts, 2.2% had regular thoughts, and 1.2% very regular thoughts. Of patients from general medical settings, 28.6% had suicidal thoughts: 16.4% had occasional thoughts, 5.6% had regular thoughts, and 6.6% very regular thoughts. In fact, suicidal thoughts were higher in every medical setting except heart failure which was comparable to cancer.

Compared with general medical patients, cancer patients appear to have less frequent suicidal thoughts (relative risk 0.578, risk difference -0.289 $p < 0.0001$, $\chi^2 = 53.6$).

Dissemination of Psychological Interventions: Practice-based Evidence

505 | Meaning centered psychotherapy training for cancer care providers

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The purpose of this presentation is to describe the novel and innovative methods used to train psycho-oncologists of all disciplines in a novel-structured brief counseling intervention for cancer patients called meaning centered psychotherapy (MCP).

MCP, a novel, brief, structured psychotherapy intervention for cancer patients, developed by investigators at MSK, has been demonstrated to be highly effective in randomized controlled trials in both group and individual formats. The NCI recently included MCP in their research-tested intervention programs (RTIPs) <http://rtips.cancer.gov/rtips/>. We conducted two 2-day training sessions for 50 participants to date. One hundred participants are scheduled to participate over the next year. Trainees are provided with treatment manuals, empirical research papers, power point slides, access to a dashboard to download educational materials, and view videotaped sessions with MCP experts. Ongoing supervision is provided via webinar and a chat room. A subset of trainees participate in an IRB-approved research protocol where they treat patients using MCP and collect outcome data.

Initial training sessions have been highly rated as to content innovation of training methods, successful acquisition of skills, and utilization in practice.

This R25 training program in MCP is highly innovative, using the facilities and experienced actor-simulated patients to teach MCP psychotherapy skills. It is an excellent means of disseminating an evidence-based and empirically proven effective counseling intervention for patients with cancer.

NCI grant 1 R25 CA 190169, W Breitbart MD, PI; DuHamel PhD Investigator

508 | Training in Cognitive Behavioral and Related Interventions for Cancer Supportive Care Clinicians

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One-third of cancer patients will experience significant biopsychosocial adjustment problems. The most prevalent of

these – insomnia, anxiety, fatigue, and depression – affects treatment adherence and can potentially threaten the course of the disease. In response, an interactive training program was developed and implemented to teach evidence-based interventions in the treatment of the most common biopsychosocial adjustment problems.

The training program includes a 6-month curriculum, composed of 11 pre-workshop didactic-learning webinars, an on-site 3-day experiential-learning workshop (with discussion, small group interaction, and role-playing), and post-course support. Measures include faculty/course evaluation, knowledge assessment, self-efficacy, and continued utilization assessment.

Two of the planned eight course cycles have been conducted thus far. Trainees came from a variety of disciplines with the most common being social work (69.91%). The majority of trainees were Caucasian (87.61%) and female (97.41%). Course evaluations were positive and indicate high trainee satisfaction along with increased knowledge and self-efficacy of the skills learned.

The program presents a highly successful interactive training model to help promote quality of life in cancer survivors through facilitating health care professionals' implementation of evidence-based techniques in the treatment of these biopsychosocial problems. Future directions include the implementation of a peer mentor training track to develop mentors who will provide consultation to colleagues at their home institution. The impact of this interactive training program for psychosocial cancer care has been a positive step in improving the care of cancer survivors.

510 | Innovative Supportive Care Training Models to Promote Culture Change

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The purpose of this presentation is to discuss two skills-based supportive care R25E training programs to promote culture change in trainees' institutions: Building, Implementing and Evaluating Supportive Care Programs and Implementing Comprehensive Biopsychosocial Screening Programs.

The training programs are offered nine times during the 5-year tenure of the award and train 860 cancer health care professionals in how to build, implement and evaluate supportive care programs ($n = 500$), and implement biopsychosocial screening programs ($n = 360$). The programs include pre-workshop webinars, skills-based workshops incorporating interactive small group exercises, role play, expert faculty lectures, and open discussion. Six months of post-workshop follow-up support is provided to promote culture change in the trainees' institutions including webinars, faculty-trainee conference calls, and a web-based Discussion Board.

The training programs began in September 2012 (Building Programs) and April 2013 (Implementing Screening). Twelve of the eighteen planned workshops have been conducted. To date, 600 health care professionals from a total of 180 settings across 40 states and 4 countries. On average 97% of the participants rated that the workshop was *good* or *outstanding* at developing their specific skills in building supportive care programs or implementing screening.

Sustained ongoing multi-modal professional education programs have the potential to translate evidence-based cancer care into clinical practice. Overall, these training programs have successfully impacted cancer care nationally and internationally.

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511 | Complex Cultural Vicissitudes and Essential Adaptations of Screening in Brazil

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Distress should be assessed as part of routine cancer care. Considering the lack of resource in developing countries and the international evidence, a biopsychosocial screening routine was implemented in distinct health care systems in Brazil, supported by a NCI R25-E training program. We sought to provide an overview of the development and implementation of these programs and report initial results to extend international research.

The training program guided on effective biopsychosocial screening implementation strategies, which was translated and applied at a public (low levels of education/income) and at two private settings in Brazil. A study was implemented to establish the prevalence of patient distress.

A total of 1262 patients who were undergoing chemotherapy were recruited. The majority was female, diagnosed with GI and breast cancers at an advanced disease stage. The prevalence of moderate to severe distress was higher among patients from public hospital (41.2% vs 26.9% and 19.1%). Patients tended to report more emotional and physical symptoms with a small difference on the prevalence between cancer settings. However, differences emerged in the types of problems reported, which may have implications for the structure of supportive care in these settings.

These findings provided evidence that a biopsychosocial screening program is feasible in a developing country. This screening assisted thousands of patients with psychosocial concerns, focusing on their needs. This training directly impacted the quality of clinical care provided at each institution.

eHealth and Web-based Support

646 | Patient and provider perspectives on web-based pain coping skills training to help patients manage persistent cancer pain

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Persistent cancer pain is common and inadequately treated. Behavioral pain interventions such as pain coping skills training (PCST—a cognitive-behavioral therapy-based intervention) are a recommended part of multimodal pain treatments. Yet they are underused in clinical care due to barriers such as the substantial resources required for in-person training and difficulties coordinating their use with clinical care. Delivering PCST via the web would reduce these and similar barriers. We conducted a pilot study of an 8-week, automated, web-based PCST program (PainCOACH) to determine its acceptability to patients and identify program features needed to meet their needs. We also conducted focus groups with health care providers to determine optimal strategies for coordinating the program's use with clinical care. Participants were 7 adults with cancer-related bone pain who completed web-based PCST at home, then completed an in-depth qualitative interview. Twelve health care providers who treat cancer-related bone pain attended focus groups. Qualitative analyses showed that patients reported strongly favorable responses to web-based PCST and described emotional and physical benefits. Many suggestions for adapting it focused on reducing barriers to completion specific to cancer patients' unique needs. Provider focus groups indicated a need to familiarize providers with PCST and to address concerns about overburdening patients; yet they would recommend the program to patients they felt could benefit. They suggested defining cancer pain broadly and having nurses or pharmacists help coordinate program use with clinical care. Thus, web-based PCST was acceptable and potentially efficacious, and findings identified a path to overcoming barriers currently limiting its use.

494 | Randomized Control Trial (RCT) of Online vs Presential Positive Group Psychotherapy.

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Positive Psychotherapy in Cancer (PPC) focus in positive human functioning, such as positive emotions, strengths, and personal meanings, in contrast to traditional therapies focused in ameliorating and control stress symptoms and emotional distress. Presential PPC has demonstrated its effectiveness in reducing distress in cancer survivors through promoting posttraumatic growth (PTG) (Ochoa et al., 2017). Online Psychological interventions could increase access to evidence-based treatments in cancer, but there is yet scarce evidence of their effectiveness in randomized control trials (RCT).

Aim: To analyze RCT preliminary results of PPC group therapy in two formats: Online (multi-videoconference) Positive Psychotherapy (OPP) vs Presential Positive Psychotherapy (PPP) to reduce emotional distress and facilitate PTG.

A registered RCT (NCT03010371) carries out during 2015-2016. A sample of 140 distressed cancer survivors were randomized to either OPP or PPP after completing primary cancer treatment. Hospital Anxiety and Depression Scale, Posttraumatic Stress Disorder Checklist-Civilian version and Posttraumatic Growth Inventory were used during the follow-up assessments: baseline, post-treatment (T1) and 3 months (T2).

Both, OPP and PPP, significantly reduce emotional distress and posttraumatic stress, as well as increase PTG after treatment. These benefits were maintained at 3 months' follow-up. Results showed no differences between groups therapies.

Online positive group psychotherapy is as effective as its presential format. Accessibility, anonymity and cost-effectiveness make face-to-face psychosocial online interventions a suitable alternative for patients with adjustment difficulties after cancer treatment.

738 | The Implementation of Online Cognitive Rehabilitation in Survivors of Adult Cancer: Exploring Engagement, Attrition, and Treatment Fidelity

Mary Mihuta; Heather Green

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Low engagement and high attrition are common challenges in web-based interventions. The measures of engagement typically described in the literature are not meaningful at measuring participant activity and can often be misleading. The purpose of this research was to develop an alternative method of measuring engagement in an online cognitive rehabilitation program.

A pilot study and randomised controlled trial (RCT) were conducted. Data from 60 participants were analysed from three intervention groups: pilot cancer group, pilot non-cancer group, and RCT cancer group. Groups completed the 4-week eReCog program composed of four online modules. Engagement scores were calculated based on activities completed in each module. Attrition, interaction with the program facilitator, and correlations with outcome measures were analysed.

Overall engagement levels were relatively high. The non-cancer group participated less than the cancer groups ($p < .001$) completing 78% of activity items, whereas the pilot cancer completed 92% and the RCT cancer group 87% of the items. Attrition was higher in the pilot

non-cancer group (24%) compared to the pilot cancer group (8%) and the RCT cancer group (16%). Total engagement was correlated with fewer prospective memory problems on Instrumental Activities of Daily Living ($p = .018$) and a trend towards greater improvement on Perceived Cognitive Impairment ($p = .096$).

Measuring completed activities in online interventions appears a more meaningful measure of engagement than other conventional methods described in the literature and has the potential to increase treatment fidelity in web-based research.

726 | App Intervention based on Mind Body Medicine for cancer patients (AIM-C)

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Mind Body Medicine (MBM) interventions are effective to reduce cancer-related distress if they are delivered in a face-to-face setting. We developed a MBM app with three different exercises (mindfulness meditation, guided imagery and progressive muscle relaxation), and we will evaluate the use and potential health benefits for cancer patients (registered at DRKS00010481).

In this prospective observational study with a mixed methods approach, 160 adult cancer patients can use the app for 20 weeks. Quantitative data include clinical data, self-reported health outcomes (i.e. PROMIS 29, HADS, FACT-G, Distress Thermometer) and treatment satisfaction via a continuous assessment in the app. Interviews with users and non-users give insights into feasibility. The study is guided by the RE-AIM evaluation framework.

The development of the MBM App was finished in April 2016, and the recruitment of patients started in July 2016. First data (February 2017; $N = 45$) about 10 week use showed that half of the cancer patients practiced with the app at least three times a week. The decline of the weekly use from the first week (mean > 4 times), to week 5 (mean > 3 times) to week 10 (mean about two times) is moderate. User acknowledged the easy to implement intervention in their daily routine. Non-users had extensive experience in meditation or did not enjoy the speaker's voice.

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Demoralization: State of the Art

823 | Comparison of demoralization in oncology and other the clinical settings

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The aim of the study was to explore the differences between demoralization dimensions among cancer patients, patients affected by other medical conditions and psychiatrically ill patients.

A series of patients with cancer ($n = 198$), with other medical conditions ($n = 210$) and with psychiatric disorders (anxiety and depressive spectrum disorders) were submitted to the Demoralization scale (DS) and the DCPR interview and to assess demoralization and the Prime MD Patient Health Questionnaire (PHQ-9) to assess depression.

Loss of meaning and purpose, disheartenment, dysphoria and sense of failure were found as part of the construct of demoralization in cancer patients with some differences in medically ill patients and psychiatrically ill patients. Demoralization was found to be an independent construct with respect to major depression, with more depressed patients also being demoralized, but not moderately demoralized patients.

The study indicates some differences in the demoralization construct between patients with different diseases, although the general level of demoralization was quite similar across the samples.

796 | The 1-year longitudinal association of demoralization and depression

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Demoralization and depression occur frequently among patients with cancer. Little is known about how these states may affect each other over the course of the disease. We aimed to identify the reciprocal longitudinal relationship between demoralization and depression over 12 months.

We recruited a mixed sample of 315 patients after admission to inpatient and outpatient oncology clinics (68% advanced cancer, 69% female, 52% breast/gynecological cancer, 48% lung/gastrointestinal cancer). Patients were reassessed after 6 and 12 months (65%) and completed the Demoralization Scale (DS) and the PHQ-9. We estimated the longitudinal relationship between demoralization and depression through a parallel growth curve model controlling for demographic and disease-related factors.

Baseline levels of demoralization and depression were significantly associated ($est = 22.7, p < .001$). Over 1 year, demoralization and depression did not change for the total sample ($est = -0.4, p = .86$ and $est = 0.3, p = .67$); the magnitude and direction of demoralization changes however varied across patients ($est = 53.7, p = .04$). Overall, the direction and magnitude of changes in demoralization and depression were significantly associated ($est = 18.2, p < .001$). Higher baseline levels of depression were associated with decreases in demoralization ($est = -9.6, p < .001$). However, higher baseline levels of demoralization were not significantly associated with decreases in depression ($est = -7.1, p = .06$).

Conclusions: Although the longitudinal trajectories of demoralization and depression were interconnected, there was considerable heterogeneity in the evolution of these states. While distress tended to decrease over time with higher baseline depression levels, high levels of demoralization could be associated with any trajectory, including decreases and further increases of depression.

794 | Characterization of demoralization and depression symptoms in 660 cancer outpatients

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To evaluate demoralization and depression symptoms in cancer patients.

Adult patients ($N = 660$) seen in the MDACC outpatient psychiatry oncology clinic (June-December 2016) who provided informed consent were included. Assessments included the Demoralization Scale-II (DS-II), including Meaning/Purpose (M&P) and Distress/Coping (DC) subscales. The PHQ-9 was used to measure depression. Data are shown for a single visit for each patient.

The data show significantly higher DS-II total scores, and subscale scores, among females (compared to males), in younger patients (compared to older), and in those with "alone" marital status (compared to those in a committed relationship) (all p 's $< .0001$). Using simple linear regression, a significant positive correlation was detected between DS-II total scores and PHQ-9 scores ($R = .72, p < .0001$). There were linear significant increases in PHQ-9 scores according to DS-II scores (Low→Med→High; Robinson&Kissane 2016) ($F_{2,657} = 251.3, p < .0001$). Similarly, there were linear significant increases in DS-II scores when evaluated according to 5 established PHQ-9 categories (None→Severe) ($F_{4,655} = 156.9, p < .0001$). Importantly, there were linear significant increases in DS-II scores when evaluated according to PHQ-9 Question 9 (suicide categories) ($F_{3,654} = 93.2, p < .0001$).

The data indicate a broad distribution of demoralization scores in this cohort of cancer patients and that there is a high correlation between demoralization and depression symptoms. Notwithstanding, there were notable incidences of high demoralization and low depression, suggesting that demoralization may be an important stand-alone construct in psychiatry.

Funding: The Hackett Family

627 | High demoralization in a minority of oophorectomized BRCA1/2 mutation carriers influences quality of life

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Demoralization is a relatively neglected issue in which low morale and poor coping result from a stressor such as familial cancer risk. Female *BRCA1/2* mutation carriers are highly susceptible for developing cancer. The aim of this study was to evaluate demoralization in oophorectomized *BRCA1/2* mutation carriers and its relation to quality of life.

This cross-sectional study examined 288 oophorectomized *BRCA1/2* mutation carriers using the following standardized self-report measures: Demoralization Scale, EORTC Quality of Life Questionnaire-C30, State-Trait Anxiety Inventory, and the Cancer Worry Scale.

The mean score on the Demoralization Scale was 17.8 (SD 14.0). A clinically significant level of demoralization, defined as a score ≥ 30 , was found in 45 *BRCA1/2* mutation carriers (16%). Being highly demoralized was associated with a significantly lower quality of life, and higher levels of physical problems, anxiety, and cancer worries. No demographic or clinical factors could predict higher levels of demoralization.

Our findings established that a clear proportion of oophorectomized *BRCA1/2* mutation carriers experience demoralization impacting on their well-being. Further research is needed to explore the natural trajectory of demoralization and the resultant need for support in these women.

Dyadic Coping in Cancer: Strategies and Outcomes in Different Cancer Sites

441 | Dyadic Coping and its Associations with Psychosocial Outcomes in Hematologic Cancer Patients and their Partners

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The way couples mutually cope with cancer is likely to influence intrapersonal outcomes (e.g. Quality of Life, QoL), interpersonal outcomes (relationship satisfaction, RS), and care provision-related

outcomes (supportive care needs, SCN). Therefore, this study evaluated the associations between Dyadic Coping (DC) and these outcomes in hematologic cancer patients and their spouses.

330 patients with a hematologic malignancy (63% male) and their partners completed Dyadic Coping Inventory (DC), SF-12 Health Survey (QoL), Partnership Questionnaire PFB-K (RS), and Supportive Care Needs Survey-SF-34-G (SCN) within a longitudinal study. Correlational analyses and actor-partner-interdependence-models (APIM; actor effects represent intrapersonal impact and partner effects interpersonal impact within the dyad) were calculated to estimate the concurrent associations.

QoL: Within the APIM, there were partner effects of common DC and evaluation of DC on physical QoL and actor and partner effects of partners supportive DC on mental QoL. **RS:** Higher positive DC was associated with higher RS, as well as more negative DC with lower RS. **SCN:** A higher partner's negative DC was associated with higher SCN for both patients and partners. The same was true for patient's own stress communication and SCN, but only for the patients.

Patients as well as partners should be seen as both a source of support for each other and as individuals in need of support themselves. Due to these findings, stress communication and positive as well as negative dyadic coping behaviours may be useful targets for psychosocial interventions for couples.

450 | Couples Coping with Breast Cancer across the Lifespan: An Examination of Dyadic Coping in Younger and Middle-aged Dyads

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The association between dyadic coping and relational and psychological well-being has been confirmed across different samples. However, a significant gap in the literature is the understanding of how dyadic coping originates and is associated with individual and relational outcomes across the lifespan. This presentation describes the differential impact of cancer on the dyadic coping behaviors of younger and middle-aged dyads coping with breast cancer.

A total of 86 couples participated in this cross-sectional study. The sample was divided into 35 younger and 51 middle-aged dyads based on the age of the woman at diagnosis (cut-off: 45 years). Patients and partners completed measures of quality of life, dyadic coping, and mutual emotional support. The Actor-Partner Interdependence Model (APIM) examined actor and partner effects of mutual emotional support on dyadic coping using multilevel modeling.

Younger women and their partners reported statistically significant worse quality of life and dyadic coping scores than the middle-aged group. For younger couples, positive and negative dyadic coping styles were the result of both actor and partner effects of mutual emotional support.

Younger couples' adaptation to breast cancer is significantly influenced not only by the more negative impact of the illness on their quality of life but also by the higher interdependence of mutual emotional support when predicting both adaptive and maladaptive dyadic coping. Future research should focus on the development of psychosocial interventions to promote younger couples' positive adaptation to cancer.

232 | Satisfaction with Dyadic Coping and Sexual Inactivity in Couples Dealing with Breast Cancer – a Longitudinal Study

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Diagnosis and treatment of breast cancer may profoundly affect a couple's sex life, and couples may cease to engage in sexual activity. Knowledge is needed on factors that predict sexual inactivity after diagnosis. Factors related to the couple relationship may be particularly important. The purpose of the present study is to investigate whether patients' and partners' global satisfaction with their dyadic coping predicts couples' sexual inactivity over time.

A nationwide cohort of 792 women diagnosed with breast cancer and their cohabiting male partners was established in Denmark. Couples received questionnaires at baseline (≤ 4 months following surgery) and 5 and 12 months later. An item from the PROMIS[®] Sexual Function and Satisfaction measure (version 1.0) assessed whether patients and partners had been sexually active in the past 30 days. Global satisfaction with dyadic coping was measured by the evaluation of dyadic coping subscale of the Dyadic Coping Inventory. Mixed-effect logistic regression will be used to assess associations of satisfaction with dyadic coping and sexual inactivity over time. The analyses will be adjusted for register-based sociodemographic, breast cancer-related and other health-related factors.

We hypothesize that couples are more likely to be sexually inactive if patient's and partner's satisfaction with dyadic coping is low. The analyses are ongoing and will be presented at the IPOS conference.

The study will shed light on the role of dyadic coping in couples' sexual activity after breast cancer. This knowledge can be used in interventions targeting couples who experience sexual problems following cancer.

448 | Dyadic Coping in Patients with Prostate and Laryngeal Cancer and Their Partners

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A cancer diagnosis frequently leads to maladaptive patterns of interaction between patient and partner, which negatively impacts the couple's relationship functioning. There is some evidence emerging that dyadic processes, specifically communication and dyadic coping (DC), may be involved in the adjustment process for both partners.

The present study sought to examine DC among couples facing laryngeal ($n = 21$) or prostate cancer ($n = 52$). All patients were male, all partners female.

Results show that for both men and women, negative DC scores far below the average value of healthy couples were reached whereas stress communication was below the average. Regarding cancer-specific differences, it seems that couples coping with prostate cancer express more negative DC (demonstrated through higher negative DC as well as lower supportive DC) than did couples with laryngeal cancer. Patients differ in part from their partners, particularly regarding own DC and stress communication. In both samples, higher age was associated with more DC. Furthermore, for couples with prostate cancer, higher own stress communication of the men was associated with lower cancer-related distress of the women, whereas for couples with laryngeal cancer, lower stress communication of the men was related to higher cancer-related distress of the men and higher negative DC of the women.

Psychosocial interventions to improve dyadic coping, especially stress communication, may lead to less cancer-related distress among patients and their partners.

Partnership and Sexuality

539 | Phase II feasibility study of rekindle: an online psychosexual intervention for cancer survivors and/or their partners

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Deteriorating sexual well-being can impact long-term quality of life for cancer patients. Rekindle is an online intervention aimed to provide accessible and tailored psychosexual support to cancer survivors. This study assessed feasibility of delivering psychosexual support via Rekindle to cancer survivors/partners with unmet sexual concerns.

Methods: This phase II study, recruited Australian adult cancer survivors who had completed primary therapy >6 months earlier and/or partners. Participants were randomized 1:2:1 ratio to either: (i) wait list control (WC); (ii) Rekindle (10-week online intervention addressing psychoeducational sexual communication and function) (Int); (iii) Rekindle Plus (Rekindle intervention plus three support calls) (Int+). Intervention ran for 10 weeks, after which WC group accessed Int. Assessments: baseline (T1), intervention end/10 weeks (T2), and 6 months (T3). Primary feasibility end point was proportion of participants completing prescribed intervention modules.

Results: 2015-2016, 100 participants were randomized: WC:19, Int:54, Int+:27. Baseline characteristics were matched across groups. 57% were male and 91% cancer survivors; 46% had prostate cancer. Participants were prescribed mean of 6.5/7 modules based on self-reported unmet sexual needs. They completed mean of 1.9(Int) and 2.5(Int+) modules with 30%(Int) and 38%(Int+) completed within 10 weeks. Majority of users (94%, 100%) commenced Module 1; largest drop-out between occurred between Modules 1 and 2. Once started, most participants completed each module (76-100%). The mean number of days taken to complete each module varied (4-14 days).

Conclusions: This study demonstrated: need for psychosexual support among cancer survivors; feasibility of online recruitment and online delivery of intervention for sexual concerns.

229 | Reaching Milestones of Psychosexual Development and Perceptions of Timing among Adult Survivors of Childhood Cancer

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Previous studies reported mixed findings about whether adult survivors of childhood cancer delay psychosexual development to a later age, but no study has examined survivors' attitudes regarding the timing of reaching these milestones.

Young adult survivors of childhood cancer ($N = 89$, mean age = 30, $SD = 5$) indicated whether and at what age they reached five milestones of psychosexual development (i.e., first kiss, first boy/girlfriend, first physical intimacy, sexual debut, first time in love) and how they

felt about the timing (i.e., right time, wishing it happened earlier, wishing they had waited).

Most survivors had reached all milestones. On average, survivors had their first kiss at age 14.6 ($n = 82$; 92%), first physical intimacy at age 16.3 ($n = 79$; 89%), first boy/girlfriend at age 17.7 ($n = 80$; 90%), sexual debut at age 18.7 ($n = 75$; 84%), and fell in love for the first time at age 18.8 ($n = 80$; 90%). Timing of milestones did not differ by gender ($ps > .37$). Most survivors felt they reached these milestones at the right time (~60%) which was again similar for male and female survivors. Compared to US norms, survivors delayed sexual debut ($M = 16.8/17.2$ years for male/female norms vs. 18.5/18.9 for male/female survivors; $ps < .001$), yet 31% wished that they had waited longer and 59% felt that the timing was right.

Although survivors of childhood cancer may delay milestones of psychosexual development, most are content with this timing. It is advised to emphasize the psychological aspect of psychosexual development by also considering survivor's feelings/satisfaction, rather than focusing only on achieving normative steps.

116 | Couples Coping with Cancer Together: A Realistic Strengths-based Strategic Program Integrated as the Standard of Medical Care for Breast Cancer

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Biopsychosocial problems are inevitable consequences of serious illness. Research shows that women diagnosed with cancer and their partners report high levels of distress. Women have better psychological adjustment to their illness if partners are emotionally supportive. Despite this, there is a dearth of couple-based interventions, and those programs that have been published are often unrealistic for the current health care environment.

Couples Coping with Cancer Together (CCCT) was developed from research, feedback from patients/partners and clinical experience. The theoretical framework integrates strength-based and strategic interventions including biopsychosocial distress screening, a standardized psychoeducational couple's session prior to initial medical consultation, short-term couples counseling, and group intervention. The goals are to maximize the couple's ability to collaborate in medical care, solve problems together, be more connected and aligned with each other.

CCCT is the only program that we are aware of that has prospectively screened over 550 breast cancer patients/partners simultaneously for distress and satisfaction. For example, the highest endorsed items (moderate/severe distress) were as follows: patients-treatment side effects (57.4%), feeling anxious or fearful (45.3%). Partners-feeling anxious or fearful (27.8%), worry

about future (26%). Over 300 patients/partners were anonymously queried for satisfaction: *I recommend this program, for other patients/partners* (patients 94.6%, partners 96.6%). Additional data and analyses will be presented.

Treating physicians have reported that patients/partners are calmer and can focus more fully on making informed medical decisions as compared to those who do not participate in CCCT. Due to this success, CCCT expanded and the demand from both patients and physicians only continues to rise.

128 | Quality of Life and treatment satisfaction of men who have undergone penile prosthesis surgery following radical prostatectomy for prostate cancer

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Many men report dissatisfaction with sexual functioning post-radical prostatectomy (RP) for localised prostate cancer. Penile prosthesis surgery is a last-line treatment to regaining sexual function. This study aimed to assess quality of life and treatment satisfaction of men undergoing penile prosthesis surgery and their partners.

Participants were patients who had undergone penile prosthesis surgery following RP between May 2010 and May 2015. Seventy-one patients and 43 partners completed the Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS-Patient/Partner version), Prostate Cancer-related Quality of Life Scale, Self-esteem and Relationship Questionnaire, Generalised Anxiety Disorder-7 and Patient Health Questionnaire-9. Patients also completed the Expanded Prostate Cancer Index-26 (EPIC-26) and Prostate Cancer-related Quality of Life Scale. Regression analyses were conducted to determine psychosocial factors associated with treatment satisfaction and sexual function.

Ninety-four percent of men reported satisfaction with treatment (EDITS > 50), and 77% reported good sexual function (EPIC-26 > 60). Lower depression scores were associated with higher sexual confidence and sexual intimacy, and this was correlated with better treatment satisfaction and sexual function. Patients experienced higher relationship satisfaction than their partners, but there was no difference in treatment satisfaction between patients and partners. A smaller difference in depression scores between patients and partners was associated with patients reporting higher treatment satisfaction. Prostate cancer survivors report good sexual function and treatment satisfaction following penile prosthesis surgery. Given that the psychological functioning of patient and partner was associated with treatment satisfaction and sexual function, it is important to provide pre-operative counselling to patients prior to surgery.

834 | Erectile functioning and satisfaction with sexuality in men with localized prostate cancer depending on treatment strategy

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Treatment for localized prostate cancer (PCa) can cause long-term changes in sexuality. In this context, satisfaction with sexuality is an important, yet almost unnoticed factor. We therefore aimed at assessing satisfaction with sexuality and its relationship with erectile functioning and self-esteem among different treatment groups.

We matched patients initially managed with Active Surveillance (AS) or radical prostatectomy (RP) ($N = 292$) according to length of therapy (47.9 ± 15.4 months). $N = 150$ men with no diagnosis of PCa served as control subjects. Subjects completed mailed questionnaires assessing sociodemographic variables, changes in erectile functioning, self-esteem, and satisfaction with sexuality.

Differences among the three groups were calculated using ANOVA, relationships of physiological and psychosocial variables with satisfaction with sexuality using sequential multiple regression.

Men were on average 69.2 ± 7.6 years old. Groups differed in erectile functioning, self-esteem, and satisfaction with sexuality ($p < .001$), with men after RP reporting the lowest values, respectively. Almost 23% of the variability of satisfaction with sexuality was explained by erectile functioning and self-esteem ($\beta R^2 = .229$, $p < .001$). The association of erectile functioning and satisfaction with sexuality was mediated by self-esteem ($z' = -7.74$, $p < .001$).

The possible impact of PCa treatment on sexual life should be discussed before treatment and may deserve attention in the long term.

Developments in Psycho-oncology in Central-Eastern Europe

267 | Psycho-oncology capacity building in Armenia and Serbia: first steps and future plans

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The term "psycho-oncology" was first introduced to the Armenian society during the 2014 roundtable-discussion "Psycho-oncology: on the crossroads of psychology and oncology" initiated by the Yerevan State University Center of Applied Psychology. Thus, of this meeting between psychologist and oncologists, a decision was made about the need of advancing psycho-oncology in Armenia as a distinct discipline. To address the situation, the "Development of Psycho-Oncology in Armenia" initiative group was established in 2014 on the foundations of the Yerevan State University Center of Applied Psychology.

Because of the rigorous efforts of the group, the Armenian Psycho-Oncology Association (APOA) was founded in March 2016. APOA aims to introduce and promote the ideology of psycho-oncology, establish multidisciplinary cooperation, create a system of education and define and introduce relevant standards.

Despite the various crisis and social pathologies in Serbia in the last 5 years, some of the first important pioneer steps have been made in psycho-oncology field: psychologists and social workers are being hired in oncology departments all over Serbia and there are about 15 psychologists and psychotherapists who actively working with oncology patients in government and non-government settings. Further, there are several active oncology patients' associations in Serbia and they occasionally engage psychologists and social workers for their members. The oncology patients' associations (e.g. NALOR) have increased awareness and knowledge of the professional community and public about the importance of providing psychological and social support to the oncology patients.

606 | Psycho-oncology team-work in Hungary and Slovenia: current status

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The National Institute of Oncology of Budapest is the methodological, organizational, cancer prevention, training, treatment, and scientific coordinating center for Hungarian oncology. The Institute conducts its treatment activities at 10 inpatient and four diagnostic departments, with the assistance of 922 people, utilizing 344 beds. At the National Institute of Oncology of Budapest, the Psycho-Oncology Outpatient Clinic is the part of the Department of Rehabilitation. The psycho-oncology team has 7 members and they are assigned to various departments focusing on therapeutic interventions, research and ambulatory care.

The beginnings of psychosocial oncology in Slovenia reach in 1984, when the Department of psycho-oncology at the Institute of oncology Ljubljana was established. This date coincides with the establishment of IPOS. In the 30 years that had passed since, psycho-social oncology has become available in the other hospitals treating the cancer patients too. Association of psychosocial oncology and palliative care within the Chamber of Clinical Psychologist of Slovenia began its life in 2013. It brings together five clinical psychologists working predominantly with the cancer patients and 13 other clinical psychologists only part-time working in cancer area. Recently we have been invited to participate in shaping the national cancer control and palliative care programs. Current state of psycho-oncology is being predominantly marked by

poor availability of psychosocial care due to understaffing, limited access to education in the field of psycho-oncology and difficulties in research work. We are still having as a challenge an implementation of screening for the emotional distress as the sixth vital sign.

269 | Experience of state educational training in psychosocial oncology: best practice from Russia

Natalia Rivkina

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In 2011, Russia was under strong social unrest regarding high rate of suicide among cancer patients. This unrest was initiated by patient's organizations and further spread by mass media. A lot of articles, TV talk-shows and discussions, documentaries on the subject were promoted by the most rated TV channels and programs in Russia. This wide movement powerfully influenced the government decision regarding the importance and development of psychosocial care system for cancer patients and their families. The first logical step was to create postgraduate training on psycho-oncology.

Since 2013 the Russian Academy of Psycho-Oncology, under the supervision of IPOS, has grown to State postgraduate training program on psychosocial oncology. In 2016 more than 450 oncologists, psychiatrists and palliative care doctors attended the WHO-IPOS training sponsored by Moscow State Department of Health, which included diverse areas of psycho-oncology.

As a result, Moscow health care system is now seeking ways to make psycho-oncology services part of complex treatment of cancer patients.

605 | Clinical practice guide in psycho-oncology: an example from Romania

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In the Romanian public medical system, psychosocial assessment is not integrated into routine oncological treatment and care. Per APSCO research data, cancer distress is recorded in about half of the Romanian cancer inpatients, the maximum admissible level. In this context, creating a clinical practice guide in psycho-oncology is one of the first actions needed to be taken. This guide corroborates clinical experience from within the Romanian oncology system, psychosocial resources available to Romanian professionals in cancer care and best practice recommendations from psycho-oncology literature, including the IPOS International Quality Standard of Cancer Care. The intervention scenarios presented here are consistent with care requirements implied by the oncology

hospital system in Romania. The therapeutic act involves three structural stages (initial, intermediate, final) of psycho-oncological intervention, several therapeutic targets and cancer-specific intervention techniques being presented in detail for each stage. Several best practices for doctor-patient communication and psycho-oncological intervention, as well as recommendations for a comprehensive care considering the patients' needs to maintain continuity and quality of life during hospitalization and rehabilitation have resulted from this line of action.

Life in Transition: How Do We Experience Ourselves before and after a Cancer Diagnosis?

659 | The changes that cannot change: the role of personality and self-regulation across cancer trajectory

Simone Cheli

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In the last few years, we outlined three studies in order to explore the role of personality and self-regulation processes across cancer survivorship. We especially focused on the following research question: How does cancer diagnosis affect and modulate the patient's changes in personal and interpersonal processes?

The most of the studies aimed to evaluate the mediating or predictive role of personality in cancer trajectories report small effect sizes. On the one hand, they assume that a few traits may predict the psychological adjustment and symptomatology in cancer patients. On the other hand, we know that chronic and post-traumatic stress generally reduces the self-regulation abilities and may activate maladaptive schemata.

We decided to perform a few in depth qualitative analyses of constructs we assume that are highly relevant in experiencing life-after-cancer. All the data are collected through structured interviews and standardized questionnaires. In the first study ($n = 57$), we explore the construct of quality of life that patients define as a "return back-to-life" before cancer. In the second study ($n = 68$), we highlight the patients' maintenance of personality traits and exacerbation of pre-existing maladaptive interpersonal schemata and metacognitive strategies. In the last study, we extensively explore in a subsample of patients and caregivers ($n = 24$) the personality and self-regulation processes.

All the results seem to highlight how the changes patients experience are constrained by ontogenetic metacognitive and interpersonal patterns. Further studies are needed in order to clarify how lifelong processes, rather than traits or symptoms, may predict specific trajectories in adjusting to cancer.

661 | Childrens' and adolescents' experiences with loss

Maria Die Trill

Atrium: Psycho-Oncology & Clinical Psychology

The purpose of this study was to understand children's experience with a significant loss and to identify parental and teachers' behaviors around such losses. 269 children (11–15 years) responded to a structured questionnaire at school. Children were also asked to make a drawing related to their loss.

A pilot analysis of ten 11-year-olds showed that all had experienced a loss (5 grandparents); most learned about the death from a family member, but 20% had to ask before they were told. Sadness (70%), desire to cry (40%), need to see the deceased (60%) and fear (10%) were common initial reactions. Children remember how they were given the information vividly & with detail. None were allowed to attend funeral despite them requesting to do so, and only 20% were allowed to attend the burial. All children have clear memories of the deceased regardless of the time that had passed since the loss. All described intense experiences they learned from the deceased: "I learned to live each day as if it were the last one in my life," "I learned helping others is always rewarding." Difficulties teachers and parents have in communicating with children about death & dying have been identified in the study.

We will present the results of the 269 interviews and the development of a 3-year school program in death education (parents, children and teachers). How early death experiences may influence later life will be discussed.

660 | Do you know who i am? who am i?

Lea Baider

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How do older adults respond when asked the question: "Who am I?" How do older adults diagnosed with cancer perceive their past, present, and future selves?

How does one identify oneself, and how in turn, is one identified by others?

How do older adults with cancer maintain positive well-being in the face of stressors associated with aging and illness? In cultures where age is not measured by years since birth, most individuals do not know how old they are in years.

Depending on the cultural, social, and religious process of socialization, aging can be seen as an undesirable phenomenon: a decrease in physical beauty, bringing one closer to death. Or it can be seen as an accumulation of wisdom, understanding, mark of survival and status worthy of respect. In some cultures, numerical age is socially relevant. Others find it to be a stage in life where one has reached, and achieved, meaning and creativity; the most important time in life.

We will present different views of "Who Am I?" in older aged patients diagnosed with cancer.

662 | Acquiring communication skills is needed to ensure optimal professional transitions in a clinician life

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Transitions in a clinical life may be stressful. Enriching communication with patients may facilitate these transitions. Communication in cancer care is stressful for physicians as they have to break bad news, inform patients about highly complex treatment procedures, ask for informed consent. Physicians moreover have reported that this stress lasts beyond the interaction. It should be recalled that physicians often have to communicate with depressed and anxious patients and their relatives and to deal with uncertainties and fear of death and dying. There are now patient-centered models of care implying that physicians need to tailor information to every patient's needs in order to promote recall of information, to facilitate decision-making, to improve satisfaction. These models have moreover placed the responsibility of identifying patients' needs on the professional agenda of physicians. Contrary to communication skills characteristic of common social conversation, important professional communication tasks are not learnt spontaneously in the course of a clinical career. Health care professionals in cancer care thus face very diverse and highly complex communication tasks for which they should be trained. In the last two decades, communication skills training programs designed for health care professionals working in cancer care have been the focus of several research endeavors of our group. The efficacy of these communication skills training programs has been tested in studies using controlled design. All our studies included a microanalysis of patient-physician interactions in simulated and actual consultations. This presentation will focus on lessons which may derive from several microanalytic studies of these interactions.

Psychological Challenges for Health Care Professionals

924 | Aggressiveness, depression and burn out: what's new

Marco Romeo; Riccardo Giampieri; Tania Meletani;
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Three questionnaires have been administered to all the staff working at Ancona Hospital from February to April 2016: the Link Burn-out Questionnaire (LBQ), the BDI II and Staxi-2; 72 operators have been included in our analysis; Male/Female ratio was 18/54. Median age was 37 years (20-62).

LBQ scale showed that only 5 operators (7%) had high risk to develop burn out syndrome: 3 operators according to the relational deterioration scale and 2 operators according to the disillusion scale. In particular 28 operators (39%) had risk to develop relational deterioration: 3 operators (4%) had high risk and 25 (35%) operators moderate risk to develop relational deterioration. 2 operators (3%) had high risk to develop disillusion. Psychophysical exhaustion was observed in 21% of the sample.

BDI scale showed that 8 operators (11%) presented depression (BDI score ≥ 13).

41 operators (57%) manifested sleep problems, 47% of the sample (34 operators) fatigue, 32 operators (44%) had agitation, 24 operators (33%) self criticism and 23 operators (32%) had loss of sex drive.

STAXI-2 showed that 11 operators had high expression of aggressiveness, furthermore 7 operators (10%) showed over-control.

In our analysis depression was not related to operators' age, years of work, professional role and relational decline, while a statistically significant association was observed between depression and professional ineffectiveness ($p = 0.042$), disillusion ($p = 0.0003$) and psychophysical exhaustion ($p = 0.00001$).

Aggressiveness was related to depression ($p = 0.001$), disillusion ($p = 0.009$), relational decline ($p = 0.319$) and psychophysical exhaustion ($p = 0.012$).

445 | Personality and burnout in oncology setting

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The aim of this study is to explore the relationship between the personality and burnout of the oncology staff.

532 oncology staff, including 168 doctors and 364 nurses, were recruited via the Peking University Cancer Hospital. Participants completed an anonymous online questionnaire, which included measures of demographic and work characteristics, Maslach Burnout Inventory-Human Services Survey (MBI-HSS), and Big Five Personality Scale.

Higher neuroticism predicted greater emotional exhaustion (EE) and depersonalization (DP) in doctors, nurses and pooled participants. Extraversion was associated with a decreased risk of emotional exhaustion among pooled and nurses group, and depersonalization in the doctors group. Agreeableness was independently associated with lower depersonalization in pooled participants and nurses group, and emotional exhaustion in the nurses group.

Personality was a powerful predictor of job burnout. Specific intervention strategies should be implemented to prevent job burnout according to the personality.

447 | The use of art making in psycho-oncology to reduce physician and clinician burnout

Johanna Czamanski-Cohen

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The use of art making in psycho-oncology to reduce physician and clinician burnout.

The goal of this talk is to demonstrate how art making can be a useful tool in self-care of doctors and medical professionals and in the holistic treatment of patients.

The bodymind model of Art Therapy (AT), delineates the processes through which AT has salutary effects on individuals (Czamanski-Cohen & Weihs, 2016). Art making is particularly helpful in accessing emotional material. We gain access to our emotions through a process that is interoceptive (relating to stimuli that arise within the body) or somatosensory (information that is perceived through touch, pain, temperature and body position and muscle length and tension) which is then "translated" to have emotional meaning. The goal of this model is to articulate how activation, reorganization, growth and reintegration of the self can emerge from bodymind processes activated by AT. Case examples will demonstrate the components of the model and their applicability to burnout prevention.

Medical professionals can use the artmaking process to express difficult emotions related to doctor-patient relationship, emotional responses to the situation of the medical profession and lack of resources for optimal care, feelings of despair when working with patients in end of life situations, and more.

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138 | Professional ethics, a central element in lived experience of professional providing genetic testing in oncology in France

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Over 25 000 oncogenetic consultations are held every year in France by oncogeneticists and genetic counsellors in order to assess individual risk of hereditary cancer and provide surveillance guidelines to individuals presenting a deleterious genetic mutation. This research aims to investigate three dimensions of lived experience of oncogenetic professionals and patients: doctor-patient relationship (practical dimension), social sharing of emotions (emotional dimension), social and professional representations (knowledge dimension).

We collected data from a qualitative study based on 27 semi-structured interviews with oncogeneticists (9) and genetic counsellors (18). Data

were analysed using both thematic analysis and interpretative phenomenological analysis.

Three keys elements have been identified as structuring practices and doctor-patients relationship in oncogenetics: providing reliable genetic testing, being able to convey clear and understandable information, and providing tailored care to patients at higher risk of developing cancer. Despite an inequality of knowledge that characterize doctor-patient relationships, genetic counselling aims to promote shared decision making and respect the individual and family's experience of each patient in order to provide tailored care. Social and emotional skills are developed by professionals over the course of their career and described are necessary to insure their efficiency. However, this communication model seems to be at risk because of complex technological innovations and a major increase in the number consultations. This research allowed us to explore the evolving context of oncogenetic, where professionals experience tensions between worries over ethical issues and enthusiasm over technological innovations.

449 | The psychosocial approach in cancer care: a small step to realise its importance, one giant leap to implement in practice.

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A multidisciplinary group of health care professionals was queried to explore their experiences in the delivery of psychosocial support or care to cancer patients.

An cross-sectional survey was conducted containing multiple choice and open-ended questions. Participants were recruited through hospitals, extramural professionals associations and discipline-specific networks. All participants were invited with the same e-mail containing the web-link to the online survey.

Three hundred sixty-eight health care professionals completed the survey. Thematic analysis of the answers on the open-ended question resulted in insights several aspects that hinder the provision of psychosocial support care for patients. Participants experience to have insufficient knowledge or education, problems in the communication with patients or other professionals, difficulties with referral, own emotional vulnerability and lack of empathy are experienced as personal shortages. The lack of opportunity to discuss psychosocial aspects, financial barriers, fragmentation and lack of integration of psychosocial care, shortages in follow-up of patients, and the accompanying paperwork are seen as characteristics of the health care system that need to be addressed in order to improve psychosocial support and care for cancer patients.

In the last decades the importance of integrated, patient-centred cancer care is emphasized. Health care professionals are sensitized

and recognize the importance of attention to and detection of psychosocial problems and needs in cancer patients. However, the multidisciplinary group of participants in this study experiences several personal and structural barriers that complicate the implementation of psychosocial support and care in everyday practice.

New Developments in the Treatment of Cancer-related Fatigue

321 | The Efficacy of Internet Therapy for Severe Fatigue in Breast Cancer Survivors: Results of a Randomised Controlled Trial

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Severe fatigue is a distressing symptom that occurs in one in four breast cancer survivors. Face-to-face cognitive-behavioural therapy (CBT) is an effective intervention for cancer-related fatigue, but treatment capacity is limited. To extend treatment options, we have translated this intervention into a web-based format. The aim of this randomised controlled trial was to compare the efficacy of the internet therapy with a waiting list for face-to-face CBT.

Severely fatigued, disease-free breast cancer survivors who had completed cancer treatment since at least 3 months were eligible. Participants were randomly allocated to the internet therapy or waiting list condition. Outcomes were assessed at baseline and after 6 months. The primary outcome was fatigue severity, assessed with the corresponding subscale of the Checklist Individual Strength (range 8-56), and secondary outcomes were functional impairment, psychological distress, and quality of life. Statistical effects were assessed with analyses of covariance (intention-to-treat). Participants were assigned to internet therapy ($n = 66$) or the waiting list ($n = 66$). At the 6-month assessment, participants in the intervention condition reported lower fatigue scores than participants in the control condition (mean difference (Δ) = 11.5, 95% confidence interval (CI) = 7.7 to 15.3). At 6 months, levels of functional impairment and psychological distress were significantly lower, and quality of life was higher in the intervention than in the control condition.

Internet therapy is an effective intervention and provides an additional, easier accessible treatment option for severely fatigued

breast cancer survivors. Results of this study justify implementation of the intervention on a broader scale.

394 | Internet-assisted Cognitive Behavioral Intervention for Targeted Therapy-related Fatigue

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Targeted therapies (e.g., tyrosine kinase inhibitors or TKIs) are increasingly being used to treat a variety of different cancer types. Although better tolerated than chemotherapy, a common side effect of targeted therapies is severe fatigue. The goal of the current study was to conduct an initial evaluation of an internet-assisted cognitive-behavioral therapy for targeted therapy-related fatigue (CBT-TTF) in patients receiving an oral TKI (e.g., imatinib) for chronic myelogenous leukemia (CML).

CML patients undergoing treatment with a TKI and reporting moderate to severe fatigue (i.e., ≥ 4 on a 0-10 scale) were recruited and randomized 2:1 to CBT-TTF or waitlist control. CBT-TTF consisted of up to 18 one-hour sessions to educate patients about adaptively coping with fatigue, delivered via videoconferencing. The primary outcome was group differences in change in Functional Assessment of Cancer Therapy - Fatigue (FACIT-F) score from pre- to post-intervention. A total of 19 patients [mean age 57 (SD = 14), 63% female] participated. Participants randomized to receive the intervention ($n = 12$) completed 10 sessions on average (range 1-14). Group by time ANOVA indicated that fatigue significantly decreased from pre- to post-intervention in the CBT-TTF group but not the control group ($p = .04$).

This study is the first to our knowledge to test a behavioral intervention for targeted therapy-related fatigue. Preliminary results suggest that CBT-TTF is efficacious in reducing fatigue and provide support for a future randomized trial of CBT-TTF in a larger sample of patients receiving targeted therapy.

638 | Why is patient recruitment for a fatigue interventional study in patients with incurable cancer so difficult? Lessons learned from the Dutch tired study

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The present study investigated the difficulties in recruitment of patients for a still ongoing three-armed multicenter randomized controlled trial (RCT) comparing a cognitive behavioural or exercise intervention with usual care for fatigued patients with incurable cancer. Figures on the availability of potential study candidates were derived from the Netherlands Cancer Registry (NCR). Recruitment rate per hospital was calculated. T-tests and χ^2 tests were used to examine differences between participants and non-participants in age, gender, and fatigue. Reasons for non-participation were recorded and other recruitment barriers were discussed in frequent study team meetings. Based on figures from the NCR, sufficient potential candidates were available for identification in the eight participating hospitals. From January 2013 to December 2016, 201 eligible patients were identified. In total, 122 participants were randomized (61%). The inclusion rate between centers varied largely (2-10 patients/year). Participants did not differ from non-participants in age ($p = .775$) or fatigue ($p = .719$) but male patients were more likely to participate compared to females ($p = .01$). The primary reason for non-participation was 'participation perceived as too burdensome' ($n = 41$; 52%). Both inclusion criteria and study procedures were too complicated, preventing quick identification of potential candidates by often busy nurses/oncologists. Engagement of research nurses proved to be vital in successfully identifying patients. We identified several difficulties with recruitment for our RCT (i.e. patient-related, study-related and medical team-related barriers). Sharing these lessons learned may help other investigators interested in undertaking similar palliative or supportive care RCTs.

639 | Cognitive Behaviour Therapy for Severely Fatigued Childhood Cancer Survivors: a pilot study

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Cancer-related fatigue is not only a common symptom in adult cancer survivors but also occurs in childhood cancer survivors (CCS). Cognitive-behavioural factors play an important role in the maintenance of severe fatigue in adult cancer survivors. There is considerable overlap in maintaining factors between both adult cancer survivors and CCS. This implies that cognitive behaviour therapy (CBT) for cancer related fatigue, an evidence-based intervention for severe fatigue in adult cancer survivors, would also be effective in CCS. We studied the effectiveness of CBT in a small cohort of severely fatigued CCS.

33 consecutively referred severely fatigued CCS were offered CBT based on an adapted treatment protocol for adult cancer survivors. Primary outcome was fatigue severity (Checklist Individual Strength, fatigue severity subscale). Secondary outcomes were functional impairment, psychological distress and quality of life.

The study population had a median age of 21 years and median time since cancer diagnosis was 10 years. Twenty-five CCS completed CBT. An intention to treat analysis showed a significant decrease in fatigue severity ($p < 0.001$), psychological distress ($p < 0.001$) and an improved quality of life ($p < 0.01$). Twenty-three CCS (70%) reported a clinically significant reduction of fatigue at second assessment.

In this pilot study a majority of severely fatigued childhood cancer survivors showed a clinically significant reduction in fatigue following CBT specifically aimed at fatigue. The next step would be to test the efficacy of this intervention for severely fatigued CCS in a randomised controlled trial.

Late and Long-term Symptom Burden and Distress

512 | Gender differences in insomnia symptoms and memory problems in adult survivors of childhood cancer

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Long-term survivors of childhood cancer are at-risk of developing sleep and memory problems. Few studies have examined the contribution of insomnia symptoms to memory function in this population and no studies have assessed gender differences.

642 adult survivors of childhood cancer (52.8% female, mean[SD] age 34.5[9.2] years, 25.9 [9.1] years since diagnosis) completed standardized assessments of memory. Insomnia symptoms were defined as

difficulty falling asleep within 30 minutes and nighttime/early morning awakenings (≥ 3 times per week). Functional impairment was defined as significant daytime fatigue or sleepiness. Multivariable regression models examined associations between sleep and memory, stratified by sex and adjusted for age, age at diagnosis, and primary treatment exposures (cranial irradiation, methotrexate).

More females than males reported insomnia symptoms (25% vs. 16%, $P = 0.004$) but no gender differences were observed on measures of memory (P -value range = 0.39 to 0.84). In multivariable models adjusted for cancer-directed therapies, insomnia symptoms combined with functional impairment were associated with worse performance on measures of short- ($P = <0.01$, $P = 0.013$) and long-term memory ($P = 0.01$, $P = 0.02$) in females and males, respectively. However, in females only, insomnia symptoms without functional impairment were associated with reduced verbal learning (females: $\beta = -0.46$, $P = 0.01$; males: $\beta = -0.18$, $P = 0.40$), short-term memory (females: $\beta = -0.50$, $P = 0.01$; males: $\beta = -0.11$, $P = 0.57$), and long-term memory (females: $\beta = -0.51$, $P = 0.01$; males: $\beta = -0.10$, $P = 0.58$).

Female survivors appear more vulnerable to the adverse effects of insomnia symptoms on memory even without significant daytime fatigue or sleepiness.

349 | The role of cognitive bias in relation to persistent distress among women diagnosed with breast cancer

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Persistent distress affects ~20% of women following breast cancer treatment completion. Cognitive bias, which reflects distorted threat-related information processing was examined by comparing women's attention to positively and negatively valenced stimuli between breast cancer (BC) survivors suffering persistent distress and those with low/transient distress.

In 140 female breast cancer survivors evidencing high-persistent or low/transient distress assessed using serial HADS scores over >12 months, cognitive bias was examined by computerized dot-probe tasks involving affect-related word and cancer-related word (CRI) stimuli, and an ambiguous cue task.

No significant difference in cancer-related interpretation bias was observed between groups. Furthermore, women with persistent anxiety ($F(1, 138) = 4.13$, $p < .05$ for affect word stimuli; $F(1, 138) = 5.59$, $p < .05$ for CRI stimuli) and those with persistent depression ($F(1, 138) = 7.38$, $p < .05$ for affect word stimuli; $F(1, 138) = 4.58$, $p < .05$ for CRI stimuli) demonstrated attentional bias for negative affect stimuli and for cancer-related words. Time course effects were also observed. Women with both types of persistent distress selectively over-attended to supraliminal negative affect-related and cancer-related words, but avoided subliminal negative affect-related and cancer-related words.

Attentional bias towards emotive stimuli reflects enhanced threat sensitivity in persistently distressed women, which may generate greater coping demand, occupying more cognitive capacity and helping to maintain high emotional tone. Interventions addressing information-processing bias may be useful in managing persistent distress.

815 | A descriptive study of monthly assessments of fear of cancer recurrence (FCR) amongst curatively treated breast cancer survivors 0-5 years after surgery

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Previous studies suggest one-third of breast cancer survivors experience elevated FCR and it remains stable. Most studies assess FCR around medical consultations, include long assessment intervals, and aggregate group data. This descriptive study aimed to assess FCR monthly and describe the proportion of women with a low, chronically elevated or a fluctuating course of FCR according to a clinically relevant cut-off. A secondary aim was to explore the association between FCR fluctuation and time since surgery.

Participants were 219 curatively treated breast cancer survivors 0-5 years post-surgery. Questionnaire data were collected monthly for 12 months. Primary outcome was FCR (Cancer Worry Scale (CWS)). Participants were classified as low (CWS ≤ 13 at each assessment) high (CWS ≥ 14 at each assessment) or fluctuating FCR (CWS scores above and below cut-off). Absolute change (delta) in CWS was calculated as the sum of monthly CWS change.

127 (58%) women reported CWS scores fluctuating above and below clinical cut-off, 47 (22%) reported high and 45 (21%) low course. There was no significant difference in the proportion reporting high, low and fluctuating course up to 2 years post-surgery compared with 2-5 years post-surgery. Absolute change in FCR was not significantly associated with time since surgery.

Assessed monthly, the majority of breast cancer survivors report FCR which fluctuates above and below a clinical cut-off for high FCR. Stepped-care models should assess FCR on multiple occasions and between consultations before offering tailored interventions.

879 | Impact of social status on long-term anxiety, depression and quality of life in prostate cancer survivors

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Studies across chronic conditions have reported worse psychosocial and physical well-being in patients of lower socio-economic status (SES). Aim of our study was to investigate the impact of SES on long-term anxiety, depression and health-related quality of life (HRQoL) in prostate cancer survivors after attending a rehabilitation measure.

Analyses were based on 837 employed prostate cancer survivors consecutively enrolled in a prospective multicenter study. Self-reported data on anxiety and depression (HADS) and HRQoL (EORTC QLQ-C30 functioning scales and prostate-specific module -PR25) were collected at the beginning of the rehabilitation measure, at the end, and at 12- and 36-month follow-up. We conducted ANOVAs with repeated measures (time, SES, time × SES) including baseline and both follow-ups. 576 (69%) survivors completed all questionnaires. SES was low in 18%, middle in 54% and high in 28% of survivors. Mean depression and most HRQoL scales improved significantly over time. Survivors with lower SES reported less favorable scores across most scales and during follow-up. We found SES to impact depression ($p = .003$), EORTC QLQ-C30 scales ($p < .001$ to $p = .008$; except for emotional functioning), and three out of six PR-25 scales ($p < .001$ to $p = .022$). Interaction effects were significant in depression, EORTC QLQ-C30 scales (except for emotional functioning) and PR-25 urinary incontinence. All effects were small to moderate ($\eta_p^2 = .013$ to $.072$).

Low social status is a relevant factor in long-term anxiety, depression and HRQoL after prostate cancer. Thus, special attention should be paid to the role of social inequalities during cancer rehabilitation and aftercare.

807 | Physical and psychological health status of cancer survivors following primary adjuvant treatment

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Cancer survivors experience ongoing health problems compared to general population. Sydney Survivorship Clinic (SSC) aims to help survivors better manage their disease and treatment effects. Here, we report the health status of cancer survivors post primary adjuvant treatment. Cancer survivors completed questionnaires assessing distress, symptoms, quality of life (QOL), diet and exercise before attending SSC. Attendees were seen by a multidisciplinary team (medical oncologist/haematologist, cancer nurse specialist, dietitian, clinical psychologist, and exercise physiologist).

A total of 242 survivors attended first clinic September 2013 to October 2016 with 225 survivors included in analysis: median age 55 years (range 21-86). Median time from diagnosis: 11.3 months (range 1.6-1284). Tumour types: breast 48%, colorectal 32%, haematology 16%, other 4%. Most (92%) had undergone surgery, 89% had received chemotherapy, 44% radiotherapy. Most common symptoms of at least moderate severity were fatigue (55%), insomnia (46%), pain (44%), anxiety (40%), numbness (39%), sore hands/feet (38%), trouble concentrating (35%), hot flushes (34%), memory problems (33%). Half (51%) had distress thermometer score ≥ 4 , meeting guidelines for further investigation. Overall, 63% were rated as having 'fear of cancer recurrence'; 28% referred for follow-up, 6% already linked with psychological services.

Mean overall QOL score (FACT-G) was 80 (SD 17), comparable to other cancer survivor cohorts, with physical and social well-being the domains most impacted.

Distress, fatigue, obesity and sedentary lifestyle are common, persisting years after cancer diagnosis. The SSC identifies important issues for cancer survivors and facilitates effective.

Cancer Rehabilitation

845 | Patient empowerment and self-management in cancer patients before and after inpatient rehabilitation program

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Since cancer survival rates have increased, coping, self-management and returning to daily life becomes more and more important for an increasing number of cancer survivors. Rehabilitation aims to support patients in their reintegration into daily life and to enable patients to manage their disease. In this study, we investigated changes in empowerment and self-management competencies of cancer patients during inpatient rehabilitation (mean duration 3 weeks).

104 cancer patients were assessed at admission and discharge from the rehabilitation clinic as well as 6 months post discharge. Patients answered questions about their health-related self-management using the Health Education Impact Questionnaire (HEIQ) with its eight dimensions. We conducted repeated-measures group (female, male) × time (admission, discharge, 6 months post discharge) ANOVAs.

Mean age of the patients was 62 years (SD = 10.1), 51% were male. Main diagnoses were tumours of digestive organs (40%), respiratory organs (13%) and the breast (12%). We found significant positive changes across time with regard to positive active engagement ($p = .013$, $\eta^2 = .042$), skill and technique acquisition ($p = .001$, $\eta^2 = .065$) and self-monitoring ($p = .001$, $\eta^2 = .069$). In the dimensions health directed behaviour ($p = .080$; $\eta^2 = .024$), emotional distress ($p = .265$; $\eta^2 = .018$), constructive attitudes ($p = .069$; $\eta^2 = .025$), social integration and support ($p = .389$; $\eta^2 = .009$), and health service navigation ($p = .203$; $\eta^2 = .015$) no significant changes were observed. Significant between-group differences (male, female) were only found for the dimension health directed behaviour ($p = .025$).

Inpatient rehabilitation programs can increase patient's self-management competencies and empowerment. However, the small effects over time indicate that rehabilitation is only one component to develop skills and behaviours to improve cancer survivorship.

537 | Addressing the consequences of cancer treatment: Findings from a mixed methods feasibility study of the Swallowing Intervention Package (SIP)

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Swallowing difficulties are a major consequence of head and neck cancer treatment and can have long-term detrimental impact on quality of life. Swallowing rehabilitation exercises should improve outcome, but a recent Cochrane review concluded that current evidence is insufficient to guide practice.

This study assessed the feasibility and acceptability of a co-designed Swallowing Intervention Package (SIP). SIP was designed from a biopsychosocial perspective, using evidence, behaviour change theory, consensus methods with staff, and focus groups with patients and carers.

Thirty-six patients were recruited to the intervention arm and seventeen to a 'usual care' control group. Process and outcome data were collected at pre and post intervention and at two follow-up time point using daily diaries, a Rehabilitation Intervention Beliefs (RIB) questionnaire, the MD Anderson Dysphagia Inventory (MDADI), and quality of life assessment tools (EORTC and EQ5D). Swallowing function was also assessed using standardised methods. Qualitative interviews with patients and health professionals were undertaken and thematically analysed.

Data will be presented on feasibility (recruitment, retention, impact on staff resource), adherence to exercises, and outcome differences between groups and over key time points. Statistical models will be used to ascertain likely key independent predictors explaining variability of the range of possible outcome measures.

This study adds significant insights into the barriers and facilitators to a swallowing exercise intervention and its potential impact on patient well-being. It provides a sound basis from which to develop a definitive, pragmatic trial to establish the effectiveness of swallowing exercise interventions.

324 | Psychological factors of success in speech rehabilitation after removal surgeries of head and neck tumors

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There is increasing number of cancers now, including head and neck tumors. Patients, who had undergone surgeries to remove these tumors, are faced problems in speech communication. So, speech rehabilitation is one of priorities in their rehabilitation. We have suggested that motivation of patients and their learning capacity can be psychological factors in success of speech rehabilitation. We have conducted research during 2 years with 54 patients (42 men and 12 women) aged 23 to 78 years after surgeries to remove head and neck tumors. The aim of logopaedic work was identification and inclusion of compensatory possibilities for improvement of speech communication. Patients were divided into groups according to degree of success in rehabilitation of speech function: (1) fully restored communicative function (44%); (2) significant improvement (15%); (3) communicative function wasn't restored (4%); (4) patients who didn't return to sessions (37%). To assess learning capacity we used Intellectual liability test. High results were shown by 12 patients (22%) and most of them (10 persons) were in first group. We can confirm that high learning capacity is important factor in success of speech rehabilitation. Achievement motivation test was applied to assess motivation of patients. Nobody showed high results; low and average results distributed almost equally within groups. We conclude that achievement motivation doesn't play fundamental role in success in speech rehabilitation. Based on interviews with patients we suggest that it is necessary to research such kind of motivation as need for communication with people.

134 | An international review and meta-analysis of prehabilitation compared to usual care for cancer patients

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Cancer patients are at risk of developing disease- and treatment-related effects. Providing support to patients in the period between diagnosis and treatment known as prehabilitation may help patients prepare for treatment and survivorship.

A systematic review was undertaken to synthesise RCTs that investigated the effectiveness of prehabilitation interventions compared to usual care for newly diagnosed, adult-onset cancer patients. Studies were included if disease- and treatment-related, patient-reported and health service utilisation outcomes were assessed. Two reviewers independently reviewed and appraised the risk of bias of each study. Sixteen studies were included. Interventions comprised exercise, psychology-based including psycho-education or pelvic floor muscle training (PFMT) across various cancer sites. Risk of bias was high or unclear for most studies. Meta-analysis was undertaken for some comparisons. PFMT improved urinary-related outcomes for prostate cancer patients. Although there were no improvements in functional ability or distress, there were improvements in quality-of-life. Psychology-based prehabilitation improved mood, physical well-being and immune function for prostate cancer patients, and lowered scores on psychological outcomes, fatigue and a trend for better quality-of-life among breast cancer patients. Exercise was beneficial for lung cancer patients in terms of pulmonary function, functional ability, health service utilisation and treatment-related complications. Also, education-only interventions appeared to benefit patients.

Prehabilitation has significant benefits for cancer patients, mindful of the relatively small and weak set of methodological studies. Rigorous pragmatic trials are needed and, particularly, to explore prehabilitation among other cancer sites and other treatment- and cancer-related effects. The cost-effectiveness of prehabilitation remains unanswered.

92 | Practice guidelines for psychological interventions in the rehabilitation of patients with oncological disease

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Goal of this project was to develop evidence- and consensus-based practice guidelines for psychological interventions in the rehabilitation of patients with oncological disease (breast, prostate, or colorectal cancer).

As the first step, we conducted a literature search to obtain an overview of recent evidence and guidelines. In addition, we surveyed oncological rehabilitation centers in Germany ($N = 145$) in order to explore the structural framework and practice of psychological services in oncological rehabilitation. Next, an expert workshop was held including national experts from scientific departments, clinicians from rehabilitation centers and patients. In this workshop, we agreed upon a first version of the practice guidelines. Afterwards, consultation versions of the practice guidelines were sent to all head physicians and senior

psychologists at oncological rehabilitation centers in Germany for approval ($N = 280$ questionnaires). In addition, we discussed the key recommendations with a convenience sample of rehabilitation patients. Finally, the expert panel revised the practice guidelines and made them available online to the public.

The practice guidelines have been widely approved by the expert panel, clinicians and patients. They comprise recommendations for psycho-oncological interventions that should be offered to all rehabilitation patients. They also include recommendations for specific problem areas concerning psychological functions, body functions, environmental, and personal factors.

The practice guidelines provide detailed recommendations for a high-quality standard of psycho-social care in oncological rehabilitation. They should guide multidisciplinary teams, especially psychologists and physicians, in their daily practice.

Psychological Interventions for Mixed Cancer Populations

523 | Existential cognitive therapy for terminal cancer patients with depression or demoralization: a randomized controlled trial

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Existential cognitive therapy (ECT) was designed for advanced or terminal cancer patients with depression or demoralization. The study aims to test the efficiency of the ECT for terminal cancer patients with depression or demoralization.

The study was conducted at MacKay Hospice and Palliative Care Center. All inpatients were tested the Distress Thermometer (DT) by nurses. When the score of DT ≥ 5 , the inpatients were invited by the research team (T0). The research assistant tested the Patient Health Questionnaire (PHQ-9) and the Demoralization Scale-Mandarin Version (DS-MV) for the participants (T1). When the PHQ-9 ≥ 10 or the DS-MV ≥ 30 were found, the participants randomized to the ECT group and the treatment as usual group (TAU group). Both participants tested again after 2 sections of treatment (T2) and 4 sections (T3).

There were 260 distress patients (DT ≥ 5). Excluding rejection and exclusion criteria, 43 accepted patients were randomized to the ECT group ($n = 21$) and the TAU group ($n = 22$). Because of transfer, discharge, or death, finally patients were 32 in T2 and 18 in T3. In the ECT group, the scores of mean at the 3 time points were 12.9 ± 5.2 , 11.7 ± 6.9 , & 11.0 ± 5.3 in PHQ-9, and 39.8 ± 18.6 , 35.1 ± 21.8 , & 34.4 ± 23.5 in DS-MV; in the TAU group, the scores were 10.6 ± 4.6 , 9.6 ± 6.3 , & 8.8 ± 5.4 in PHQ-9, and 32.1 ± 15.8 , 32.6 ± 18.8 , & 34.6 ± 17.2 in DS-MV.

The primary effectiveness of the ECT seems potential for the terminal cancer patients with depression or demoralization. However, we need larger participants to validate the model.

703 | Evidence based research on the role of hypnosis as a psychological intervention in the care of breast cancer patients: A randomised prospective controlled study

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In order to prove that hypnosis may have an important role in the medical care of breast cancer patients, it is indispensable to prove by evidence-based research that hypnosis as an adjunctive treatment has a beneficial effect on physical and psychological outcomes.

The present paper summarises the design of a randomised prospective outcome study in which the effect of hypnosis is compared either with the effect of musical assemblies (intervention groups), or with the data of control groups receiving special personal attention. In the intervention groups, patients, randomly assigned to the "hypnosis" or "music" groups, listen either to positive suggestions in hypnosis, or, as a control, to a music selection during cytostatic infusions and blood tests. The results are based on the data of 150 patients.

The patients receive 4AC and 12PAC chemotherapy treatments according to the international standard protocol. The quality of life, the psychological immune competence of the patients, their NK cell activity, and blood counts are measured before the first AC and the first PAC treatments, at the end of the chemotherapy protocol, and then for 3 years follow-up.

In summary, the main findings are promising, showing statistically significant positive effects of hypnosis in the changes of the quality of life, in some physiological indices (white blood cell number: monocyte number, absolute neutrophil number, NK cell activity), and posttraumatic growth. Data on survival, however, need a much longer follow-up period.

The research was supported by a grant from the Hungarian Scientific Research Fund (OTKA K 109187).

155 | Ecological momentary assessment of depressive mood ratings in group psychotherapy outcome trails: a pilot study on Romanian breast cancer patients

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Depression commonly co-occurs with cancer and a number of psychotherapies have proven efficacious in treating it. Although patients' moods fluctuate greatly, depression is viewed categorically and is rarely

assessed as a continuum of environmentally reactive fluctuations in mood. Our objective was to test a method that could capture more fully both depressive mood dynamics and the complexities of change across time attributable to psychotherapy.

Methods: Eighteen women with recently diagnosed breast cancer (stages I or II), ages 51-68 years (M = 59.44, SD = 4.87) participated in this pilot: 9 completed the manual-based group intervention and 9 were recruited as matched controls. Outcomes were assessed by repeated measures on a modified depression thermometer pre-, post- and during the intervention with a 1 day delay after each therapy session. A series of multilevel models (MLM) were used to analyze ecological momentary assessment (EMA) data and estimate between-person differences in within-person change.

Results: Despite low statistical power, the fitted models clearly show significantly different growth trajectories for the two groups. The best fitting random slopes and intercepts model depicted a small increase in depression as a function of time, but a moderate decrease in it accounted by the intervention x time interaction.

Conclusions: These findings suggest that, even with small samples, studies using EMA can adequately address the question of treatment efficacy. For future trials we propose an extension of the methods used here in order to account for both subject level and contextual/time-varying covariates, and therapist effects allowing for a stricter control for potential confounds.

426 | Positive Psychotherapy for distressed cancer survivors: posttraumatic growth facilitation reduces posttraumatic stress

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Positive psychotherapy for distressed cancer survivors:
Posttraumatic growth facilitation reduces posttraumatic stress.

There is increasing evidence that positive life changes, such as posttraumatic growth (PTG), can result from the experience of coping with cancer. However, no interventions have been specifically designed to facilitate the development of PTG in cancer.

In this article, we describe and assess the results of Positive Psychotherapy for Cancer (PPC) survivors. It aims to facilitate PTG as a way of achieving significant reductions in the symptoms of emotional distress and posttraumatic stress. In addition, the corroboration of this PTG facilitation is assessed using interpersonal indicators. *Method:* We allocated 126 consecutive survivors of cancer with high levels of emotional distress and who were seeking psychological support to either an experimental group (PPC) or a waiting list group.

The PPC group obtained significantly better results after treatment than the control group, showing reduced distress, decreased posttraumatic symptoms, and increased PTG. The benefits were maintained at

3 and 12 months' follow-up. Participants' PTG was correlated to the PTG that their significant.

others attributed to them, corroborating PTG facilitation.

PPC appears to promote significant long-term PTG and can reduce emotional distress and posttraumatic stress in cancer survivors. In addition, PTG facilitation induced by PPC is corroborated by significant others.

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Quality of Life at Different Cancer Stages

361 | Understanding the psycho-social impact of premalignant conditions: a mixed methods systematic review.

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Premalignant conditions such as cervical intraepithelial neoplasia and Barrett's oesophagus may impact on the health and well-being of patients. These conditions can affect adults at any stage of life and require lifelong follow-up.

We reviewed the research literature systematically regarding the effects of premalignant conditions on psychosocial health and well-being.

Databases PubMed, PsychInfo, Web of Science, EMBASE and Medline were searched from inception through to January 2016 to identify studies measuring quality of life(QoL) and/or the psychosocial impact of premalignant conditions. Studies were included if patients had a confirmed premalignant condition and there was a self-reported measure or qualitative assessment of their QoL/psychosocial health. Meta-analytic procedures were undertaken to combine findings from quantitative assessments of QoL and the results of qualitative assessments were synthesised by thematic synthesis.

In total, 76 articles, composing of 12,350 patients met the inclusion criteria. Analysis of studies that used generic- and disease-specific questionnaires ($n = 59$) suggested that premalignant diagnoses did not impact significantly on patients' QoL and psychological well-being. The synthesis of qualitative studies ($n = 17$) highlighted that patients experienced a lack of information about their condition, uncertainty about diagnosis, behaviour changes (e.g. dietary and quitting smoking), 'watchful waiting' and fear about their condition progressing to cancer.

Patients with premalignant conditions tend to be in a state of watchful waiting whilst experiencing specific psychosocial concerns such as low-level anxiety about the potential progression of their condition. Conventional patient QoL assessments do not appear to be sensitive to capturing patients' concerns and worries.

54 | Quality of life in patients with localized and advanced penile cancer

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Quality of life (QoL) is second to survival or its prolongation the most important aim of treatment for cancer patients. The degree of QoL is an independent predictor of survival time; the higher it is, the greater the survival time. The QoL in patients with penile cancer is influenced by the partially mutilating treatment and its side effects on body integrity, urination and sexual function. The aim of the study was to evaluate QoL in patients with penile cancer.

21 patients with penile cancer were prospectively evaluated using the EORTC QLQ-C30 questionnaire. This provides information on QoL, function (physical, emotional, cognitive, social functioning and role function), symptoms (fatigue, nausea, pain) and 6 further individual items (e.g. anorexia, insomnia).

The global QoL score was 54, which corresponds to an average QoL, and was significantly below the normalized average for patients in Germany. For the functional scores the following mean scores were determined: 73 for psychological, 61 for social, 60 for emotional, 69 for cognitive functioning and 63 for role function.

The external genitalia are a main characteristic for sexual identification. The current trend aims at organ preservation as much as possible in order to preserve voiding and sexual function intact as far as possible. QoL should be little impaired. However, these patients are evidently burdened with marked psychosocial problems and require early psychosocial support and intervention.

96 | Does severe toxicity affect global quality of life in patients with metastatic colorectal cancer during palliative systemic treatment? A systematic review

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New palliative systemic treatment regimens in patients with metastatic colorectal cancer (mCRC) are often accompanied by increased toxicity, which may impair patients' quality of life (QOL). We systematically reviewed whether severe toxicity affects global QOL in patients with mCRC receiving palliative systemic treatment in randomized controlled trials (RCTs).

Phase III RCTs evaluating palliative systemic treatments in patients with mCRC and published between 2004 and 2016 were considered. Studies were evaluated on the basis of global QOL scores, toxicity during treatment and primary outcomes.

A total of 30 studies were identified in which 19863 patients were included. In 25 out of these 30 trials (83%), no difference in global QOL between treatment arms was observed. In contrast, 22 out of 30 trials (73%) showed increased toxicity during treatment in the experimental arm as compared to the control arm. In 19 out of 22 trials with higher toxicity (86%) global QOL outcomes remained unaffected or improved. In 10 out of 11 studies with a better primary outcome, no improvement in global QOL was seen.

Global QOL of patients with mCRC included in phase III RCTs evaluating palliative systemic treatment did not differ across treatment arms despite consistently higher toxicity during treatment of the experimental compared to the standard treatment arms. We conclude that the use of global QOL for comparing treatment arms in RCTs for patients with mCRC does not provide information of clinical relevance. Further consideration of how to better assess the effect of new agents on patients' QOL is needed.

259 | Exploring the pathway between illness representations, mental health, and quality of life of patients with advanced cancer

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Many patients with advanced cancer experience an impaired quality of life and anxiety and depression. Identifying associated and modifiable psychological factors may guide efforts to optimize patients' quality of life. This study explores possible pathways between illness representations (representations to make sense of one's illness), anxiety and depression, and quality of life of patients with advanced cancer. From the PROFILES registry, 537 patients (58% male) with stage IV (non)Hodgkin lymphoma, colorectal cancer, or thyroid cancer that filled out questionnaires on quality of life (EORTC-QLQ-C30), illness representations (BIPQ, 8 items), and symptoms of anxiety and depression (HADS) were selected. Mediation analyses were conducted.

The mean scores on the HADS were 7.1 ± 5.0 for Anxiety (54.2% scored in the normal range) and 6.4 ± 4.3 for Depression (55.7% scored

in the normal range). The mean QLQ-C30 summary score was 83.1 ± 15.7 . Anxiety partially mediated the relationship between five out of eight illness representation dimensions and quality of life (R^2 -range: 1.3-4.4%). For example, patients with higher scores on the BIPQ dimension Concern reported more anxiety and worse overall quality of life ($p \leq 0.001$). Depression partially mediated the relationship between six out of eight illness representation dimensions and overall quality of life (R^2 -range: 11.3-23.2%). For example, patients with higher scores on the BIPQ dimension Consequences (the extent to which the illness affects their life) reported more symptoms of depression and worse overall quality of life ($p \leq 0.001$).

Targeting illness representations may contribute to reducing symptoms of anxiety and depression and better quality of life of patients with advanced cancer.

Managing Cancer and Living Meaningfully (CALM): On Both Sides of the Ocean

854 | Managing Cancer And Living Meaningfully (CALM): Effectiveness of a psychological intervention for patients with advanced cancer

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Patients with advanced cancer experience substantial distress in response to disease burden and the challenge of living in the face of impending mortality. We developed a psychotherapeutic intervention called CALM to alleviate distress and facilitate adjustment in this population. CALM consists of 3-6 individual sessions delivered over 3-6 months that support exploration in 4 domains: (1) symptom management and communication with health care providers; (2) changes in self and relations with close others; (3) sense of meaning and purpose; and (4) the future and mortality.

Outpatients with advanced cancer were recruited from a comprehensive cancer center and randomized to receive either CALM or usual care (UC). Assessments of depressive symptoms (primary outcome), death-related distress and other secondary outcomes were conducted at baseline, 3 (primary end point) and 6 months. ANCOVA was used to test for outcome differences between groups at follow-up.

Three hundred and five participants were recruited and randomized ($n = 151$ CALM; $n = 154$ UC). We found less severe depressive symptoms for CALM vs UC at 3 ($\Delta_{M1-M2} = 1.09$, $p < 0.04$; Cohen's $d = 0.23$) and 6 ($\Delta_{M1-M2} = 1.33$, $p < 0.01$; Cohen's $d = 0.30$) months. Other statistically significant findings in psychological well-being and preparation for the end of life at 3 and 6 months also favored CALM vs UC.

CALM is an effective intervention for patients with advanced cancer that provides a systematic approach to alleviate distress and to address predictable challenges.

871 | Frequency and course of psychological distress among patients with advanced cancer: Preliminary efficacy of the German CALM trial

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Frequency and course of psychological distress among patients with advanced cancer: preliminary efficacy of the German CALM trial.

Psycho-oncological interventions have been shown to reduce significantly symptoms of distress and enhance quality-of-life; however, we lack reliable data on the efficacy of such interventions in palliative care settings. We aim to examine the efficacy of a manualized individual psychotherapy for patients with advanced cancer: Managing Cancer and Living Meaningfully (CALM) adapted for German cancer care settings. CALM aims to reduce depression and anxiety, to strengthen communication with health care providers, and to enhance hope and meaning in life.

We used a single-blinded randomized-controlled trial design with two treatment conditions:

CALM or control group (CG, non-manualized supportive psycho-oncological intervention). Patients with stage III or IV cancer were randomized to receive CALM ($n = 94$) or CG ($n = 81$) and assessed at baseline (t0), 3 (t1; primary end point) and 6 months (t2).

We have included 185 patients to date (62% women) with a mean age of 58 years ($SD = 11$, 29-88) in this still ongoing trial. Preliminary baseline mean depression scores were $M = 11.4$, $SD = 4.9$ (PHQ-9) and $M = 19.0$, $SD = 8.9$ (BDI-II). At baseline mean anxiety score was $M = 9.6$, $SD = 5.2$ (GAD-7), overall distress was $M = 7$, $SD = 1.7$ (Distress thermometer), and the majority of patients were demoralized. Further results on the course of distress and the trial efficacy will be presented.

Our German CALM trial will contribute evidence on whether CALM can reduce depression and demoralization in a sample of advanced and highly distressed cancer patients.

880 | Managing Cancer and Living Meaningfully (CALM) adapted to an Italian cancer care setting

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Depression and demoralization are common in advanced cancer. We describe an Italian pilot study, assessing the feasibility of CALM, a novel psychotherapeutic intervention, developed in Canada. We furthermore describe the methodology of a larger RCT testing the efficacy of CALM. In the pilot study, 50 advanced cancer patients were randomized to receive CALM or Usual Care.

Pilot findings showed acceptability and feasibility of CALM and indicated that CALM patients received general improvement in the main dimensions explored. Qualitative analysis suggested an increased sense of meaning and personal growth.

CALM psychotherapy appeared feasible and acceptable within the Italian cancer care setting. Preliminary results indicated CALM effectiveness in reducing distress and promoting spiritual well-being. A larger sample and longer follow-up are needed to confirm preliminary findings. With this purpose, we designed a multicenter RCT comparing CALM versus unstructured supportive psychotherapy. The coordinating site is the University of Ferrara. The intervention consists of 12 CALM sessions over 3–6 months and provides reflective space for patients to address 4 main domains: symptom management and communication with health care providers; changes in self and relations with close others; sense of meaning and purpose; and the future and mortality. Primary outcomes are depression and demoralization. Secondary outcomes include generalized anxiety, spiritual well-being, quality-of-life, attachment security, posttraumatic growth, communication with partners, and satisfaction with clinical interactions. CALM has cross-national relevance and potential to be offered as standard care in oncology settings.

882 | Inside CALM: The experience of the therapists

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Although psychosocial care has been regarded as central to palliative and supportive care, there have been few empirically tested approaches to individual intervention. Managing Cancer and Living Meaningfully (CALM) is a new, manualized, brief, individual psychotherapy for individuals with advanced cancer, designed to be delivered by trained health care professionals. We have thus far trained social workers, psychologists, psychiatrists, nurses, and oncologists to deliver this intervention. Our current study evaluated the experience of two groups of professionals, social workers and nurses, in delivering this intervention. Semi-structured interviews were conducted with five social workers and three nurses who completed training in CALM and delivered it to at least two patients each. Transcripts were analyzed using thematic analysis. The CALM therapists described that the intervention provided them with a flexible and beneficial 'roadmap' and broadened their scope of practice. The therapists also raised concerns regarding the format of the intervention. Similarities and differences between the two professional groups were explored.

Findings from this qualitative study suggest that the CALM intervention can be delivered to patients with advanced cancer prior to the end of life by trained health care professionals. The implications of these findings to the training and supervision of CALM therapists will be discussed.

Predictors of Mental Distress and Symptom Burden in Advanced Cancer Patients: The role of Attachment in Security, Death Anxiety, and Demoralization

727 | Death related anxiety in patients with advanced cancer

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Only few studies address death related anxiety in patients with advanced cancer.

To examine anxiety and death anxiety in patients with advanced cancer including their prevalence and to identify medical and/or psychosocial characteristics that are associated with anxiety/death anxiety. We aim at the following research questions: How is the prevalence of anxiety and death anxiety in advanced cancer patients? How is the prevalence of anxiety/death anxiety in these patients compared to the general population? Which medical and/or psychosocial characteristics are correlated with increased anxiety/death anxiety?

To show a cross-sectional analysis of baseline data (t0) of a randomized controlled trial Managing Cancer and Living Meaningfully – CALM. N = 185 patients with different cancer who completed t0-questionnaire participated in the study. Our main outcome measures are anxiety (GAD-7) and death anxiety (DADDS). Other measures include medical, sociodemographic and psychological characteristics.

The extent of anxiety/death anxiety and its associations with psychological and physical distress are discussed for the population of advanced cancer patients. Further, the impact of high levels of anxiety on the patient-physician-relationship is to be discussed.

732 | Insecure attachment predicts depression and death anxiety in advanced cancer patients

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Advanced cancer patients suffer from high psychological distress. Yet only few studies focus on underlying intraindividual factors. Attachment insecurity was found to influence patients' adaptation to the disease, perception of social support, and feelings of security, dependency, and control. We aim to explore different attachment styles and their association with psychological distress.

We studied N = 162 patients attending the University Medical Center Hamburg-Eppendorf and the University Medical Center Leipzig (age: 58.5, 61% female). We assessed attachment insecurity using the 16-item Brief Experiences in Close Relationships Scale. Other outcome measures included PHQ-9, DADDS, MSAS.

Sixty-four percent of the patients were insecurely attached (fearful-avoidant 31%, dismissing 17%, preoccupied 16%). Insecure attachment contributed to the prediction of depression (10%) and death anxiety

(14%). Dismissing attachment was associated with more physical symptoms ($p < 0.05$), but not with psychological distress ($p = .87$). Fearful-avoidant attachment predicted higher death anxiety ($\beta = 6.6$, $p < .001$) and depression ($\beta = 3.6$, $p < .001$). Preoccupied attachment predicted higher death anxiety ($\beta = 3.5$, $p = .02$).

Almost two-thirds of the patients in our sample were insecurely attached, supporting the assumption that patients' attachment orientations are activated when they are suffering from a terminal disease. Insecure attachment predicted psychological distress. Individually tailored advanced care programs and psychotherapeutic interventions may help health care providers to respond appropriately to patients' attachment specific emotional reactions to feelings of dependency or loss of control.

734 | Symptom distress in patients with advanced cancer and the contribution of attachment insecurity

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Attachment insecurity was found to be a risk factor in advanced cancer patients when trying to cope with disease-related symptom burden. Its two dimensions, attachment anxiety and avoidance are associated with a higher number of physical symptoms and higher pain. We aim to examine the influence of attachment insecurity on patients' reported symptom distress.

We studied $N = 208$ patients attending the University Medical Center Hamburg-Eppendorf and the University Medical Center Leipzig (age: 58.3, 62% female). We assessed attachment insecurity using the Brief Experiences in Close Relationships Scale and symptom burden using the Memorial Symptom Assessment Scale. Patients further completed the PHQ-9, GAD-7, and Demoralization Scale.

The mean attachment insecurity score was $M = 3.1$ ($SD = 1.0$), with $M = 3.2$ ($SD = 1.3$) for anxiety and $M = 3.0$ ($SD = 1.1$) for avoidance. Patients reported mean symptom distress of $M = 2.4$ ($SD = 0.5$). Symptom distress was related to attachment insecurity ($p = .01$), attachment anxiety ($p = .02$), depression ($p = .29$), anxiety ($p = .27$), and demoralization ($p = .24$). There was no association between symptom distress and attachment avoidance ($p = .06$). A regression analysis did not show a significant impact of either attachment insecurity or one of the two subscales on symptom distress.

We were not able to replicate previous findings that indicated attachment insecurity to predict higher symptom distress. There may be an indirect influence on psychological and medical outcomes that needs to be further studied.

737 | Demoralization in advanced cancer patients

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Demoralization, characterized by hopelessness and helplessness in concert with loss of meaning, is a syndrome of existential distress that is found to be significant in cancer patients. Despite a substantial overlap with depression demoralization is considered a distinct phenomenon. This study examines the syndrome of demoralization in a sample of advanced cancer patients through replication of recent findings in demoralization literature and explorative analyses.

We analyzed cross-sectional baseline data of a randomized controlled trial study with patients with advanced cancer ($N = 185$) from study centers in Leipzig and Hamburg. Among others, measurements of Depression (BDI-II, PHQ-9) and physical symptoms (MSAS-SF) were evaluated regarding associations with Demoralization syndrome.

Incidence and differing severities of demoralization in a sample of advanced cancer patients are illustrated. Additionally replication of findings, results of explorative analyses and possible implications for the construct of demoralization are discussed.

Social Work and Peer Support

645 | Social work in oncology – an empirical study of patient contacts during a 12-month period

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Many patients with cancer are able to deal with the psychosocial challenges with support from ordinary health care and family and friends, while other patients are by themselves or health care staff referred to oncology social workers (OSW), a so far rarely studied profession. This paper explores what patients want to talk about in OSW-contacts and reflects on the clinical function of the OSW.

The case books and the medical record for all patients who had met with an OSW at a department of oncology during a 12-month period were read through and categorised. The analysis resulted in five categories.

One fifth of the contacts dealt with patients' social legislation issues were patients asked for information and guidance. Four fifths of the contacts concerned counselling. The most commonly found focuses for counselling were in sliding order: Talking about when life is limited by illness; Specific problems in life outside the illness; Psychiatric problems, extensive worry and anxiety; Talking about moving on in life after treatment; and Talking about the onset of cancer.

The counselling contacts were considerably more common and concerned a broad spectrum of psychosocial needs. The function of the OSW is thus multidimensional which reflects the different functions given to the OSW in oncology settings. Competence in different counselling perspectives are especially important if OSWs are to live up to patients' psychosocial needs.

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271 | The role and function of Swedish oncology social workers

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Oncology social workers (OSWs) play a key role in cancer services, but they have mainly been described from an Anglo-Saxon perspective. This study aims to widen the field by scrutinizing the role and function of OSWs in Sweden.

By means of a nationwide questionnaire to Swedish OSWs, the professional characteristics of this group are described, as well as their reflections on their clinical function and their experiences of barriers to optimal functioning.

The professional and sociodemographic characteristics, as well as the time spent on conducting direct services to patients with cancer seems quite comparable to OSWs in other countries. However, when scrutinizing the main content of the direct services, differences become more apparent. Most of the motives among patients and next of kin for contacting the OSW indicated needs to reflect about the disease, relationships, existential questions, and a changed life situation, while receiving information and assistance regarding juridical and socio-economic questions seemed far less frequent.

Our findings indicate that Swedish OSWs seem to have taken a different path than in Anglo-Saxon countries by mainly providing counselling to the patients and next of kin, rather than working with discharge planning. However, the lack of formal jurisdiction for this function in absence of a professional license indicate "blurred boundaries" to other health care professionals, e.g. psychologists and nurses.

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707 | Improving Institutional Capacity for Cancer Programs to Provide Quality Psychosocial Services: The APAQCC Project

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Despite evidence showing the effectiveness of psychosocial interventions for cancer patients and their families, gaps in services and inconsistent adherence to distress management protocols persist. To address issues in providing quality psychosocial services and build institutional capacity to deliver those services, we developed A Project to Assure Quality Cancer Care (APAQCC). APAQCC involved oncology social workers in 61 cancer programs across North America. This presentation describes the creation of APAQCC and reports research findings derived from two studies conducted across participating cancer centers. In Study #1, health professionals including physicians, nurses, and social workers (n = 2,134), completed a survey in which they rated their institution's capacity to provide support services for ten fundamental elements of psychosocial care. Findings revealed that institutional cancer programs were performing moderately well in terms of communicating to patients the importance of psychosocial care, identifying psychosocial needs, and referring patients and families to psychosocial services. They were doing less well with following up on service provision over time. In Study #2, oncology social workers conducted retrospective reviews of electronic health records (N = 8,409) at their respective cancer programs to determine adherence to prescribed distress management protocols. Adherence rates were highest in community cancer programs and lowest in National Cancer Institute-designated programs. Furthermore, rates of emergency department use and hospitalization were significantly higher among cancer programs with lower rates of protocol adherence.

We will discuss translation of findings to affect institutional change and describe a new community-building approach to generating, implementing, and translating collaborative research to inform patient-centered care.

48 | A Hospital-based Breast Cancer Survivor Peer-to-Peer Support Program Staffed by Trained Volunteers: A Dynamic Model in Action

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The placement of a new ostomy in the setting of a cancer diagnosis creates several challenges to patients. Along with the need to quickly master ostomy management come psycho-social challenges. At the Columbia University Medical Center, the oncology Social Worker, along with WOC Nurses devised an approach partnering the two professions to meet with new ostomates for the first post-op intervention. During these meetings, patients were given preliminary information about ostomy care and equipment by the WOC Nurses and educated by the Social Worker about common feelings experienced by ostomy patients including the concept of "loss of healthy self," associated feelings of grief and the social implications of navigating the world with an ostomy appliance.

Practitioners involved in these patient interactions found that when the two professions worked in tandem, better communication was fostered, patient experiences were normalized and discharge needs were identified and addressed more efficiently. Noting this positive patient response to simultaneous WOC Nurse/Oncology Social Worker interventions on hospital in-patient units, the partnership approach was expanded to include a day of discharge meeting with the WOC Nurses and the out-patient oncology Social Worker. At that time the plan for ostomy care and follow-up was reviewed and the Social Worker reinforced that the oncology team would work jointly to provide ongoing nursing and psycho-social support.

This model yielded positive outcomes and resulted in an interdisciplinary care template for oncology ostomy patients.

828 | Cancer patients' preferences for models of peer support in the digital age: A cross-sectional survey

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Social support positively impacts upon cancer patients' outcomes. Peer support which involves sharing experiences and empathy with others affected by cancer is suggested to be a critical element in quality health care. This study examined cancer patients' preferences for different models of peer support.

Adult cancer patients were recruited from outpatient oncology clinics at 5 hospitals in Australia. A total of 177 participants completed a self-report questionnaire assessing their sociodemographic, disease and treatment characteristics; perceived social support; and preferences for cancer-related peer support.

Do patients want to connect with others? Two-thirds (62%) of participants wanted to be involved in cancer-related peer support. *Who do*

patients want to connect with? Participants reported that peers who had received the same cancer treatment (56%) and were diagnosed with the same type of cancer (54%) were more important than connecting with those who were similar in age (42%), gender (38%) or culture (32%). *How do patients want to connect?* Peer support which was provided one-to-one was more preferred than a group-based format. Face-to-face modes of delivery were more preferred than telephone-based or web-based approaches. Age, cancer type, stage of disease, and perceived social support were significantly associated with wanting to participate in peer support.

Most cancer patients are interested in participating in peer support. Despite the advantages and availability of web-based peer support, patients preferred resource-intensive models of peer support. Better understanding of the barriers to involvement in more flexible and potentially low cost models of peer support is needed.

Lifestyle Behaviours and Supportive Care in AYAs

563 | Lifestyle behaviours in young adult survivors of childhood cancer

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Following successful treatment for childhood cancer, many survivors are vulnerable to a range of adverse health problems in later life. Lifestyle behaviours are important and modifiable risk factors which could reduce the potential for poor health in long-term survivors. This study aimed to explore lifestyle behaviours and their potential association with health-related quality of life (HRQoL) in survivors of childhood cancer.

Survivors were identified via a malignant disease registry and 93 survivors aged 18-30 years, diagnosed with cancer at ≤ 18 years, and ≥ 5 years from diagnosis completed a postal questionnaire exploring lifestyle behaviours and HRQoL outcomes.

Twenty-five (27%) reported they had given up a sport/leisure activity because of their cancer and many currently had physical limitations which restricted the activities they were able to take part in ($n = 29/91$, 32%). Overall, 46% ($n = 42/92$) of survivors were not meeting the UK physical activity recommendations and over half were not eating fruit ($n = 53/92$, 58%) or vegetables ($n = 48/92$, 52%) daily. Of those who drank alcohol, 18% ($n = 14/80$) consumed levels over the UK alcohol recommendations. Fourteen survivors (15%) were current smokers. Survivors reporting poorer lifestyle behaviours were more likely to self-report psychological and somatic late-effects and poorer mental health. Many survivors report sub-optimal lifestyle behaviours. The results also suggest that healthier lifestyle behaviours may be associated with improved HRQoL in long-term survivors of childhood cancer. This highlights the need for evidence and theory-based interventions to promote and encourage healthy lifestyles in long-term survivors of childhood cancer.

562 | Social outcomes in young adult survivors of childhood cancer

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Survivors of childhood cancer may experience difficulties in achieving desired social milestones in education, employment and intimate relationships. This study aimed to gain information on these outcomes in survivors, including survivors own views on how their cancer history may have influenced their social development.

Survivors were identified via a malignant disease registry and 93 survivors aged 18-30 years, diagnosed with cancer at ≤ 18 years, and ≥ 5 years from diagnosis completed a postal questionnaire. Analysis was descriptive.

Although many felt that their illness had impacted on their education ($n = 64/93$, 69%), most were very satisfied with their educational attainment ($n = 59/93$, 63%). Of survivors aged ≥ 21 years, 41% ($n = 28/69$) had a university education. Although few reported problems getting or keeping employment due to their illness history ($n = 9/92$, 10%), a third felt that their ability to work was limited ($n = 32/91$, 35%).

Thirty-nine (42%) survivors were in long-term relationships. Of the single survivors, 56% ($n = 28/50$) reported several concerns about future relationships. Only 8% ($n = 7/93$) of survivors had children and the majority of those without reported concerns that they may not be able to parent a child ($n = 55/85$, 65%). Being too young was the most common reason for not being married ($n = 41/68$, 60%), or a parent ($n = 36/79$, 46%).

Adaption to adult life is associated with achieving a number of developmental milestones involving education, employment and relationships. Some survivors may have concerns in these areas which may impact on their well-being and development and may benefit from support.

616 | Psychosocial aftercare of young adult cancer survivors – utilization and satisfaction

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Having a high survival rate but also a low quality of life and current research that indicates constantly unmet needs as well as a lack of age-specific care, it's important to examine the psychosocial aftercare for young adult (YA) cancer survivors.

YA cancer survivors completed a nationwide survey addressing aspects of supportive and psychosocial care upon completion acute treatment. Utilization and satisfaction with psychosocial care (psychological, social legal counselling) in the last 12 months were conducted by a self-developed questionnaire. Multiple regressions for satisfaction

with counselling were conducted with sociodemographic, disease-related and psychosocial variables.

514 YAs, aged 18-39 years at diagnosis (12.8-56.5 months from diagnosis) participated. 54% ($N = 279$) reported a presence of psychological counselling and 45% ($N = 229$) of social legal counselling. 69% ($N = 192$) of these used psychological counselling and 74% ($N = 170$) social legal counselling. They were quite satisfied (1 = very to 5 = not at all) with psychological counselling ($M = 2.11$; $SD = 1.08$) and social legal counselling ($M = 1.85$; $SD = 0.98$). A higher satisfaction with psychological counselling is associated with longer time since diagnosis, been a woman and not been on sick leave ($R^2 = 0.08$). There were no effects for age, partnership, distress or coping with disease.

Only a half of all YA cancer survivors is aware of psychological and social legal support offers. Those who are aware show a high utilization and satisfaction. Moreover, satisfaction with psychological counselling seems independent from psychosocial variables. The awareness of psycho-oncological aftercare needs to be increased. Implementing age and needs specific offers for YAs could promote this.

802 | Using Acceptance and Commitment Therapy to help young people cope with their cancer experience: Development and evaluation of the PEER program

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Personal and familial cancer impacts young people's lives and therapeutic residential programs are a promising approach in the delivery of effective interventions for this age group. This study reports on an Acceptance and Commitment Therapy (ACT) based 4-day manualised residential program (Place of Enablement, Empowerment and Relationships; PEER) aimed at enhancing the resilience and well-being of youth (11-17 years) living with their own or family members' cancer diagnosis, or a family member's death from cancer.

The mixed methods study used validated and program-specific measures to capture changes in participants' quality of supportive relationships, sense of belonging, coping, self-compassion, mindfulness and quality of life, pre-, post- and 2-months post the program. The role of changes in psychological flexibility on outcomes was examined. Program fidelity was assessed using youth responsiveness and activity adherence measures. Feedback on facilitators' and participants' experiences was captured.

175 youth participated across 6 pilots (age $M = 14.56$ years, $SD = 1.72$; 45.7% male). Significant improvements were found for supportive relationships, sense of belonging, coping, mindfulness and quality of life. These were maintained at follow-up for active and emotional coping, and mindfulness. Improvements in supportive relationships, active coping, sense of belonging and mindfulness were all greater for those whose psychological flexibility had greatest increases. Overall satisfaction for sessions was high ($M = 7.7/10$, $SD = 1.85$).

The results highlight the benefits of PEER and ACT for youth living with various cancer experiences. The use of booster sessions to increase the beneficial impacts of the program over the longer term is being examined.

235 | Quality of information and decision regret during fertility sparing management for atypical hyperplasia and endometrial cancer

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Fertility preservation for atypical hyperplasia (AH) and endometrial cancer (EC) is effective and safe. However, poor counselling prior to the beginning of fertility preservation and unexpected side effects of progestin therapy can translate into poor therapeutic compliance and consequently increase the risk of recurrence or progression.

Data were collected in a prospective cohort study of patients who underwent fertility preservation for AH or grade 1 EC in 2013-2014 in a reference centre in Paris, France. The validated EORTC-QLQ-INFO25 and questions from the validated scales EVAPIL, SATMED-Q and Decision Regret Scale were distributed during treatment to assess side effects, quality of information, satisfaction and decision regret.

Twenty patients (aged 19-42 years) were eligible for inclusion, of which 16 responded. Sleep problems (61.5%), mood swings (60.0%), hot flushes (53.3%) and vaginal dryness (53.3%) were the most encountered side effects. Most women (62.5%) indicated that psychological support should be necessary. Two patients hesitated to stop treatment but 14 would choose again for conservative treatment. Overall, patients were satisfied with the amount and content of information they received but 31.3% of the patients would like to have received more information. Only 2 out of 8 patients who did not obtain pregnancy regretted their choice for fertility sparing management. Decision regret was not related to treatment outcome, live birth or information satisfaction.

This study stresses the patient's needs for dedicated information and psychological support. Fertility sparing attempt permits young patients to better accept hysterectomy, even if pregnancy is not obtained.

Survivorship Issues in AYAs

225 | The development of a young adult-specific smart phone application for coping with the emotional demands of cancer

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Contemporary young adult (YA) culture utilizes technology to connect with others, acquire information, and learn new skills. Smart

phone applications exist to address many different emotional health issues. However, there is not a smart phone application that specifically addresses the emotional health of YAs coping with cancer. To develop an app that addresses this gap, patient focus groups were structured with topics, such as: how they use technology for support, how the use of various technologies impacts emotional distress, what kind of social support helps reduce distress, and what aspects of app's make them sustainable for use. In addition, patients were asked to rate a variety of mental health app's and comment on how these could aid with cancer-related emotional distress. Focus groups with social work clinicians explored the barriers and facilitators of using smart phone applications for patients, and on the content of such applications. As a result of the feedback from patients and social workers, four domains of content and preferences for engagement and style of the application were concluded. Priorities for content include: peer support; coping skill acquisition; psychoeducation about what to expect; and a place to record and share the narrative of their cancer experience. Functionality and style preferences included active and passive use options, alerts to stay engaged and ability to filter information by patient preference. These findings will be combined with theoretical principles of psychological care to create the first smart phone application specifically designed for YAs coping with cancer.

583 | A video tool for helping young adults with cancer communicate about identity changes: how is it being used?

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Data obtained from surveys and focus groups with young adult (YA) patients showed that cancer's impact on identity was one of the most difficult psychosocial concerns and few resources exist to address this issue. A working group of five YA patients created a "Draw My Life"-style video to educate patients about identity changes and to help them communicate these changes to peers. A draft of content and corresponding visual images for the video were generated through four in person working sessions. With many subsequent phases of structured patient feedback via email, the final script and visuals were agreed upon, and the 3-minute video was produced by the patients in conjunction with a videographer. After viewing the final product, working group patients were universally satisfied with the video and commented on how meaningful it was to produce a resource and receive support from their peers in this creative process. Evaluation of the video is ongoing. Data includes survey questions to gather patient feedback on the video. Views and shares through social media (YouTube, *Insight* blog, Facebook) are being tracked. Preliminary data indicates views of the video have increased by over 50% within the first month of it being promoted to YA patients. Public views have exceeded 1,600 over a 3-month period with an average view duration of 2:43 minutes, indicating strong viewer interest and engagement. YA patients may benefit from innovative ways of learning about the psychosocial impact of cancer and communicating this with their family and peers through social media.

920 | Association between distress and post traumatic growth among adolescent cancer patients

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The experience of cancer is not always a source of negative outcomes; rather it has the potential for both positive and negative outcomes. Cancer can be understood as a psychosocial transition conceptualization of adjustment, accounting for both positive and negative outcomes.

The study aims at understanding the relationship of growth and distress that will help our understanding of cancer's impact on the lives of adolescents.

This is an ongoing study, 21 adolescent survivors of childhood cancer, aged 14–21 years and, who has been exposed to the diagnosis 7 years (median years of diagnosis) before, completed standardized measures of post traumatic growth Inventory for Children (PTGI-C-R) and Impact of Event scale (IES-R).

The socio-demographic characteristics (age and education) were related to post traumatic growth, while time lag and sex have not shown association. The avoidance aspect has shown associations with Relating to other and New possibilities ($r = 0.615$ and $r = 0.672 > 0.001$) whereas personal strength ($r = 0.534 > 0.05$) in post traumatic growth.

The impact of an event and post traumatic growth help in understanding the experience of adolescent cancer survivors and their adjustment. This understanding allows for more tailored assessment and intervention among childhood adolescent survivor.

914 | Let's not underestimate our patients! What happens when young people advocate for their own complex needs

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Youth Cancer Europe is a registered charity since 2015, made up of a network of 15 youth cancer organisations from across Europe, focusing on the most urgent unmet needs of young people with cancer.

Our presentation will argue the strength and leverage youth patient organisations have the potential to hold in their hands in advocating for the complex needs of this demographic.

To offset gaps around Europe, mainly caused by economic differences and the structure of health care delivery, survivors and young people with cancer should be instrumental in rallying different stakeholders and contribute to creating public-private partnerships to address unmet needs such as psychosocial services

to be considered a basic right, reimbursed by insurance for long-term survivors, even years after active treatment. Innovative ideas and ways of involving survivors in national discussions on health care, policy and insurance issues must be on the agenda when addressing long-term follow-up and the transition process from paediatric to adult care.

As an organisation, Youth Cancer Europe bridges the gap between childhood and adult cancer patients, across tumour types and speaks the language of teenagers and young adults. Following a very successful Open Space Summit and Advocacy Masterclass that the presentation will briefly report on, this fall a European Youth Cancer Forum will be held to equip participants with the knowledge and skills they need in running a patient organisation effectively, including strategic planning, fundraising, communication and community management.

230 | Fertility-related Concerns and Fertility Testing among Adult Survivors of Childhood Cancer

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Much attention is paid to fertility-related concerns among young adults with cancer. However, infertility rates among survivors of childhood cancer who age into their reproductive years are also high (i.e. 25-50%) and little is known about their fertility-related concerns and impact on romantic relationships.

Multiple-choice and open-answered questions about fertility-related knowledge, concerns, and testing were presented on-line to 92 adult childhood cancer survivors (mean age = 29.7; SD = 5.1; 63% female). Survivors were diagnosed at age 5-18 with brain tumors ($n = 26$), leukemia ($n = 26$), lymphoma ($n = 22$), or other solid tumors ($n = 18$).

Approximately 57% ($n = 52$) of survivors did not have children at assessment: 12 survivors (23%) indicated not wanting children, because of their health or worries about passing on cancer to an offspring. Of the other 40 survivors who desired children, 83% had never had fertility testing and did not know their fertility status. Reasons included planning on getting tested when older/in relationship (51%), not thinking about it (42%), financial costs (27%), and/or no access to services (21%). Nevertheless, 28% believed that they were at-risk for infertility, and almost 50% were afraid of being unable to have biological children. Few survivors ($n = 17/92$; 18%) reported a negative impact of potential/confirmed infertility on previous or current romantic relationships.

Health care providers should discuss the effect of treatment on fertility, options for preservation, testing, and fertility-related health risks to survivors. Furthermore, a negative impact of infertility on romantic relationships may be small, but should be considered for survivors who desire children and may find out they are infertile.

Information and Supportive Care needs

133 | Information Needs of Male Breast Cancer Patients, Health Care Professionals and Researchers

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Male breast cancer (MBC) is rare. Care for, and information about breast cancer is usually designed for female patients. Psychosocial issues and treatment effects are different for male patients. Therefore, there is a need for male-specific information.

The aim of this study is to investigate information needs of MBC patients, health care professionals and researchers in order to develop, test and implement an informative website that meets these needs.

First, an expert meeting with the national breast cancer patient federation, cancer information website and research organizations was organized. Second, 116 MBC patients from different hospitals in the Netherlands were invited by their specialist for a focus group and/or a questionnaire. Third, health care professionals were invited to complete an online survey about their information needs regarding treatment of MBC patients. Fourth, researchers of a national consortium were invited to discuss their needs. MBC patients ($N = 86/116$, response: 74%) need male patient oriented information with a focus on sexuality, swollen breast, weight problems, cognitive problems, neuropathy, worries about future, possible causes and control of disease. Health care professionals ($N = 139$) would like more information about genetic testing, psychosocial problems, anti-hormonal therapy and new research outcomes. Researchers ($N = 8$) would like to have an overview of studies and to use a website for purposes of recruitment.

MBC patients, health care professionals and researchers missed relevant information. Our plan is to create a website with up-to-date information about MBC, psychosocial aspects, treatment, side effects, photographs, research outcomes and useful crosslinks.

609 | Patient satisfaction with outpatient oncology consultations in Chinese women with advanced breast cancer: a longitudinal study

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Patient satisfaction is a key health care quality metric, particularly important for patients diagnosed with life-threatening conditions requiring ongoing medical management. Little is known about satisfaction with care among women with advanced breast cancer (ABC). This study examined patient satisfaction and associated predictors in the year following diagnosis of ABC.

317/360 (88%) Chinese women with ABC were assessed while awaiting or receiving initial chemotherapy, then again at 1.5-, 3-, 6-, and 12-month post-baseline. Health system and information unmet needs, psychological and physical symptom distress, and patient satisfaction were assessed at baseline; patient satisfaction was reassessed at each follow-up assessment. Latent growth curve modeling was used to assess changes in patient satisfaction over time.

Patient satisfaction was high and did not change significantly over time. Baseline health system and information unmet needs ($\beta = -0.26$, $p < 0.005$), low level of anxiety ($\beta = 0.23$, $p < 0.05$), and high levels of depression ($\beta = -0.28$, $p < 0.005$) predicted poor 1-year post-baseline patient satisfaction.

Greater unmet needs for treatment-related information and continuity of care predicted poor satisfaction. Depressed patients often hold negative views of themselves and the world and may appear less satisfied with levels of psychosocial support received during their consultation, whereas anxious patients may be more likely to raise their concerns with the oncologists, get answers and therefore feel more satisfied. The study findings highlight a need to reinforce the importance of a patient-centered care model in managing ABC. (238 words).

643 | Differential impact of unmet supportive care needs on the anxiety and depression of informal caregivers of cancer survivors: Beyond unmet needs count and prevalence

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Caregivers report more unmet supportive care needs than patients, adversely impacting on their anxiety and depression. However, the traditional reliance on number of unmet needs does not reveal needs most associated with these outcomes.

Identify those unmet needs most associated with caregivers' anxiety and depression over 5 years.

Caregivers ($N = 219$) completed the 44-item Supportive Care Needs Survey (Caregivers) and the Hospital Anxiety and Depression scale [minimal clinically important difference (MCID) = 1.5] at 6-8 months, 1, 2, 2.5, and 5 years following the patients' diagnosis. The list of needs was initially reduced using Partial Least Square (PLS) and those with a Variance Importance in Projection (VIP) > 1 were analyzed using Bayesian Model Averaging (BMA).

Across time, eight “core” unmet needs remained in the top 10. Three additional ones were “frequent,” remaining in the top 10 from 1-year. 33/44 unmet needs had VIP > 1.0, with BMA identifying a maximum of four significant unmet needs per time point. For depression, no “core” unmet needs were significant, but 2/3 of “frequent” needs were, most significant needs were not prevalent. For anxiety, 3/8 core unmet needs and 3/3 frequent ones were significant. Significant unmet needs led to a difference greater than the MCID in the outcomes.

As the first analysis examining the impact of caregivers' separate unmet needs, findings emphasize that it is not necessarily the most prevalent unmet needs (target of interventions) that are significant. This analysis provides valuable information to tailor caregiver interventions.

797 | Better Outcomes for Thyroid Cancer Patients Receiving An Interdisciplinary Team-based Care Approach (ITCA-ThyCa): Final Program Evaluation Results Indicating A Need for Further Integrated Care and Support

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Thyroid cancer (ThyCa) is generally associated with a favorable prognosis and excellent surgical outcomes. Consequently, its treatment tends to be medically focused and interdisciplinary care recommended for complex cases alone (ATA-Guidelines, 2016). To date, no studies have evaluated the need for and impact of an interdisciplinary team based care approach (ITCA-ThyCa) for ThyCa patients at large, including a dedicated nurse as well as patient-reported outcomes as promoted worldwide in cancer care. Our aim was to evaluate such a program.

ITCA-ThyCa was evaluated using the Centers for Disease Control (2014) Framework, including process and outcome measures. Patients were eligible if they: were adults; had received biopsy results indicating confirmed or highly suspicious ThyCa (TNM-classification + Bethesda V/VI); were awaiting treatment; and were capable of giving free and informed consent. The Experimental Group (EG) received ITCA-ThyCa provided during their treatment trajectory and the Comparison Group (CG) received usual care alone. Patients were recruited from large urban university-affiliated hospitals following full ethics approval.

Our sample comprised a representative 200 participants (EG:122; CG:78); with similar inter-group sociodemographic and medical profiles.

ITCA-ThyCa patients showed significantly better outcomes than CG patients, namely: higher levels of overall well-being ($p = 0.001$), less physical problems ($p = 0.003$), and less practical concerns ($p = 0.003$). They were more satisfied with their overall care ($p = 0.028$), reported their doctor as more approachable ($p = 0.007$), trustworthy ($p = 0.077$; trend), and respectful ($p = 0.005$), were more satisfied with their care coordination ($p = 0.049$), and more likely to recommend their doctor ($p = 0.020$). Ninety-eight percent of EG patients recommended ITCA-ThyCa.

Overall, the data indicates that ThyCa patients have important needs commanding attention in the context of an interdisciplinary team.

805 | Patient Reported Outcomes (PROs) in Clinical Practice: A Scoping Review of Reviews, Systematic Review and Meta-analysis of the Research

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Many oncology centres have identified a need for routine patient self-reporting utilising PROs. The current evidence suggests that implementing these so that their potential is maximised is complex and many components need to be considered.

To systematically identify how PROs must be implemented to give benefit to clinical outcomes of patients.

A database search of MEDLINE, EMBASE, CINAHL, PubMed, PROSPERO, Cochrane and Johanna Briggs was conducted. Publications from 1966 to December 2016 were included, and a scoping review of reviews of was performed. A systematic review was then conducted on all papers from these reviews and any further publications after the date of the most recent review. We then extracted elements of implementation to identify those crucial for future research.

Immediate and longitudinal measurement was the dominant element of successful implementation, with 84 of 96 studies used technology to report immediately to the treating team. Other facilitators for implementation included staff education (66 of 96 studies), clinical staff involvement (60 of 96 studies), structured pathways to respond to information (11 of 96 studies). Barriers for implementation included difficulties engaging staff (80 of 96 studies), high attrition rates of patients (40 of 96 studies), increased time needed from staff (23 of 96 studies). No study engaged the whole multi-disciplinary health care team.

Successful implementation of PROs in clinical practice is complex. The use of staff engagement, utilising technology and education for PRO use are crucial to successful implementation. Any future implementation studies need to include these elements.

Health care Professionals in Psychological Cancer Care: Communication and Educational Needs

925 | Education and Training in Psycho-oncology: Evaluation of a Curriculum Training program.

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Specific training in Psycho-oncology is an important aspect of quality assurance of psychosocial care of cancer patients. In the National Guideline for Psycho-oncology in Germany training is recommended for all health care professionals working as psycho-oncologists. In Germany since 1994, the association for training and education in Psycho-oncology (WPO e.V.) provides curricular training programs for health professionals in cooperation with the two National Societies of Psycho-oncology (PSO, dapo). The training programs are certified by German Cancer Society (DKG). Methods: WPO provides two curricular training programs: one program specialized for psychotherapists and one multidisciplinary program for physicians, psychologists, social worker and other health care providers. Each course is systematically evaluated by questionnaire asking the participants for various aspects of knowledge transfer, self-awareness in the professional field, sharing professional experience, transfer of competence into clinical practice and interprofessional communication.

We provide data from 3286 health care professionals in Psycho-oncology (participants 85% female, 15% male) based on 117 curricular training courses. The data show positive results for all criteria for professional subgroups and over all courses. Discussion: The evaluation results demonstrate that the learning objectives are achieved and prove the high quality of the training programs. In addition, the results provide information for continuous improvement of the education courses. The WPO training program is an important part of quality assurance of Psycho-oncology in health care professionals.

356 | Use of the BOADICEA breast cancer risk prediction tool in clinical practice: appraisals across clinicians from various countries.

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The 'BOADICEA' breast cancer (BC) risk prediction model is undergoing new validation integrating additional genetic and non-genetic factors. We assessed clinicians' appraisals, and correlates, of current BOADICEA tool. An online survey was addressed through the BOADICEA website and British, Dutch, French and Swedish genetics societies. Cross-sectional data from the 443 participants were analysed.

Respondents varied in age, country, clinical seniority but mainly comprised women (77%) and genetics clinicians (MDs 29%; counsellors 53%). Few negative opinions were given to BOADICEA scientific validity (9%) and risk presentations (7-9%). Data entry time (62%), clinical utility (22%) and ease of BOADICEA risk communication (13-17%) received more negative appraisals.

In multivariate analyses, controlling for gender and country, data entry time using BOADICEA was perceived as longer by genetic counsellors than clinical geneticists. Increased tendency to judge hormonal BC risk factors as important and to communicate numerical risk estimates was associated to lower perceived BOADICEA clinical utility. Less frequent weekly genetic clinical activity and '11 to 15 years' seniority were linked to lower judgments of BOADICEA risk presentation. Ease of BOADICEA risk communication was higher for '6 to 10 years' seniority and more frequent numerical risk communication. Specific genetics training did not affect BOADICEA appraisals.

Appraisals of the BOADICEA BC risk prediction tool were mostly positive. However, to facilitate its clinical uptake, new development of this tool needs to consider technological, genetics service delivery and training initiatives.

630 | Job burnout among early career oncology professionals and the risk factors

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Health care professionals working with cancer patients have considerable risk to develop burnout. But this has been rarely investigated among early career oncology professionals. The aim of this study is to evaluate the presence of burnout among early career oncology health care professionals and to explore the risk factors.

A cross-sectional, hospital-based survey was designed. An e-questionnaire was sent to all staffs of Peking University Cancer Hospital via international information management system. The measures included Maslach Burnout Inventory (MBI) and The Revised Neuroticism Extraversion.

Personality Five-factor Inventory (NEO PI-R) with a general information questionnaire collecting demographic, occupational and social features.

Totally 849 clinical health professionals completed the questionnaire, including 285 doctors (33.6%) and 564 nurses (66.4%) and among which there were 291 (34.3) early career professionals with work experiences within 5 years. The scores of Emotional Exhaustion (EE), Depersonalization (DP) are significant lower in early career nurses (EE: 13.7 VS. 16.0, $P = 0.009$; DP: 5.5 VS. 6.6, $P = 0.028$), while such differences were not found among doctors. The risk factors of burnout for early career nurse including working in surgical department, married, work overtime, economic compensation for overtime work lower than expected (selected). The risk factors of burnout for early career doctors including having 3-4 or more children and elders to care, night shift, work overtime (selected).

Burnout among early career oncology health care professionals was not shown worse than the seniors, but some risk factors should be pay attention to.

522 | Effectiveness of SHARE model in improving Chinese oncologists' preference for cancer truth telling

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Communication skills training (CST) based on the SHARE model of family centered truth telling in Asian countries has been adopted in China via promotion by Asia Pacific Psycho-oncology Foundation (APPOEF). This study aimed to test the effect of SHARE model-centered CST on Chinese oncologists' truth-telling preference, to determine the effect size, and to compare the effect of 1-day and 2-day CST programs on participants' truth-telling preference.

For this one-group, pretest-posttest study, 10 CST programs were conducted from August 2013 to September 2016 under certified facilitators and with standard patients. Participants (128 oncologists from 14 provinces) chose the 1-day ($n = 62$) or 2-day ($n = 68$) CST program as convenient. Participants' self-reported truth-telling preference (Truth Telling Questionnaire 50-items) was measured before and immediately after CST programs, with CST program assessment afterward. The CST programs significantly improved oncologists' truth-telling preference (mean pretest and posttest scores \pm standard deviation (SD): 184.33 \pm 16.89 vs. 196.67 \pm 20.35, $p < 0.001$). The CST programs effected a significant improvement in overall truth-telling preference and significantly improved method of disclosure ($p < 0.001$), emotional support ($p < 0.001$), additional information ($p < 0.001$), and setting ($p < 0.05$). Participation in 1-day or 2-day CST programs did not significantly affect participants' truth-telling preference ($p > 0.05$) except for the setting subscale.

The SHARE model-centered CST programs significantly improved Chinese oncologists' truth-telling preference. Future studies should objectively assess participants' truth-telling preference, for example, by cancer patients, their families, and other medical team personnel.

The Interchange between Psycho-oncology and Neuro-immune Processes: Implications for Practice

744 | Post-treatment symptoms and cytokine levels in breast cancer patients: The moderating role of self-compassion and optimism

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Prolonged symptoms of distress, fatigue and cognitive difficulties post breast cancer treatment are common. These symptoms have been suggested to be connected to elevated levels of pro-inflammatory cytokines and also to psychological factors. Whether the symptoms have a common physiological or psychological antecedents is unknown. Therefore, this study investigated the associations of the symptoms with levels of pro-inflammatory (interleukin (IL)-6 and IL-12) and anti-inflammatory (IL-10) cytokines and to the psychological resources of self-compassion and optimism.

This is an ongoing study, 78 breast cancer survivors (stages I-III), who were up to 1 year after the termination of chemotherapy, and free of disease were enrolled until present. Participants filled-out distress, fatigue, cognitive difficulties, self-compassion (self-acceptance and self-empathy dimensions) and optimism questionnaires and gave 5 cc blood sample. Cytokines in serum were tested using multiplex ELISA assay, and the results were long transformed.

Fatigue, distress and cognitive difficulties were intercorrelated. Regression analyses revealed distinct patterns of associations between post-cancer symptoms and inflammation: While cognitive difficulties were related to pro-inflammatory cytokines only (IL-12), fatigue and distress were independently related to higher inflammation (IL-6 and IL-12) and to lower psychological resources (self-empathy and optimism). The anti-inflammatory cytokine was not associated with the study variables. Although this is a cross-sectional study, it suggests that psychological and physiological factors may affect the presence and intensity of post-cancer symptoms. Professionals caring for cancer survivors should be aware of these complex psycho-physiological associations among post-cancer symptoms, inflammation and psychological resources.

760 | Personality matters in physical health of colorectal cancer patients and their caregivers

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Cancer diagnosis is an unexpected stressful event. Unknown is whether personality traits, such as optimism and uncertainty, would predict changes in physical health. Also unknown is the extent to which caregivers' own personality relates to their patients' changes in physical health, and vice versa.

Colorectal cancer patients and their family caregivers provided study data at the initial (3-month post-diagnosis, T1) and the follow-up assessment (11-month, T2) ($N = 42$, mean age 51, 61% female). Optimism (LOT-R) and uncertainty (Mishel's Uncertainty in Illness) were measured at T1, and self-reported physical health (SRPH: MOS SF-12) and salivary cortisol as objective health markers were measured at both T1 and T2.

Both patients and caregivers reported moderate levels of optimism and uncertainty about the cancer prognosis. Patients' SRPH was at below the 25th percentile while caregivers' was at normative level at both T1 and T2. Actor-Partner Interdependence Modeling revealed that, in addition to individuals' health markers at T1 relating to those at T2 ($p < .05$), patients' uncertainty and caregivers' optimism and uncertainty all related to caregivers' improved SRPH at T2 ($p < .01$). Patients' optimism marginally related to caregivers' improved SRPH at T2 ($p < .06$).

The results highlight the significant roles of patients' and caregivers' personality traits in the caregivers' physical health improvement during the first year of cancer survivorship. Current findings need to be replicated with a larger sample and diverse biological health indicators. Identifying psychosocial and biobehavioral mechanisms of the link of personality to one's own and the other family member's physical health is warranted in future studies.

759 | Associations between psychological interventions with focus on neuroendocrine parameters in cancer patients

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The impact of psychological interventions on adjustment as well as on cancer-related psychological variables especially on significant improvement in quality of life, on significant decrease on anxiety and depressive disorders in patients with cancer has been well demonstrated in the last decades. Different psychological and psychotherapeutic methods with the accent to increase knowledge and gain control of cancer and its treatment have been successfully carried out in a number of research protocols demonstrating the link between body and mind.

Studies of recent literature about different psychological interventions and relationship with neuroendocrine parameters will be discussed. The study about a specific psychoeducational intervention with four different measurement time points in a longitudinal design will be demonstrated: A sample of fifty-two postmenopausal women with operated early stage I-III breast cancer took part in this intervention program. All participants were evaluated at three different time points by a set of standardized questionnaires, by flow cytometry and by measuring stress-related hormones, and a 10 year follow-up ($n = 40$) was carried out.

Recent published psycho-neuro-immunology studies in patients with cancer demonstrate significant impact on psychological and neuro-endocrine parameters by different methods. Results from the specific intervention study will be shown on the focus on different psychological and neuro-endocrine variables at the different measurement time points.

The results indicate that psycho social interventions in cancer patients improve quality of life and endocrine and immune parameters also in a longitudinal study design.

762 | Vagal nerve activity and cancer prognosis: Pilot results of HRV-biofeedback and tumor marker levels

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The vagus nerve may slow down tumorigenesis because it inhibits contributors to cancer progression such as inflammation. Vagal activity is related to psychological prognostic factors such as hopelessness, and patients can self-activate vagal nerve activity by deep breathing. I will present results of a systematic review of 12 studies in which vagal activity, indexed by heart-rate variability (HRV), predicted clinical outcomes. In 100% of the methodologically better studies, higher HRV predicted better prognosis, independent of confounders. I will present new results showing that the ratio of HRV to inflammation also independently predicts survival in non-small cell lung cancer and in pancreatic cancer. Finally, results of a matched controlled intervention pilot study with 6 patients with metastatic colon cancer will be presented. Half performed for 3 months HRV-biofeedback daily, half not, and pairs of patients were matched on cancer-type, -stage and -treatment and on baseline tumor marker levels (CEA). At 3 months, CEA levels tended to decline in the HRV-biofeedback group more than in controls. HRV-biofeedback may especially be relevant to high-hopeless patients because HRV is inversely related to hopelessness and since such self-activation can be empowering. In summary, vagal nerve activity independently predicts cancer prognosis, these prospective associations have plausible neuroimmunological pathways, and vagal nerve activation may have clinical implications for psychooncology, which need to be scientifically tested.

Symptom Burden in Prostate and Urogenital Cancers

869 | A Blended Competency Based Peer Navigator Training Program for Prostate Cancer Survivors

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TrueNTH peer navigation program provides an innovative approach to augment access to supportive care for prostate cancer patients and their family members. The program aims to train experienced survivors and their caregivers to become peer navigators and provide informational, practical and emotional support to current patients and their partners/caregivers through their care journey.

A blended learning program was developed based on a competency framework defined specifically for prostate cancer survivors: 8 online modules delivered over 8 weeks with two full day in-person sessions, focusing on 6 core domains: Navigator Attributes, Communication, Knowledge/Information, Facilitate Patient Centered-Care, eHealth/Technology, Caregivers' Needs. Forums, polls and role playing activities are designed to facilitate participants' interaction and improve peer navigators communication skills. The efficacy of training will be evaluated using pre and post online questionnaires and focus groups of participants' experience.

Two multisite training programs are currently underway: 18 survivors and 3 caregivers with a variety of cancer experience participating. At pre-test, from a 10-point scale participants reported a moderate to high (6 to 9) level of understanding of the training domains and a range of 61% to 92% level of confidence to apply the knowledge. Post-test data will be collected, and the findings will be analysed to examine any improvement on these. According to the mid-course feedback, participants (86%) found the material informative and the workload manageable.

Comprehensive findings will be discussed on effectiveness of the training program. The training described may be applied nationally to train peer navigators across country.

710 | Psychosocial predictors of urinary incontinence and sexual dysfunction in the first 12 months post-radical prostatectomy surgery for localised prostate cancer

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Robot assisted radical prostatectomy (RARP) is a common treatment for localised prostate cancer. Resultant urinary incontinence (UI) and sexual dysfunction can negatively impact patient well-being. We aimed to assess the psychosocial predictors of UI and sexual function (SF) over time and assess distress, and anxiety and depressive symptoms in the first year post-surgery.

A review of a prospectively maintained database was performed, examining RARPs between May 2014 and January 2017. A series of measures were completed by 182 men pre-operatively and at 3, 6 and 12 months post-surgery. Outcome variables were SF, UI, distress, and depression and anxiety symptoms. Mixed model analyses were used to assess changes in outcomes over time and identify predictors of SF and UI, whilst controlling for pre-operative function, partner status, comorbidity and allied health practitioner involvement.

Anxiety and depression levels remained consistent across time. UI improved significantly from 3 to 6 months, followed by a non-significant improvement from 6 to 12 months. SF improved significantly over both time periods. Higher depressive and anxiety symptoms were associated with worse SF. Similarly, higher distress was associated with worse UI. The proportions of patients who consulted with a General Practitioner (GP), nurse, physiotherapist, and psychologist post-surgery were 48%, 39%, 59% and 8%, respectively.

Psychological distress may negatively impact patient-reported recovery of UI and SF. Although GPs, nurses and physiotherapists were commonly consulted, fewer men sought psychological services. It is important to educate patients pre-operatively about the potential benefit of engaging with supportive care services.

852 | Quality of Life in prostate cancer patients, a perspective longitudinal study

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Prostate cancer is the most frequent cancer in the male population worldwide. The literature shows how psychological and social issues arise in 30–50% of prostate cancer patients irrespective of the stage and progression of cancer or the type of treatment they receive. We conducted a longitudinal prospective non-drug-related study with a non-randomized sample of 150 prostate cancer patients in order to assess their Quality of Life and coping. In particular, our analysis investigated psychological problems related with urinary, defecation and sexual dysfunction, loss of energy and depression. We administered the Expanded Prostate Cancer Index Composite-26 (EPIC-26) at the pre-hospitalization and at 45 days, 3 months and 6 months after the surgery. The descriptive analysis shows a significant deterioration of evacuative and urinary functions at 45 days after surgery and a readjustment after 6 months. Instead, preoperative patients consider sexual dysfunction as a “very small problem,” while it becomes a “moderate problem” at 6 months after surgery. The perception of Quality of Life shows a significant difference before the surgery and after 6 months. These preliminary data underlie the importance of monitoring patients with prostate cancer before and, above all, after surgery in order to know and satisfy as much as possible their needs and improve a patient-centred care model.

53 | Psychosocial stress in patients with localized or metastatic testicular cancer

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Psychosocial stress in patients with localized or metastatic testicular cancer

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Testicular cancer accounts for the largest proportion of solid malignancies in young men. With a relative 5-year survival of 97%, it is one of the prognostically favourable malignancies. Nevertheless, the peak incidence age (29 years for non-seminoma and 39 years for seminoma) falls into an important family and professional orientation phase. Significant psychosocial stressors result from the diagnosis, the violation of body integrity, the loss of autonomy and activities of daily life, potential social isolation and threats to social identity and self-esteem. The data regarding psychosocial stress in testicular cancer patients in Germany are difficult. The aim of this study was to evaluate the stress situation of testicular cancer patients by screening questionnaires.

A prospective analysis of testicular cancer patients ($n = 37$, mean age 44 years) using validated, standardized questionnaires for stress and psychosocial care needs screening (Hornheider SI and Distress Thermometer) was performed. Both patients with surgical and chemotherapy treatments were included.

Of all patients, the mean stress level was 5.4. A need for psychosocial care was seen in 36% of patients. The main stressors were emotional problems: sorrow (42%), fatigue (36%), anxiety, nervousness and pain (33%). The psychological burden of patients with testicular cancer is confirmed. Given the evident need for psychosocial support, pre-treatment psychological screening for the identification of patients at risk should be implemented.

52 | The relevance of psychosocial care in patients with penile cancer

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The penile cancer is a rare highly aggressive tumor entity. The psychological stress of patients with penis carcinoma arises from the cancer diagnosis per se and the correlating with tumor suffering side effects (loss of body integrity and sexual function). In addition, there is cancer-specific distress e.g. fear of metastasis, progress, recurrence or death. Studies on the psychosocial stress of penile carcinoma patients are rare. This study investigated the stress situation of patients with penile malignancies using screening questionnaires and integration with inpatient mental health care programs.

Prospective analysis of patients with penile carcinoma ($n = 33$) who underwent a surgical treatment or chemotherapy in the period between 06/2015 and 11/2016. Assessment of stress in patients with penile cancer using standardized screening questionnaires (Distress Thermometer (DT) and Hornheider SI (HSI)) and integration with inpatient mental health care programs.

The average stress level was 4,1 (DT; STD 2,2). 42% of the patients showed an elevation care needs. All affected patients received inpatient psychosocial care. The main stressors were sorrow (44%), micturition (40%), fear (36%), and exhaustion (32%).

Patients with penile cancer have, due to the often mutilating surgery, increased psychological stress and consequently increased psychosocial care needs. Therefore, emotional stress should be recognized and support provided. This illustrates the importance of interdisciplinary collaboration in cancer treatment.

Beyond Effects: A Closer Look On Intervention Studies

423 | Can we be confident in the outcomes reported by psychological treatment trials for emotional distress in breast cancer patients?

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Several meta-analyses conclude that psychological interventions effectively alleviate emotional distress in breast cancer (BCa) patients. However, the methodological quality and reporting of the clinical significance of treatment outcomes has not been systematically evaluated. The present review investigates these issues.

A systematic search identified published trials of psychological interventions for emotional distress in BCa. The Psychotherapy Outcome Study Methodology Rating Form was used to assess the quality of studies. Design elements essential to psychotherapy studies were evaluated including manualisation of interventions, therapist training, treatment fidelity, and whether studies reported the clinical significance of treatment effects.

Overall, quality of reporting was low across the 83 trials included in the review. 51% of studies reported using a treatment manual, 76% reported on whether therapists were trained yet only 41% reported adequate therapist training, 31% reported monitoring treatment fidelity, and only 11% reporting clinical significance.

The overall quality of reporting in psychological intervention trials for emotional distress is extremely poor, which limits our confidence in the treatment outcomes reported in this group of patients. Future psychological intervention trials need to ensure that design elements are reported with greater methodological rigour, in particular, the use of treatment manuals, therapist training, and monitoring of treatment fidelity. If we want to identify the most effective treatments

for this group, trials must also report on the clinical significance of treatments.

861 | Acceptance and Commitment Therapy (ACT) in clinical practice: Applications in the oncology setting

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Acceptance and commitment therapy (ACT) is a third wave model of cognitive-behavioral therapy (CBT) that is showing promise in relieving psychological distress in patients with cancer, while limited, several empirical studies within the oncology setting suggest the effectiveness of ACT therapy in reducing anxiety and depressive symptoms as well as addressing common psychological problems such as fears of a cancer recurrence. While traditional interventions such as cognitive-behavioral therapies view mental health problems as derived from faulty thoughts and cognitions, ACT provides a different approach. In this model, suffering is not labeled as a sign of mental health problem. Distress is seen as a “natural” response to a traumatic event. ACT opts to increase one’s awareness of cognitions by making a distinction between a “thought” and “reality.” The present talk aims to (1) introduce the theoretical model of ACT, with its core concepts (i.e., Hexaflex and Matrix models) and elements including being present, cognitive diffusion, self as context, committed action, and acceptance; (2) discuss the clinical applications of ACT in the oncology setting through different case examples; and (3) explain the use of mindfulness (being in the present moment) and metaphors in helping the person to become more “psychologically flexible” and reduce suffering.

357 | Illness representations and psychological health in adults living with and beyond cancer: a systematic review of prospective and intervention studies

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A recent review on mechanisms of effect in psycho-oncology interventions noted that promising classes of mediators include alterations in illness representations (IR) (Stanton and colleagues, 2013). We conducted a two-part systematic review to determine: (part-1) if IR are prospectively associated with psychological health in adults with cancer, and (part-2) (a) what interventions aimed at modifying IR to improve psychological health have been developed and tested in adults with cancer, and (b) their effectiveness. The review was registered with PROSPERO and followed Centre for Reviews and Dissemination

guidelines. Five databases were searched (1980–Nov2015), plus extensive lateral searches were conducted. Study quality was assessed. Of 2080 initial abstracts, 7 papers fulfilled inclusion criteria for part-1, and 11 (reporting 13 studies) for part-2. Study quality scores ranged from 37%–89%. Six of the 7 prospective studies found at least one IR dimension was significantly predictive of future psychological health. Of the 13 intervention studies, 7 aimed directly to modify maladaptive IR, but only 1 improved psychological health; though none of these studies actually measured if and how IR changed. Six of the 13 intervention studies did not directly target IR, though changes in IR were the hypothesized mechanism of effect; 5 of these studies reported positive intervention effects, and also measured and found concurrent changes in IR. Further research is needed to fully understand and capitalize on the role of altered IR in mediating intervention effects – particularly which undertakes mediation analysis and with samples experiencing clinically significant distress.

395 | Mindfulness-based stress reduction for breast cancer patients: a mixed method study on what patients experience as a suitable stage to participate

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Breast cancer is associated with high levels of psychological distress. Mindfulness-based stress reduction (MBSR) has proven to be effective in reducing distress in cancer patients. In several studies, patients who are currently undergoing somatic anticancer treatment are excluded from participating in MBSR. Little is known about what would be the most suitable stage of disease to offer MBSR. We examined whether stage of disease facilitated and/or hindered participation in MBSR for breast cancer patients.

A mixed method design was used. Self-report questionnaires on psychological distress (HADS) and quality of life (EORTC QLQ-C30) were administered before and after MBSR. Five focus groups and three semi-structured individual interviews were conducted. Qualitative data were analyzed with the constant comparative method in order to develop a grounded theory.

Sixty-four females participated in MBSR. In 52 patients who completed the questionnaires, psychological distress improved significantly. Qualitative data showed that participating in MBSR both during and after anticancer treatment has specific advantages and disadvantages. Interestingly, being emotionally ready to take part in MBSR seems equally important as physical ability. Informing patients at an early stage seemed to strengthen autonomy and self-management skills. In contrast to the common practice to tailoring the timing of MBSR to physical impairments or demands of the anticancer treatment, our findings revealed that emotional readiness is equally important to

take into account. These findings might support professionals in their choices whether and when to inform and refer patients to MBSR.

Supportive Care and Other Determinants of Quality of Life

201 | Health-related quality of life for oral cancer survivors: A longitudinal study in Taiwan

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Taiwan has one of the highest incidence of oral cancer in the world (age standard incidence rate = 22.5). While there are many cross-sectional studies about quality of life (QOL) of oral cancer survivors in Taiwan, there is a need for longitudinal research. This study of the QOL of oral cancer clients of Sunshine Social Welfare Foundation (SSWF) was done using a longitudinal approach.

The traditional Chinese version of University of Washington Quality of Life Questionnaire 4th edition (UW-QOLv4) is used as part of SSWF's standard service process with initial test done within 1 month of intake, retest every 6 months during service period and a final evaluation before discharge. This study examined 1,123 measurements from 328 participants using a longitudinal approach with linear mixed model (LMM).

The result showed that as expected, participants' QOL score improves with time for both physical and social emotional functions but interestingly, the improvement speed for an older person is slightly but significantly faster than for a younger person. Cancer stage has significant impact on average QOL scores while age at diagnosis has an impact on the improvement of QOL through time (the slope of time).

Age affected QOL; however, the effect was small. Furthermore, only less than half of total variance was explained. Hence, further research is required. In this research, a two-level model was studied, but future research should examine the effect of more levels, such as how surgeon and hospital levels might impact patients' QOL.

117 | The psychosocial support needs of people affected by cancer: A comparative study of patient and carer experience in a rural setting

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People affected by cancer (PABC) continue to experience a range of unmet psychosocial needs. Our research indicates that the rural setting exacerbates those needs as a result of geographic and service-delivery challenges.

Our research draws on qualitative data from rural Victoria, Australia ($n = 19$), and the rural English county of Lincolnshire ($n = 20$). In-depth interviews were digitally recorded and transcribed verbatim. All data were collated and analysed thematically. Participants were PABC at various stages of the cancer trajectory and included carers of those in receipt of palliative care.

There were consistencies in the findings from both England and Australia studies. Psychosocial care is often provided informally by friends and family with many participants not receiving any professional psychosocial care. Partners and family were a common source of emotional and practical support. Both studies raised concerns about access and awareness of psychosocial support services. The rural setting meant participants often had to travel long distances to receive care and this constituted an emotional, practical, and financial burden. Notably, the presence of the charitable organisation, Macmillan Cancer Support in England, went some way to meeting some of the patients' psychosocial needs.

The results have implications for the long-term well-being of PABC in rural areas and for partners, family members, and health professionals working with people living with cancer and their carers.

658 | Social Support and Locus of Control as Determinants of Psychological Well-being of Cancer Patients in Makurdi, Nigeria

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The study examined social support and locus of control as determinants of psychological well-being among a sample of cancer patients drawn from Federal Medical Centre (FMC), Makurdi. This research is a descriptive design which made use of participants at the Federal Medical Centre, Makurdi, Nigeria. Out of the 148 participants who took part in the study, 81 (54.7%) were females while males were 67 (45.3%). The purposive sampling technique was adopted to select the participants. Data were collected using a measure of Interpersonal Support List, Julian Rotter's Locus of Control Questionnaire, and Scale of Psychological Well-being Questionnaire (SPWQ) which were all standardized and reliable. Following the objectives of the study, research questions were raised and tested. The results indicate that social support is a determinant of psychological well-being of cancer patients, while findings also reveal that locus of control as well as sex are good determinants of these patients' psychological well-being. These mean that, if cancer patients are given support by their caregivers and the hospital managements, and exhibit strong locus of control over their challenges, it would help to improve their well-being thereby living longer, healthy, and productive lives. The study implies the need for patients to be adequately supported as they navigate through the course of treatment. Therefore, it is recommended for

professionals to continue researching on result-oriented interventions to serve as support strategies for the patients.

Keywords: Social support, locus of control, psychological well-being

325 | The supportive management of depression and anxiety in ovarian cancer patients experiencing a first recurrence: A qualitative investigation

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Ovarian cancer is the fifth most common cancer in the UK. It is often diagnosed at an advanced stage with over 70% of women experiencing a recurrence. Patients experience high levels of depression and anxiety. Guidelines suggest that the management of psychological illness is a priority but no specific psychological support is available. We aimed to gain an in-depth understanding of perceived causes of distress for ovarian cancer patients and what individually targeted support they feel would improve their quality of life.

Qualitative semi-structured telephone interviews were carried out with 19 women with recurrent ovarian cancer. The interviews were transcribed verbatim and analysed using thematic analysis.

Three main themes were identified: experience of initial and recurrence diagnosis, psychological impact, and support needs. Most women found the diagnosis to be a lengthy process, reported a more negative response to recurrence than initial diagnosis, and reported a number of side effects as a result of treatment. The diagnosis had a significant impact on their lives and their families, partly due to fear about the future, though most tried to remain positive. Women sought and desired support, would like a group support intervention, and felt that online communities were helpful.

Women with recurrent ovarian cancer experience significant levels of psychological distress due to diagnostic delays, treatment side effects, fear of the future, and the overall impact of the disease. To manage distress, they would welcome support interventions, including contact with other women with the disease.

812 | Identifying information needs post-diagnosis for oesophageal and gastric cancer survivors and their main supporters: An exploratory survey study

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Providing people affected by cancer with appropriate information is widely recognised as an important aspect of supportive care across the cancer continuum, but unmet information needs and suboptimal communication with clinicians is often reported. There is a need to identify information needs and experiences for both cancer survivors and their supporters to inform information provision strategies.

Short- and long-term survivors who had undergone oesophagectomy or gastrectomy for malignancy or pre-malignant disease, and persons identified as a main supporter, were surveyed. Using validated measures representing the cross-continuum adult cancer survivor information need typology (Fletcher et al., 2016), survivors reported retrospectively on the extent of their information needs, and on information received, at key stages following diagnosis. Main supporters reported separately on their own needs and provided their recollections of survivors' information needs to validate survivors' recall and identify perceived discrepancies.

Analysis will highlight the information needs most frequently endorsed for both survivors and main supporters at different stages of survivorship, with an emphasis on unmet information needs at transition points along the cancer continuum, and discrepancies between information needs identified by the two participant groups. Preliminary results will be presented at the congress.

The results of this exploratory survey will inform a detailed qualitative exploration amongst oesophageal and gastric cancer survivors, main supporters, and health professionals. Findings will inform the development of interventions to assist those affected by cancer to best identify and formulate unmet information needs, encourage information seeking, and optimise patient-health professional shared decision making.

Survivorship, Lifestyle, and Behavioral Issues

P-002 | To carry on as before: A meta-synthesis of qualitative studies in lung cancer

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As a complement to quantitative studies, qualitative studies can give us a better understanding of how persons affected by lung

cancer live their everyday lives and how they deal with the obvious strain of having lung cancer. Because qualitative studies are based on only a few participants in specific contexts, the purpose of the present study is to synthesize knowledge from these qualitative studies to get a more general picture of the everyday lives of patients with lung cancer. A search on PubMed, CINAHL, Medline, and PsychInfo yielded 383 hits. After exclusion, we found 16 studies that focused on how these patients lived, reflected, and dealt with their new life situation. These studies comprised 393 interviews with 283 patients with primary lung cancer, and the findings from these studies were synthesized into a core process with sub-categories. The overarching process was that the patients were eager "to carry on as before." They wanted to resume their former everyday life, and their views on their relationships with their bodies and side effects of treatments, their families, the health care staff, and with dying and death were very much related to how these could assist the core process. The synthesis presented here suggests that health care in consultations with patients with lung cancer should defer to the importance of the patient's core idea that life carries on despite the fact that it will probably soon come to an end.

P-003 | Pain belief, perceived social support, and post traumatic growth in survivors of breast cancer in women

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The present research studied the relationship among pain beliefs, perceived social support, and post traumatic growth in women with breast cancer in Tehran. The population of this study was women with breast cancer in Tehran and the sample composed of 90 women, 2 years after the diagnosis receiving at least one of the therapeutic methods of radiotherapy, chemotherapy, or operation, experienced pain in the course of the disease, and not reaching stage IV. The sample was asked to complete Pain Belief Perception (PBPI), Social Support (SS-A), and Post Traumatic Growth (PTGI) questionnaires. Correlation and multivariate regression were used for data analysis. Results indicated that there was a positive correlation between perceived social support and post traumatic growth in women with cancer. In addition, there was a negative correlation between pain beliefs and post traumatic growth and also between pain beliefs and perceived social support. Finally, results showed that pain beliefs and perceived social support were predictors of post traumatic growth in cancer stricken women. In the end, we should keep in mind that although the scars (physical and emotional) may remain forever as a narrator, cancer diagnosis can lead to growth under certain circumstances.

Keywords: Post traumatic growth, Perceived social support, Pain beliefs, Cancer, Women with cancer

P-005 | The influence of treatment modality and psychological factors on fear of cancer recurrence and health-related coping behaviors among breast cancer survivors

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The present study investigated two aspects of psychological adjustment in breast cancer survivors. Firstly, the psychological impact of cancer treatment intensity and secondly role of psychological factors (health anxiety, mental defeat and self-compassion) in relation to fear of cancer recurrence (FCR) and health-related coping behaviors.

A total of 77 breast cancer survivors completed questionnaires to investigate the psychological factors associated with FCR and whether increased treatment intensity (ie, including chemotherapy alongside radiotherapy and surgery) was associated with more adverse psychological outcomes.

Group comparisons demonstrated significantly higher levels of health anxiety, FCR, mental defeat and psychological distress among patients who had received chemotherapy in their treatment pathway relative to those who did not. Multiple regression analyses revealed that health anxiety and mental defeat were the factors most strongly associated with FCR when controlled for age, whilst mental defeat and FCR emerged as the strongest overall predictors of psychological distress following cancer treatment. In addition, mental defeat was strongly and inversely associated with levels of self-compassion.

FCR, health anxiety and mental defeat are significantly elevated among breast cancer survivors, and those who have received chemotherapy were especially vulnerable to adverse psychological outcomes. Cognitive-behavioral interventions targeting these factors should be evaluated in this patient group.

P-006 | Post traumatic growth for cancer survivors? An Irish perspective

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The objective of this paper/presentation is to present the key findings from the doctoral research on *how does "meaning making" contribute to post traumatic growth in women in remission from cancer?* This study took place in Ireland from 2015 to 2017 and is a requirement of the Doctorate in Social Science at Leicester University in the UK. The findings that will be addressed highlight the trajectory of recovery of women in remission from cancer in terms of identifying the major milestones of transition as well as the metaphors used to explain their experience. It will also identify what areas of growth

were identified by the participants as well as an initial exploration of the use of the Post Traumatic Growth Inventory (PTG 42) in an Irish context.

The study employed a mixed methods approach. Phase 1 comprised of a 1-hour semi structured interview followed by the completion of 2 questionnaires per participant. The sample was a group of 30 women accessed through 4 Cancer Support Centers based in County Tipperary, Ireland. Phase 2 consisted of questionnaires completed by 100 women in the Munster region of Ireland.

The results of this research have potential implications for professionals working with cancer survivors, for Cancer Support Centre workers and for policy makers. This is a current and important study which be used to inform; the kind of services provided and ways of working with cancer survivors as well as the use of the PTG 42 as a research instrument.

P-007 | Predictors of prostate cancer-related anxiety in long-term survivors after radical prostatectomy

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Although the long-term prognosis is very good, living as a prostate cancer (PC) survivor who underwent various therapies is associated with several adaptational challenges. However, knowledge of the psychological distress of long- and very long-term prostate cancer (PC) survivors is limited. This study intended to examine the parameters influencing anxiety related to prostate-specific antigen (PSA) and PC in long-term survivors after radical prostatectomy.

N = 4.719 PC survivors from the German multicenter database "Familial Prostate Cancer" participated in this study. We evaluated the association of PC-specific anxiety (Memorial Anxiety Scale for Prostate Cancer, MAX-PC) with sociodemographic characteristics, family history of PC, global health status/quality of life, depression/anxiety, latest PSA level, time since radical prostatectomy, and current therapy.

The survey participants' mean age was 75.2 years (SD = 6.5). Median follow-up was 11.5 years. The regression analysis revealed that younger age, lower global health status/quality of life, higher depression and anxiety, higher latest PSA level, and shorter time since radical prostatectomy predicted increased PSA related anxiety and PC anxiety. Familial PC was predictive only of PSA anxiety (all $P < .05$). The final model explained 12% of the variance for PSA anxiety and 24% for PC anxiety.

Our results show that PC-specific anxiety remained relevant many years after prostatectomy and was influenced by younger age, psychological status, rising PSA level, and shorter time since radical prostatectomy.

P-008 | Differential relationships between resilience and fear of cancer recurrence in Asian cancer survivors

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Psychosocial interventions targeted at reducing the fear of cancer recurrence (FCR) have broadly sought to increase survivors' resilience through self-regulation; surprisingly, few studies have examined this premise, much less explored their cross-cultural stability. The present study investigated this relationship between resilience and FCR in Asian cancer survivors.

Data from a subset of 370 (92%) participants (Mean = 5.17 years post-treatment) from a larger study in Singapore completed the Resilience Scale and the Fear of Cancer Recurrence Inventory. Pearson's r was calculated controlling for the following a priori confounds: age, ethnicity, gender, spirituality, and socio-economic status.

Analyses revealed no significant correlation between resilience and FCR. Further investigations revealed that resilience was significantly differentially related only to certain aspects of FCR: resilience was positively correlated with coping strategies ($r = .14$, $P = .02$), but negatively correlated to psychological distress and insight (both $r_s = -.23$, $P_s < .001$).

This is the first study to suggest that resilience may not be related to all aspects of FCR. Improving resilience may allow survivors to gain more insight and strategies to deal with their psychological distress; however other aspects of FCR, such as triggers, impairments, and non-reassurance still need to be addressed. Future studies may want to replicate these results both in Asian and non-Asian samples; future interventions may want to consider components that address other aspects of FCR that may potentially be more detrimental to survivors' quality of life.

P-009 | Depression and anxiety following hematopoietic stem cell transplantation—a prospective population-based study in Germany

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In this prospective multicenter study we investigated the course of depression and anxiety during hematopoietic stem cell transplantation (HSCT) until 5 years after transplantation adjusting for medical information.

Patients were consulted before HSCT (n = 239), at 3 (n = 150), 12 months (n = 102) and at 5 years (n = 45) after HSCT. Depression and anxiety were assessed with the Hospital Anxiety and Depression Scale (HADS). Detailed medical and demographic information were collected. Prevalence rates were compared to an age-and-gender-matched control group drawn from a large representative sample (n = 4110).

The risk for depression before HSCT was lower for patients than in the control group (RR, .56; 95%CI, .39/.81). Prevalence rates of depression increased from 12% to 30% until 5 years post HSCT. Anxiety rates were most frequently increased before HSCT (29%; RR, 1.31; 95%CI, 1.02/1.68) and then reached a stable level comparable with the background population (RR, .83; 95%CI, .56/1.22).

This study confirms the low levels of depression in the short-term after HSCT and identifies depression as a long-term effect. Furthermore, it confirms previous results of heightened anxiety before HSCT. Surveillance of symptoms of anxiety during the short-term phase of HSCT and of depression during the following years is crucial.

P-010 | An evaluation of posttraumatic growth of breast cancer survivors after treatment at Faraja Cancer Support Trust Nairobi

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Cancer diagnosis and treatment is a life-transforming event that can negatively affect individual's self-concept and belief. However, the latest research indicates the positive impact of cancer diagnosis. Positive life changes have been documented as side effects of dealing with range of traumatic events. Tedeschi and Calhoun define this experience as "a positive cognitive process that is initiated to cope with traumatic events that extract an extreme cognitive and emotional toll" (Tedeschi & Calhoun, 1995.5). The research study focuses on posttraumatic growth by breast cancer patients and its effects on the coping process.

The study was carried out at Faraja Cancer support trust in Kenya. The respondents were a homogeneous group of breast cancer patients from age 30 to 75. The population sample was 35 patients. The study shows over 80% of the patients sampled had undergone radiotherapy treatment. Result indicative that cancer diagnosis despite its negative impact can be a positive life experience too. Data indicates that 75% of the survivors across the age of 20 to 55 years completely changed their outlook to life. Their optimism also reflected in their sense of hopefulness and changes in life purpose.

The change of focus from the negative impact of cancer diagnosis and treatment is key in fostering growth-oriented studies from cancer diagnosis. Whilst this does not ignore the negative and painful impact of the disease the shift in focus can enhance patients coping capacity and transform the pain to personal growth.

P-011 | "It changed my life": Women's reflections of life and coping 9 years after their breast cancer surgery

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Increased breast cancer survival means that women live with the long-term consequences of their disease and treatment. Knowledge about their coping is important. This qualitative follow-up study describes women's individual reflections of life and coping experiences 9 years after primary breast-cancer surgery.

A total of 21 women, who 9 years earlier were interviewed the day before their surgery, were invited to participate. Fifteen agreed and were interviewed individually between January and June 2015. Data analysis: qualitative meaning condensation analysis (Kvale & Brinkmann 2015).

Changed life–Clarified values: Life had changed during these 9 years. To be affected by life-threatening illness made their fundamental values clearer. Some felt healthy and beyond cancer, while others suffered from reduced energy, joy of life, and self-esteem. *Embracing life–Neglecting the negative:* Most women had a positive attitude and accepted their situation, some by avoiding thinking about cancer while still being insecure and afraid of recurrence. A step-by-step strategy to motivate oneself was important. That life continued "as usual" gave feelings of mastery. *Impact of social relationships:* Support was experienced both necessary and challenging. Many were more socially selective: preferring people that gave them energy. Paradoxically, some disliked still being perceived as cancer-patients, while they wanted their post-treatment ailments to be taken seriously by others.

There were great variations in these women's coping strategies, needs, and uses of social resources. Not all coped well. Professional individualized information, listening, and support can help these women in their continuing challenges as breast cancer survivors.

P-012 | Psychological intervention during radiotherapy treatment and survival time: Case study

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Given that the mortality rate of breast cancer has significantly decreased, it is important to understand the size the survival concept gets in breast cancer, in its relationship with the opportunity to focus on the knowledge, understanding, and assessing needs psychological and social aspects for the cancer survival patient. After completion of oncology treatment, the patient does not return to the status it had before the diagnosis but has specific and unique needs. Breast cancer patients suffer particularly endocrine problems could have an important impact on quality of life. The aim of this poster is to present a psychological intervention offered to breast cancer patients during radiation therapy treatment and psychosocial support offered during survival at 3 months after completion of oncology treatment. R.D, patient 50 years of age, diagnosed with invasive ductal cancer in her right breast, stage IIIa sought psychological counseling. The main diagnosis was single depressive episode, anxiety or other items without comorbidities (BDI II score scale = 21). Psychological intervention carried out during radiotherapy treatment through a period of 15 sessions in the forms of supportive and cognitive behavioral one. Psychological intervention conducted in survival period, addressed needs related to adaptation to work and problem solving over a period of four meetings. This case study represented the main psychosocial needs addressed in the cancer survivor's case, but without generalizing the results.

Keywords: breast cancer, psychosocial needs, stage of survival, psychological intervention, case study

P-013 | Experiences of long-term cancer survivors who established and have managed a self-help group for over 10 years

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In Japan, consultations by self-help groups (SHGs) and peers play an important role in supporting cancer survivors. This study aimed to clarify motives of cancer survivors who established and have managed an SHG for over 10 years for establishing an SHG and significance of continuing the activity.

(1) Study participants: We recruited participants from cancer patient associations and support centers of cancer core hospitals all over Japan. Among 18 applicants, 12 applicants who had experience with

establishing an SHG were chosen as subjects. (2) Study procedure: We conducted semi-structured interviews between December 2015 and August 2016 to ask about motives for establishment and intentions to continue. (3) Analysis: We analyzed the data both qualitatively and inductively with a focus on the significance of continuing the activity of SHG. (4) Ethical considerations: We obtained an approval from the ethics committee at our institution (approval #15041).

Reasons for long-term continuation of SHG were "a mission as a long-term survivor/witness," "firm belief in the significance of sharing an experience with a cancer," "pleasure of participant's increasing autonomy," "lifework involving repaying for kindness and purpose of life," "continuation of the connection with medical staff," "features of consultations by professionals and those by peer supports," "equal relationship with medical staff," "continuation by developing successors," and "suggestions for medical care."

The study showed that a sense of fulfillment, a mission as a lifework, fear of recurrence even after 10 years, and desire to connect with medical staff supported the activity of SHG.

P-015 | Fear of progression (FoP) in long-term cancer survivors 5 and 10 years after diagnosis—Associations with depression and anxiety

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This project addressed cancer survivorship issues and analyzed FoP (illness-related fear) in relation to depression and anxiety 5 and 10 years after cancer.

We recruited a sample of 1002 long-term mixed cancer survivors (53% male, mean age = 68 years, 26% prostate cancer, 22% breast cancer) using a cross-sectional register-based design. FoP, depression and anxiety were measured using validated self-report questionnaires (FoP-Q-SF, PHQ-9, GAD-7).

The degree of FoP was almost similar in the cohorts 5 and 10 years after diagnosis. Cancer survivors were most worried about what will become of the family ($M = 2.36$); they have been nervous prior to doctor's appointment or periodic examinations (2.34) and have been afraid of relying on strangers for activities of daily living ($M = 2.33$). FoP depended on demographic factors, cancer site, and psychological distress. Higher FoP was related to female gender, younger age, and disease progression. High values for FoP had patients with breast, gynecological, kidney, and hematological cancer ($M = 27.9$ -25.1). Prostate cancer survivors showed lowest FoP values ($M = 20.6$). In both cohorts, there was also a significant positive association between FoP and depression and anxiety ($P < .001$). Moderate and severe anxiety symptoms showed 9.4% (5 y) and 8.4% (10 y) of the survivors; 18.5% (5 y) and 14.1% (10 y) showed moderate and severe depression symptoms.

Our findings indicate the need to identify patients, who are suffering from high levels of FoP, and to develop and provide appropriate interventions for patients who are experiencing clinically relevant FoP.

P-016 | Lung cancer survivorship needs assessment: A scoping review

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Lung cancer survivors experience a greater burden of illness and lower quality of life than other cancer survivors. Earlier detection with low-dose CT-based screening and treatment advances are associated with an increasing number of lung cancer survivors. There is urgency for more research-based knowledge to develop appropriate and needed interventions for lung cancer survivors. In this study, we aim to determine the needs of lung cancer survivors by mapping the outcomes and interventions studied in the literature, identify gaps, to make recommendations for interventions and care plans specific to this growing population of cancer survivors.

We conducted the initial steps of a scoping review of the relevant lung cancer survivorship literature in multiple databases, identifying 1502 potentially relevant studies. After a full text review, 219 studies were used for data extraction.

Data extraction, analysis, and synthesis are ongoing. Thus far, there is more literature measuring the outcomes of depression and quality of life than other psychosocial outcomes such as anxiety. Additionally, there is far more research on physical activity interventions and outcomes and smoking cessation interventions and outcomes than other areas of physical health and wellbeing.

A map of the outcomes and interventions for lung cancer survivors indicate a need for more research overall, and more specifically in outcomes such as anxiety, which might be unique to lung cancer patients with the high prevalence of dyspnea. Very little psychosocial intervention literature exists, citing the need for the further development of care programs for lung cancer survivors.

P-018 | Self esteem and cancer: To what extent does chemotherapy affect a cancer patient's self esteem?

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Cancer is one of the leading causes of mortality and is a major public health problem. According to the World Health Organization(WHO),

by 2020 mortality due to cancer shall total up to above 11 million people worldwide. The most common treatment given for cancer is chemotherapy however it is known for its side effects. The aim of this research is to determine the prevalence of self-esteem among patients receiving chemotherapy in Malaysia and to rule out the predictors that are likely to affect the level of self-esteem. The predictors that are assessed in this research are Socio-demographics, Quality of Life (WHOQOL-BREF), Physical Effects (CTCAE 4.0), Anxiety(GAD) and Depression(PHQ-7). An analytical cross sectional study with a quantitative approach was designed and carried out in the oncology wards in 10 general hospitals in Malaysia. A pilot test was conducted and the analysis of self-esteem using Rosenberg Self-Esteem Scale showed that the mean score was 19.2 out of 40. It is crucial to identify the self-esteem prevalence and predictors in order to enable the healthcare team to create better strategies to meet the psychological and emotional needs of these patients.

Keyword: Prevalence, Predictors, Cancer, Chemotherapy, Self-Esteem. Corresponding Author: Professor Dr.Sherina Sidek MBBS (Malaya), MMED(Family Medicine UKM), PHD (Comm.Health, Auckland) Department of Psychological Medicine, Faculty of Medicine and Health Sciences, University Putra Malaysia, Jalan UPM, 43400 Serdang, Selangor, Malaysia.

P-019 | Explaining cancer survivors' physical activity behavior: An application of protection motivation theory

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Physical activity (PA) can promote quality of life in cancer survivors; yet, most are inactive or insufficiently active. It is therefore necessary to identify factors amenable to change that underpin survivors' decisions to participate in PA to inform health interventions. We drew on Protection Motivation Theory (PMT; Rogers, 1983) and the Health Belief Model (HBM; Rosenstock, 1974) to extend the existing knowledge based on these factors. Specifically, we examined if cancer survivors' estimates of the threat of health issues/cancer recurrence (*perceived severity*) and the chance of suffering from health issues/cancer recurrence (*vulnerability*) along with their expectancy that participating in PA can remove the threat (*response efficacy*) and their beliefs in their capability to engage in PA (*self-efficacy*) influenced their participation in PA.

Participants (N = 96, M_{age} = 50.7 years, M_{time since diagnosis} = 5.3 years) completed an online survey. Data were analyzed using linear regression analysis.

Controlling for weight status, sex, age, income, and time since diagnosis (Step 1; R² = .18), response efficacy (β = .21) and self-efficacy (β = .42) were significantly associated with participation in PA (Step 2; R² = .46). PMT and HBM have some value in explaining cancer survivors' participation in PA; however, more research is needed to identify

additional factors that influence survivors' participation in PA. Given the availability of diverse theories, it is appropriate to look into integrating multiple theories. Nevertheless, our results highlight the importance of promoting survivors' beliefs in their capability to engage in PA and expectancy that participating in PA can remove the threat of health issues/cancer recurrence.

P-020 | Factors influencing dietary decision-making among Chinese breast cancer survivors

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Breast cancer (BCA) survivors can benefit from dietary changes post-diagnoses. In order to effectively promote healthy eating among this population, we need more in-depth understanding of their decision-making process.

Methods: Individual semi-structured interviews were conducted with 30 BCA survivors to explore factors influencing their dietary decision-making. All interviews were recorded and transcribed verbatim for analysis. Grounded theory approach was used.

BCA survivors reported making dietary changes post-diagnoses that were consistent with their beliefs of what caused cancer and what could prevent future cancer recurrence. We identified three major decision-making themes: (1) Balancing priorities, (2) Self-efficacy and (3) Harm avoidance. BCA survivors mentioned the re-prioritization of values post-diagnoses when making dietary decisions. Commonly cited considerations during dietary decision-making included food preferences, health concerns, stress from dietary restriction, convenience and cost. Moreover, BCA survivors' self-efficacy in the processing dietary information, dealing with different eating situations and following through with dietary advice affected the adoption of new dietary behaviors. Lastly, the majority of BCA survivors expressed the desire to avoid harm. They were willing to try new food or completely eliminate certain foods if they believed their action would not lead to harm and often wanted reassurance from healthcare professionals and their social circle. While BCA survivors were motivated to change their diet for the better, future dietary interventions targeting this population need to be aware of competing priorities, and may aim to build up BCA survivors' self-efficacy and give reassurance for the adoption of good dietary behaviors.

P-021 | Committed but conflicted: Young women's experiences regarding physical activity and health eating after treatment for breast cancer

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The benefits of physical activity and weight management practices (eg, healthy eating) for women with breast cancer are well established. Considerable efforts are needed to promote a healthy lifestyle among women with breast cancer across the lifespan, yet few evidence-based lifestyle interventions are designed specifically for young women who may have unique needs and challenges that must be overcome before they can engage in physical activity and health eating. Thus, we conducted a qualitative study to explore young women's experiences, barriers, preferences, and motivating factors with respect to physical activity and healthy eating after treatment for breast cancer.

We conducted semi-structured interviews with 12 women ($M_{\text{age}} = 36 \pm 3.4$ y; <5 y of breast cancer diagnosis). Thematic analysis was used to identify themes within the data.

Participants described many reasons why it was difficult to maintain physical activity and healthy eating practices, which could be classified into push and pull factors and captured within three thematic tensions: (1) *prolonging life versus enjoying living*, (2) *perceived benefits versus practical limitations*, and (3) *seeking social connection versus protecting the self from social threats*. They also noted preferences, which if considered could make it easier for them to maintain practices.

Young women with breast cancer value physical activity and healthy eating practices and would welcome lifestyle interventions. However, experienced tensions should be considered to ensure lifestyle interventions are widely utilized and bring benefits to young women with breast cancer. Their preferences provide a starting point for how this can be done.

P-022 | Knowledge, fatigue and cognitive factors as predictors of lymphedema risk reduction behaviors: An application of the theory of planned behavior

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To identify social-cognitive factors predicting lymphedema risk reduction behaviors (hereafter, self-care) after discharge among female Japanese cancer patients.

Methods A cross-sectional questionnaire study was conducted in our oncology hospital. A total of 202 patients at high risk of lymphedema

completed questionnaires (response rate of 79.5%): items included (1) knowledge about self-care, (2) the Cancer Fatigue Scale, (3) social-cognitive factors in the theory of planned behavior (attitudes, subjective norms, and perceived behavioral control), (4) self-care (limb hygiene, observation, articular movement, avoidance behaviors in daily life, and diet and weight control), and (5) demographics. Excluding 55 respondents who did not meet inclusion criteria 147 respondents who had not been diagnosed with lymphedema were eligible for statistical analysis (65.3% with gynecologic cancer; 34.7% with breast cancer).

Average age was 52.5 years (± 10.31), and average time since surgery was 2.3 years (± 2.12). Latent variables were made for the self-care variable. Structured equation modeling was used to examine a hypothesized model based on the theory of planned behaviors, and revealed that longer time since surgery ($\beta = 0.175$), higher levels of fatigue ($\beta = 0.178$), less knowledge ($\beta = 0.392$), higher expected efficacy of self-care ($\beta = 0.458$), and lower perceived behavioral controls ($\beta = 0.485$) directly and significantly predicted less self-care behaviors (CFI = 0.96, RMSEA = 0.030 90%CI: 0.000, 0.055).

Besides education about self-care behaviors, levels of fatigue and perceived behavioral control should be taken into account to encourage female cancer patients to perform self-care after discharge. Continuous psycho-educational programs after discharge may help to facilitate self-care behaviors in long-term female cancer survivors.

P-023 | How do PTSS and PTG responses influence on online-information impact in breast cancer survivors?

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Cancer-related posttraumatic stress symptoms (PTSS) and posttraumatic growth (PTG) may influence on the adaptive process to the illness. These extreme psychological responses may also have a relevant role on the use and the impact of internet information.

To analyze how PTG and PTSS levels of breast cancer survivors influence on the time spent seeking for online cancer-related information, type information search, and its psychological impact on users of online information.

PTG and PTSS were assessed in a multicenter sample composed by 209 consecutive breast cancer internet users. Also, their use of internet and the impact of the online information (hope, distress, worries, and consciousness about disease) were appraised.

Women with high levels of PTSS spent more time looking for health-related information on the net, both medical and psychosocial information. In contrast, women with higher PTG, mainly seek for psychosocial sources. In overall sample, online information has a positive impact increasing women's perception of being more conscious of their illness,

without any influence on patients' levels of hope, worries and distress. However, in women with higher levels of PTSS, online information additionally increased their disease-related distress and worries. Higher levels of PTSS are associated with time spent and negative impact of online information. PTG is only associated with more interests in online psychosocial information. It is relevant taking into account patient's positive and negative traumatic response in cancer when guiding online information.

P-024 | Why do patients fast during chemo? Patients' experience of and motivation for fasting during treatment

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A fasting diet during chemotherapy (CT) appears to be efficient to delay tumor proliferation, improve the sensitivity of tumor cells and protect healthy cells from the toxicity of CT in animal models. These effects are currently being studied in humans, however, several patients regularly report fasting during their CT. To our knowledge, our study is the first that aims to understand patients' motivations to fast and their experience of fasting.

We interviewed 15 women with breast cancer who performed a fast during their chemotherapy at the Montpellier Cancer Institute. An exploratory analysis based on the Grounded theory was conducted to process the data.

The main motivation reported by patients was to limit the side effects of CT (nausea, vomiting and fatigue). The potential effect of fasting on tumor was not reported as a motivation. This mainly results from the fact that patients feel cancer-free at the time of the CT because the tumor has already been removed by surgery. For the great majority of patients, fasting was a positive experience that helped to reduce the side effects of CT and reinforced self-esteem. Fasting was also reported as a strategy to cope with cancer. For example, patients said they felt more involved in their treatment when they can play an active role. Only two patients (out of 15) reported adverse effects such as vomiting and stopped fasting but did not regret their attempt to fast.

P-025 | Prevalance and predictors of depression and anxiety among oncology patients receiving chemotherapy

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Cancer is defined as uncontrolled growth of abnormal cells and which will slowly spread to the whole body. The World Health Organization

reported that in 2012, an estimated 14.1 million new cases of cancer occurred worldwide. According to National Cancer Registry 2007, it is stated that the incidence of cancer is increasing in trend. This study was done to determine the prevalence and predictors of depression and anxiety among oncology patients receiving chemotherapy in Day Care Unit and Oncology Wards in selected government state hospitals, Malaysia. A cross-sectional study was conducted using self-administrated questionnaire (Patient Health Questionnaire (PHQ 9), The Generalized Anxiety Disorder-7 Scale (GAD-7), Beck Hopelessness Scale (BHS) and Multidimensional Scale of Perceived Social Support (MSPSS). Based on the pilot study which was conducted in Hospital Kuala Lumpur among 40 patients, the majority of the patients were having mild depression (37.5% $n = 15$) and for anxiety majority of patients were having moderate anxiety (57.5% $n = 23$). Meanwhile for the predictors such as social-demographic, severity of cancer, social support and hopelessness play a main role in depression and anxiety. The prevalence of depression and anxiety shows that improving patient's psychological effects, social support and hopelessness are most important to improve patient's quality of life and to prolong patient's life spans.

Keywords: Depression Anxiety, Cancer, Chemotherapy.

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P-255 | Mindfulness based cognitive therapy: A pilot study to determine the feasibility in adult Italian cancer patients

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Mindfulness-based interventions have become widespread in psychosocial cancer care over recent years, in the light of a growing body of scientific evidence. Most of these studies have been conducted on breast cancer patients and only a few on advanced cancer patients. Recently a MBCT program specifically adapted to meet the needs of cancer patients has been designed and developed which goes by the name of Mindfulness-based Cognitive Therapy for Cancer.

This pilot study is a non-randomized repeated measures trial. Twelve cancer patients who have received or are receiving cancer treatment were recruited to take part in the MBCT-Ca program. Outcome of mood disorders and QOL, are assessed 1 month before the beginning of the MBCT-CA delivery (T0), immediately prior to the first session of the program (T1) and at the end of it (T2). A self-reported form is used to test the acceptability of the program.

Twelve cancer patients were recruited to participate. They have different cancer diagnoses and six of them are at an advanced stage of illness.

Several aspects of this pilot study are innovative. There is actually a lack of formal scientific studies on MBCT-Ca efficacy except for

regularly clinical audits or some dissertations. This pilot study presents an opportunity to be able to deliver MBCT-Ca in Italy for the first time. The sample is mixed over various sites and stages of cancer with a strong component of ACP.

Cancer Prevention

P-026 | Efficiency of a psychoeducational Intervention for smoking cessation in a specialized cessation clinic

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To evaluate the quit rates of nurses with a program consisted of pharmacological and psychoeducational interventions.

Out of 84 regular smoker nurses working at a university hospital who volunteered to receive information about the study, 40 provided consent and were recruited. Participants were randomized into 4 groups and attended a session of psychoeducational approach based smoking cessation program for 4 weeks. Per-protocol (PP) group consisted 28 nurses who participated all sessions. All participants were contacted over telephone at 6th and 12th months for follow-up. Measures used in the study were Fagerström Nicotine Dependence Scale, Self-Efficacy questionnaire, carbon monoxide (CO) measurement, and urine cotinine analyses.

About 57.5% of nurses took pharmacological medication, 42.5% took only psychoeducational intervention. Quit rates at the end of program, and 6th and 12th months of follow-ups were 52.5%, 35.6%, and 30.0% in the ITT group, and 72.7%, 45.5%, and 40.9% in the PP group, respectively. Preintervention and postintervention comparisons of self-efficacy scores ($P = .002$), CO levels ($P = .001$) and cotinine levels ($P = .017$) were significantly different in PP group.

Psychoeducational intervention was found to be a significant factor to increase motivation for quitting, particularly in participants with complete attendance. Further studies will contribute to standardization of applicable interventions for quitting, which eventually decrease the morbidity and mortality due to smoking in the population.

Key words: Smoking addiction, Psychoeducation, Smoking Cessation Program, Nursing.

P-027 | Psychosocial effects of colorectal cancer screening

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Colorectal cancer (CRC) mortality can be reduced with screening, but it is yet unclear if CRC screening affects various psychosocial factors. A national programme for CRC screening with repeated fecal occult blood (FOB) testing has been running in Finland since 2004. Our aim is to clarify, if screening is introducing harmful psychosocial effects, thus affecting the harm-benefit ratio of an otherwise feasible screening programme.

A population-based random sample of 10648 Finnish adults were sent a lifestyle and quality of life questionnaire in 2010. In 2011, the 60-year-old cohort was independently randomized (1:1) for their first ever CRC screening (invited) or control group (not contacted). The questionnaires were repeated in 2012 for all. From both survey rounds, 2508 pairs of completed questionnaires were available for analysis from the screening group and 2387 from the control group. The outcomes were 2-year change in total lifestyle score of CRC risk related lifestyle factors and corresponding change in symptom score of eight gastrointestinal symptoms.

Total lifestyle index decreased throughout the follow-up in both the screening group (odds ratio (OR) = 0.80, 95% confidence interval (CI) 0.72-0.90) and in the control group (OR = 0.80, CI 0.71-0.90) indicating no difference in lifestyle changes between groups. There was also no significant difference by screening participation or by screening result. Results were similar for symptom index.

Present study found no unfavorable changes in lifestyle or symptom perception due to CRC screening.

P-028 | Cancer related knowledge, attitude and risk perception on health risk behavior among teachers in Ibadan south east local government, Oyo State, Nigeria

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This aim of the study is to identify the cancer-related knowledge, attitude, risk perception on health behavior of primary school teachers in the Ibadan South East Local Government of Oyo State.

A descriptive research design was adopted for this study. Stratified random sampling was used to collect data from primary school teachers in the Ibadan South East Local Government of Oyo State. Data was collected from the respondents with a use self-constructed and pilot tested instrument known as cancer-related knowledge, attitude, risk perception and health behavior scale. Data were analyzed using descriptive statistics, Pearson's correlation coefficients and multiple regression analysis.

Findings revealed that the respondents were 146 (48.7%) men and 150 (50%) women with an age range of 20 to 62 with a mean of 39.48. There is a significant linear relationship between participants health behavior and cancer-related knowledge ($P < .05$), risk perception ($P < .01$) and attitude ($P < .13$). This implies that the higher the cancer-related knowledge and risk perception, the higher the quality of health related behaviors of the respondents. The independent variables jointly significantly predict teachers' cancer-related health behavior ($P < .01$).

The study concluded that cancer risk perception has the highest level of contribution to the prediction of teachers' health related behaviors, followed by cancer-related knowledge while cancer-related attitude did not make significant contribution to the prediction of teachers' health related behavior.

P-029 | Psychological and medical need for assistance in women with increased risk for hereditary breast and ovarian cancer—A qualitative analysis

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Healthy women recognized to carry a pathogenic *BRCA1/2* mutation bear a significant psychological burden, eg, due to uncertainty how to deal with an increased risk to develop breast (BC) and ovarian cancer (OC). Mutation carriers may experience significant levels of distress in the short-time, and genetic testing distress can remain elevated in the longer term, especially among younger women and women with higher levels of distress at testing. Vos et al. (2013) found out that only one-third of the counselees who reported a request for psychological assistance had attained help.

This study aims to identify whether, and if so, in which extent women with hereditary BC and OC need psychological and medical assistance and which contents could be additionally of interest for them.

N = 15 women were asked by in-depth interviews if a genetic burden exists and if psychological assistance were requested. In addition, topics of interest were identified. Moreover, N = 5 interviews were conducted with experts (physicians, psycho-oncologists) to identify themes of interest for women with a pathogenic mutation.

Preliminary analysis indicates that 40% requested for psychological help because of the genetic mutation and/or their consequence in the past (divorce, depression). Further, 46.7% of the interviewed women show an interest in psychological help. At this point main topics are communication, anxiety, decision-making processes, dealing with genetic- and family-related distress. More extensive analyses are planned.

This study takes first step towards understanding patients' psychological and medical need for assistance and suggested main themes of interest.

P-031 | Psychological factors and participation in cytology screening

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Cytology screening allows for early treatment and reduces the number of diagnoses of invasive cancers. In Poland, there is a low reportability of women for cytology examination. It may be related to emotional factors such as distress and anxiety.

The aim of this study is to determine the relationship between psychological factors and performance in cytology examination in women.

Polish women (N = 57) aged 25 to 59 entitled to free cytology screening within the Population Programme for Early Detection of Cervical Cancer were assessed. The following tests were used: Multidimensional Health Locus of Control Scale (MHLC), Generalized Self-Efficacy Scale (GSES), Inventory of Pre-Cytology Examination Anxiety (ILPC).

More than a half of women surveyed (W1) declared that they have performed cytological examination within the last three years, other participants (W2) have not undergone such examination. Higher overall score of anxiety for cytology examination (ILPC) has been achieved in W2 group (M = 49.35) than in W1 group (M = 33.94), (P = .01). There are statistically significant (P = .01) differences in the level of health locus of control (MHLC) between W1 (M = 16.97) and W2 group (M = 23.31). No differences in self-efficacy have been observed.

Anxiety related to cytological examination and locus of control are important factors for participation in cytology screening. If a situation or an object causes anxiety a person is likely to avoid it. These results can provide some guidance for institutions dealing with cancer prevention and in the development of informational campaigns aimed to reduce anxiety related with cytology screening.

P-032 | An exploratory mixed methods study of the acceptability of two online interventions designed to address awareness of the impacts of sun exposure among young women

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Australia has the highest incidence of skin cancer in the world, and sun protection when young is critical. Peer influence for a tanned appearance in adolescence may promote unhealthy sun exposure in young women. This study aims to assess the potential of utilizing social media to disseminate sun exposure information among young women and increase intentions to sun protect.

Eighteen women aged 18 to 24 completed surveys indicating their intentions to engage in sun exposure and protection activities before and after completing two online applications: an interactive face-aging application using APRIL Age progression software, and viewing a Youtube video "Dear 16-year old me."

Data analyses are currently underway. Preliminary results indicate that the two interventions combined improved intentions to sun protect, as well as knowledge of skin cancer risks and prevention strategies. Younger participants reported that they would share the aging software with their peers, and the older participants reported that they would share the video. Despite willingness to share different applications, all participants reported that the video made more of an impact on their future intentions to suntan due to its more "authentic," less "game-like" nature.

Social media can be utilized to promote sharing of novel applications targeting sun exposure in young women if the messages are meaningful and short in duration.

Social media may be a feasible vehicle to educate adolescents and young women regarding skin cancer risks and prevention strategies in Australia.

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P-033 | How will people respond to warning labels about cancer on alcohol products?

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Given widespread ignorance of the strong link between alcohol consumption and cancer, alcohol product warning labels have been proposed as a cost effective strategy for communicating this risk. We conducted a national online survey to identify how such labels on alcohol products might be received by the Australian public. We canvassed responses of 1600 adults to 4 separate warning labels. For each label, participants were asked their level of agreement with potential impact statements (eg, raising awareness and influence on behavior) and were also invited to comment further. These 700 comments were mapped against quantitative demographic information, thematically coded and subjected to thematic discourse analyses.

Most agreed the labels could raise awareness and prompt conversations about cancer but fewer agreed they could influence drinking behavior. Labels providing greater detail about particular cancers were received more positively. Multivariate analyses revealed the most important predictor of agreement with all impact statements was inclination to act upon warning labels generally. Most comments were positive although an ideological dilemma between skepticism of public health messages vs "accurate science" was detected ("accurate science" = risk quantification). The labels were constructed as important in shifting discussion but unlikely to change behavior. The dominant discourse in negative comments was of choice and the inevitability of risk, with clear skepticism of the alcohol-cancer risk message. Positive and negative comments emphasized the need to change drinking culture; with the labels considered unhelpful in this. Influencing behavior will require measures addressing skepticism about public health messages in alcohol-saturated societies.

P-034 | “Until it kills you”: Discourse analysis of the Chilean tobacco packaging warning messages campaign between 2014-2016

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Chile has the highest rates of tobacco consumption in the Americas and lung cancer is the main cancer-related cause of death in the country. Since 2006 the Chilean Ministry of Health mandates pictorial warning labels on all tobacco packaging. The aim of this study was to perform a discourse analysis of the Chilean Campaign in force between 2014 and 2016. We focused on what does the anti-smoking campaign promote and support, problematizing its discursive effects, in relation to lung cancer, cancer treatments and the causal relation between tobacco consumption and lung cancer. We developed an analytical inductive process based on the rhetoric of written and visual elements, with the core axis of the inevitable temporal progression of disease throughout the warning labels storyline. Main axis of analysis included tobacco and lung cancer related stigma, therapeutic nihilism and aggressiveness of treatments, fear and disgust appeal, and intertextuality between religious and military discourses. Significant findings were the metaphorical equivalence among tobacco use and lung cancer, and the latter as an inevitably fatal disease: “until it kills you.” Fear and disgust appeals are strongly used to show the body deterioration due to lung cancer combined with aggressiveness of treatments, which are useless against the disease. The campaign's rhetoric posits on the subject the decision to “choose” between life and death, supporting lung cancer stigma as a self-inflicted disease. We conclude that public health campaigns should not be based on reinforcing therapeutic nihilism and stigmatization of cancer patients, problematizing its ethical and moral implications.

Cancer and Work

P-035 | Social context and return to work: narrative accounts of social support and social comparison

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Returning to work is a process that is intertwined with the social aspects of cancer survivors' lives, setting the context within which they manage their return-to-work and which also determines the support available. The aim of this study was to explore cancer patients' perceptions of the role of their social context in relation to returning to work following treatment.

Twenty-three patients who had received a cancer diagnosis and were at least six weeks post-treatment initiation were recruited into the study. Participants took part in individual semi-structured interviews focusing on their return to work intentions and experiences. Interviews were recorded and analyzed using a Framework analysis approach. Two main themes emerged (1) social support as a facilitator of return to work—participants discussed the influence that their work-environment, family, and broader social environment had in their return to work and their appraisal of those influences and (2) social comparison as an appraisal of return-to-work stage—whereby participants compared themselves with other cancer patients, their co-workers, as well with workers in other organizations/professions. These comparisons were largely used as a means for participants to assess their readiness to re-join the workforce and to gauge the degree to which they were supported in their current role or able to fulfill their work-roles. Findings provide key information about the way in which a person's social context can influence their return to work following a diagnosis of cancer.

P-036 | Development and evaluation of return-to-work intervention for young breast cancer survivors

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Research has identified barriers and facilitators affecting breast cancer survivors' return to work (RTW) following the end of active treatment. However, there was limited intervention for helping young breast cancer survivors return to work after treatment. This study aims to develop and evaluate mind and body based return to work program among young breast cancer survivors.

After systematic review, in-depth interview, and network analysis of online community of breast cancer survivors, we developed a 4-weeks group-based education program to help young breast cancer survivors return to work after cancer treatment. The intervention program was based on mind and body medicine teaching mind-control, balanced diet, physical activities, self-management for altered appearance. The program was provided to 38 young breast cancer patients who worked before cancer diagnosis at an university-based cancer center in Seoul, Korea. Posttraumatic growth, rumination, distress, anxiety, depression and fatigue were assessed before, right after the intervention and 1 month after the intervention.

The mean age of the participants was 42.2 years old and the mean survivor length was 13.8 months. There was a statistically significant improvement of posttraumatic growth after the intervention ($P < .001$). A significant improvement was shown in terms of

relationship with others ($P < .001$), personal strength ($P < .001$), spiritual change ($P = .001$), appreciation of life ($P = .003$), deliberate rumination ($P = .038$), and anxiety ($P = .035$).

Mind and body based return to work intervention would be effective for young breast cancer survivors and further study is necessary with larger sample for longer follow-up.

P-038 | Functional impairments and work-related outcomes in breast cancer survivors: A systematic review

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Work participation after breast cancer is generally negatively affected. Occupational health professionals might improve work-related outcomes by bridging the gap between sick-listed employees' levels of functioning and work demands. To aid them in this task, this review explored the association between functional impairments and work-related outcomes in breast cancer survivors.

Publications from January 2000 to March 2016 were identified through five online databases (ie, Pubmed, EMBASE, PsycINFO, CINAHL and the Cochrane Library). Quantitative and qualitative studies were included if they focused on functional impairments and work-related outcomes in breast cancer survivors. Two reviewers independently selected studies, extracted data and performed quality assessment.

The search identified 998 studies, of which 20 met the eligibility criteria. Impairments in physical functioning negatively affected return to work (RTW) and work ability in quantitative and qualitative studies. Studies measuring cognitive functioning with tests found no association with work-related outcomes, whereas the results of studies using self-reported measures were ambiguous. Social functioning was less commonly investigated and findings differed across work-related outcomes. Emotional functioning was not associated with work-related outcomes in quantitative studies, while in qualitative studies, feelings such as insecurity were described as influencing RTW.

Functional impairments can severely hamper work participation in breast cancer survivors. This provides important opportunities for occupational health professionals to enhance RTW in breast cancer survivors, such as adequately addressing illness perceptions and work expectations. Ongoing research is needed to aid occupational health professionals in providing effective vocational guidance and improve work-related outcomes in breast cancer survivors.

P-040 | Exploration of employment difficulties faced by oral cancer survivors in Taiwan

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Oral cancer survivors in Taiwan face particular employment challenges due to their illness and their specific demographics. To understand these challenges, three research projects were carried out between 2013 and 2016.

In 2013, in-depth interviews with 12 oral cancer survivors identified factors conducive to their continued employment. In 2015, phone interviews with 232 oral cancer survivors examined their employment status. In 2016, WHOQOL-BREFR was used to examine the quality of life 105 oral cancer survivors.

Pressing financial needs and the role as the family's sole breadwinner were the main reasons for oral cancer survivors to return to work. However, despite a strong willingness to work, actual employment levels among oral cancer survivors remained very low (26.7%). Low education levels and middle age already made return to work difficult, but the problem was further heightened by changes in speech and physical strength, social interaction disrupted by changes in appearance, as well as a lack of trust in government employment programs. Research also found that "being employed or not" ($3.27 > 2.67, \mathcal{F} = 2.49, P < .05$) affected overall quality of life, as well as satisfaction towards one's health status ($3.04 > 2.43, \mathcal{F} = 3.42, P < .01$).

Despite obstacles to employment, returning to work is a financial necessity for oral cancer survivors, and is linked to how they rate their quality of life. Although employment can enhance their self-confidence after oral cancer, uncertainty about the progression of the disease means that oral cancer survivors often worry about what should be their next step. Employment programs designed for this specific group are needed.

Symptom Burden/Symptom Clusters

P-041 | Cancer-related fatigue: What do health care providers, community support providers and patients have to say?

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Cancer-related fatigue (CRF) is a distressing and debilitating symptom experienced by many cancer patients. Although several guidelines providing evidence-based recommendations for screening, assessing, and managing CRF exist, there is limited evidence of their implementation in practice. This ongoing study aims to explore key stakeholders' opinions and experiences relating to the assessment and management of CRF to recommend strategies for implementing CRF guidelines into practice.

Five focus groups were conducted with three types of stakeholders: healthcare providers (HCPs; $n = 6$), community support providers (CSPs; $n = 15$), and cancer patients ($n = 12$). Sessions were tape-recorded and transcribed verbatim. The data were coded into themes using content analysis.

Preliminary analyses show that most HCPs were not aware of CRF guidelines and would like a more integrative interdisciplinary approach to the management of CRF. However, they felt that systemic institutional barriers prevented such an approach. In contrast, CSPs reported offering a variety of interventions for CRF, but recognized that not all interventions were evidence-based recommendations provided in CRF guidelines. Patients were dissatisfied with HCPs' approach to CRF and said they would be more satisfied if HCPs assessed for CRF and provided referrals to services for CRF management.

There is little indication that CRF guidelines are routinely implemented in clinical practice. This study provides insights from various perspectives to aid understanding of the critical issues that require consideration to increase implementation of CRF guidelines by HCPs. As patients' are currently unsatisfied with CRF-related care, implementation of CRF guidelines will likely benefit patients.

P-042 | Depression symptom patterns in cancer patients compared to symptom patterns of patients without cancer

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To investigate whether depressed oncological patients from an outpatient clinic show a specific depressive symptom pattern compared to depressed patients without a chronic somatic disease.

Of a total of 2493 outpatients from a comprehensive cancer center and a center for psychosocial medicine, 1054 (42.3%) met the DSM-5 criteria for depression, measured with the patient health questionnaire (PHQ-9). Based on the PHQ-9 scores, differences in severity of each of the nine individual DSM-5 depression symptoms between depressive oncological (n = 542) and depressive non-oncological patients (n = 512) were examined. To control for depression severity, group comparisons were performed separately for patients with major depression and any depressive disorders.

Depressive patients with cancer compared to depressive patients without a oncological diagnosis reported significantly lower levels of the cognitive-emotional depression symptoms "worthlessness" and "suicidal thoughts." Only one out of five somatic depression symptoms ("changes in appetite") was more pronounced in oncological than in nononcological depressive patients. Confirming previous research, somatic depression symptoms occurred more frequently in depressive oncological patients than in oncological patients without depression.

The lower level of cognitive-emotional symptoms in oncological patients is discussed in relation to different psychosocial phenomena. Our results indicate that somatic depression symptoms are more pronounced in oncological patients with depression compared to patients without depression. Therefore, the presence of high levels of somatic symptoms should alert clinicians to investigate for a potential comorbid depression in cancer patients.

P-043 | Towards a medicine of personality: Usefulness of personality traits in promoting patient-centered approach in psychosocial oncology

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Psychosocial oncology research usually focuses on symptoms prevalence rather than on personality traits and functioning. From the literature, it emerges that narcissistic, borderline, paranoid, passive-aggressive, and avoidant personality traits and functioning were associated with major difficulties in adherence and compliance with the illness clinical pathway.

We considered the above mentioned personality disorders as a cluster and it was hypothesized that its presence would be associated to clinically significant impairments related to coping and adjustment in a sample of 110 breast cancer women screened using the Millon Clinical Multiaxial Inventory (MCMI) and the Mini-Mental Adjustment to Cancer Scale (MiniMAC).

The presence of the cluster traits was associated with higher frequencies of dysfunctional avoidant (44.3% vs 28.6%; $P < .001$) and anxious-preoccupied (49.2% vs 38.1%; $P < .001$) coping to cancer compared to the absence of these traits, adjusting for age. Furthermore, patients with traits of the cluster experienced in a greater proportion anxiety-related syndromes (68.9% vs 33.3%; $P < .001$), adjusting for age. Personality traits influence coping and adjustment in terms of information processing and patients' adherence to treatment. These results suggest promoting a wider psycho-social approach to patients, developing personality screening questionnaires specific for the oncologic setting so as to properly guide a patient-centered approach and allowing to offer effective psychological interventions early in the clinical pathway.

P-044 | The influence of resilience on anxiety, depression and quality of life in women with breast cancer before neoadjuvant chemotherapy

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Resilience has been suggested as the capacity to cope with adversities. Neoadjuvant chemotherapy has been increasingly recommended to women with advanced breast cancer to improve surgical outcomes. The purpose of the present study was to investigate the influence of resilience on anxiety, depression and quality of life (QOL) in women with breast cancer prior to neoadjuvant chemotherapy.

The participants were women with breast cancer waiting their neoadjuvant chemotherapy, who were recruited for this study from tertiary hospitals in Seoul, Korea. They were completed the Connor–Davidson Resilience Scale to measure resilience before receiving a first cycle of chemotherapy. Anxiety, depression and QOL were assessed by using the Hospital Anxiety and Depression Scale and the Functional Assessment of Cancer Therapy–Breast. Perceived social support was assessed with the Multidimensional Scale of Perceived Social Support. The effect of resilience on anxiety, depression and QOL were evaluated using linear regression analyses. The relationships between the levels of resilience and those symptoms were evaluated using logistic regression analyses.

A total of 134 patients were included in the analyses. Higher levels of resilience were negatively associated with anxiety ($\beta = -0.297$, $P = .001$) and depression ($\beta = -0.273$, $P = .002$), and positively associated with QOL ($\beta = 0.268$, $P = .002$). The highest quartile of resilience level was associated with lower risk (adjusted OR = 0.14, $P = .002$) for anxiety symptom, and lower risk (adjusted OR = 0.18, $P = .004$) for depression symptom compared to the lowest quartile.

Our results suggest that resilience may independently contribute to low level of anxiety and depression, and high level of QOL in breast cancer patients before neoadjuvant chemotherapy.

P-045 | Symptom cluster of pain, fatigue and emotional distress in breast cancer survivors

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Most research on symptom clusters (SCs) has included cancer patients under active treatment and has therefore focused on treatment-related symptoms such as pain, fatigue, depression, anxiety and insomnia. However, breast cancer survivors may also experience one or more of these symptoms. SCs in survivors may be chronic and may have the potential to have a long-term impact on quality of life and functional status.

The aim was to investigate the prevalence of SC and which sociodemographic and medical factors are associated with the SC of pain, fatigue and emotional distress.

Method: A nationwide postal survey of 1364 women who had undergone surgery and adjuvant therapy for breast cancer in Norway two to six years before start of this study. Multiple logistic regression analyses were conducted including all variables found in bivariate analyses to be associated with the SC.

Of the 834 survivors who completed the questionnaires, 13% had the symptom cluster. The SC was associated with younger age (OR 0.46, 95% CI .26 to .80, $P = .01$), lymphedema (OR 1.9, 95% CI: 1.1–3.2, $P = .02$), working part time (OR 2.9, 95% CI 1.6–5.3, $P < .001$), or being disabled (OR 4.1, 95% CI: 2.2–7.8, $P < .001$).

A total of 2 to 6 years after treatment for breast cancer, 13% of the survivors experience the SC of pain, fatigue and emotional distress. The results provide support to give particular attention to the women in premenopausal age and those with lymphedema. Survivors with SC have an increased risk for working part-time or being disabled.

P-046 | The relationship between treatment expectations and cancer treatment-related side effects: A meta-analysis

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Increasing evidence suggests a link between treatment expectations and side effects in people undergoing treatment for cancer. We conducted a meta-analysis to examine the relationship between patients' treatment expectancies and subsequent experience of cancer treatment-related side effects, such as anticipatory nausea and post-treatment nausea, vomiting, fatigue, pain, skin reactions, and problems with concentration. We also investigated differences in the strength of this relationship in patients with no treatment experience and patients with some treatment experience. Studies were identified through a comprehensive search of the literature published up to and including 23rd November 2016 using databases MedLINE, PubMed, SCOPUS, PsycINFO, Informit, Web of Science, and CINAHL. A total of 12 949 citations were identified through the search. Twenty-seven citations, describing 28 studies, were included in the review and meta-analysis (N = 4024). Data analyses indicated

significant and positive associations between expectations and subsequent experience for all side effects in patients with no prior treatment experience ($r = 0.153-0.431$), and stronger associations for all side effects in patients with previous treatment experience ($r = 0.211-0.476$). Studies investigating the relationship between expectancies and experience of fatigue, pain, skin reactions, and problems with concentration (and, more broadly, issues with cognitive function) were limited. The findings highlight areas in which further research is needed and may also inform theoretical understandings and future interventions that target patients' expectations of cancer treatment-related side effects.

P-047 | The impact of death anxiety (DA) on the psychological morbidity, health-related quality of life, and survival for advanced cancer patients (ACP) in phase I trials and their caregivers (CG)

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ACP experience existential distress living with uncertainty regarding future suffering. However, the prevalence of DA and its effect on ACP-CG psychological morbidity, QOL, and survival remains unknown. Prospective ACP cohort participating in phase I trials was assessed at baseline (T1) and 1 month (T2) using psychosocial instruments: depression (CES-D), state-trait anxiety (STAI-S/T), quality of life/qol (FACIT-Pal), global health (SF-36). Structured interviews evaluated DA including fears of: suffering; future uncertainty, death process, spiritual despair.

A total of 152 subjects (76 ACP-76 CG) were separately interviewed at T1 and T2. For the total population: median age 62 (28-78 y); 52% male; 100% married; 90% Ca; 65% > HS educ; 53% GI dx; ACP median survival 7.9 months (0.41-18.2). At T1, 69% ACP acknowledged DA: 54% feared suffering; 50% feared future uncertainty; 57% feared process; 52% experienced despair. For CG, 72% acknowledged DA: 69% feared suffering, 65% future uncertainty, 69% feared process, 67% expressed despair. At T2, rates remained consistent over time. Regression analyses revealed ACP with DA had: higher STAI-S anxiety (43 ± 9.9 v 39.8 ± 8.5 , $P = .02$) and CES-D depression (25.5 ± 13.4 vs 13.5 ± 9.4 , $P = .0002$); yet poorer FACIT-Pal QOL (90.6 ± 18.2 vs 99 ± 15.4 , $P = .03$) over time. CG with spiritual despair had greater CES-D (20.1 ± 14.4 vs 11.2 ± 9.4 , $P = .02$) and poor global health (74 ± 25 vs 87 ± 14 , $P = .0001$). ACP with DA had shorter survival compared to ACP without DA (4.5 vs 6.2 months, $P = .02$).

DA is negatively associated with QOL among ACP-CG in phase I trials. Supportive psychological interventions tailored to address DA are warranted.

P-048 | Psychiatric diagnosis in glioma patients

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The presence of psychiatric disorders in patients with glioma is poorly defined and are contradictory in relation to age, gender, type of lesion and location.

AIMS: To know the frequency of psychiatric disorders in patients with glioma and their relationship with sociodemographic and clinical characteristics.

Review of clinical records of patients consecutively admitted at Hospital del Mar between 2008 and 2011 with histological diagnosis of glioma. Age, sex, histological type and tumor location data were collected. Psychiatric disorders were diagnosed according to DSMIV criteria and coded according to CIE9MC.

From a total of 113 patients (59.2% men) with a mean age of 57 years (20-89), 43 (38%) had a psychiatric disorder: 16 (37%) Affective spectrum disorders, 13 (30.2%) organic psychosis; 12 (27%) nonpsychotic organic disorder; 2 (4.6%) substance use disorder.

In 34 (30%) of patients the psychiatric disorder appeared in temporal relation to the diagnosis of brain tumor (during previous year or concomitantly).

The presence or absence of psychiatric disorder was independent of age, sex or histological grade of tumor. A higher frequency of psychiatric disorders was observed in patients with tumor localization in left hemisphere without reaching statistical significance ($P = .096$).

The presence of psychiatric disorders in patients diagnosed with gliomas is frequent and independent of age, sex and tumor grade. It seems to be at higher risk of psychiatric disorder when tumor is located in the left hemisphere.

Disorders of the affective spectrum is the most frequent comorbidity.

P-050 | The experience of cancer cachexia in patients and caregivers

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Cancer cachexia is a frequent adverse event in the course of an oncological disease. Depending on tumor type or stage, study and definition, cancer cachexia affects up to 85% of cancer patients. It is a physically and psychologically stressful syndrome for patients and their caregivers and has a profound effect on quality of life. The physical symptoms are unwanted weight loss, loss of muscle mass, fatigue, anorexia and early saturation. Psychological problems range from disruptions in daily life as normal eating habits are disturbed, changes of the meaning of eating,

changes in body image, feeling stigmatized as ill, up to being confronted with mortality. These problems can be very diverse in different patients, but there are also recurring themes, many of which are also dependent on culture. So far, studies have focused on English-speaking populations and on patients with tumors in progressive stages.

The aim of our study is to assess the psychological burden of patients with cancer cachexia and of their caregivers. In contrast to most other studies, we chose a German sample of patients with less advanced stages of cancer. In order to achieve greatest possible openness in assessing experiences with cancer cachexia, we chose a qualitative research approach. Semi-structured interviews, based on the results of preliminary studies are currently being conducted with 10 patients and 10 caregivers, respectively. Content analyses will be conducted to identify recurring themes as well as individual topics. First results can be reported in the near future.

P-051 | An exploratory analysis of the relationship between rumination, negative emotional states and sleep quality among breast cancer survivors

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Associations between rumination, negative mood, and sleep quality have been described in healthy populations. As depression and insomnia is prevalent among breast cancer survivors (BCSs), similar associations could be expected in this group. If associations are found, targeting rumination could possibly contribute to treatments of depression and insomnia.

We explored the associations between rumination and negative emotional states and whether rumination and negative states are independently associated with sleep quality among BCSs ($n = 158$). Measures included: rumination (Emotion Control Questionnaire-Rehearsal), depressive symptoms (Beck Depression Inventory-II), health-related worries (Whitely-7), anxiety symptoms (ANX4 from CMDSQ) and sleep quality (The Pittsburg Sleep Quality Index (PSQI)). Rumination was unrelated to sleep quality ($r = 0.13$; $P = .12$) but significantly associated with health-related worries ($r = 0.22$; $P < .001$), anxiety ($r = 0.32$; $P < .001$), and depression ($r = 0.36$; $P < .001$). When adjusting for the two remaining negative states, rumination was associated with depression ($r = 0.24$, $P = .003$), but not with anxiety ($r = 0.15$, $P = .07$) and health-related worry ($r = -0.004$, $P = .96$). Sleep quality was unrelated to rumination ($r = -0.06$, $P = .49$) when adjusted

for negative states, but significantly associated with all negative states when adjusting for rumination ($r = 0.30$ to 0.41 ; $P < .001$).

Both sleep quality and rumination were associated with negative emotional states in BCSs, but in contrast to previous research, rumination was not associated with sleep quality. Rumination does not appear to play a key role in sleep quality among BCSs, while negative emotional states do. Differences in the role of rumination for sleep quality in cancer patients and healthy populations are in need of further research.

P-052 | Fibromyalgia and cancer: Association and implications

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Fibromyalgia is a widespread musculoskeletal pain accompanied by fatigue and sleep difficulties. The various types of cancer affects male and female patients of different ages and backgrounds around the world. These patients often report experiencing widespread pain, fatigue and sleep difficulties. Both diagnosis affect a person's quality of life. This poster reviewed articles that investigated the experience of widespread pain syndromes, with a special focus on fibromyalgia, among cancer patients. A study showed that women with breast cancer are more likely to develop chronic widespread pain syndromes than healthy women. This poster further explored the treatment course of cancer in patients with fibromyalgia. Research has shown that patients can suffer from fibromyalgia and cancer and that having fibromyalgia can impact on cancer treatment. Research has also shown that patients with fibromyalgia have a greater risk of developing cancer. Considerations for future studies and limitations were also discussed.

P-053 | The effect of a sleep-hygiene education and sleeping-pill reduction program for hospitalized cancer patients at a general hospital

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Sleep disturbances are common among cancer patients. Especially during hospitalization, not only adverse medical conditions but also ward environments affect sleep. We have developed a program of sleep-hygiene education and sleeping-pill reduction for inpatients (i-sleep program) and applied it to cancer patients. This study aimed to explore the effect of the program.

In a general hospital with 2715 licensed beds, we estimated the proportion of inpatients prescribed hypnotics at admission to and discharge from the department of oncology before (2014) and after (2015) the program. In addition, we estimated the proportion of inpatients prescribed sleeping pills among all inpatients in the department of oncology on the first day of each month of 2014 and 2015.

A total of 12382 patients (before) and 12313 patients (after) were admitted to oncology department of Asan Medical Center. The proportion of inpatients prescribed hypnotics as discharge medication among inpatients who had been prescribed them at the time of admission decreased significantly, from 76.0% to 69.8%, after the i-sleep program (RR = 0.92, 95% CI: 0.87–0.98). The proportion of inpatients newly prescribed sleeping pills after admission to the hospital did not significantly decrease (4.03% to 3.98%; RR = 0.99, 95% CI: 0.87–1.12). The mean prescription rate of sleeping pills per day was 10.02% in 2014 and 7.99% in 2015 ($P = .03$).

Although the program did not reduce the prescription rate of sleeping pills per day, it effectively reduced the proportion of cancer patients who continued to take sleeping pills from admission until discharge.

P-054 | Cancer-related posttraumatic stress in cancer patients

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Previous studies report a wide range in prevalence rates of posttraumatic stress disorder (PTSD) in cancer patients and survivors without consistently distinguishing between cancer-related and non-cancer-related PTSD. In the present study, we investigated prevalence of cancer-related and non-cancer-related PTSD, associated traumatic events, and comorbid mental symptoms in an inpatient cancer sample. A total of 341 hospitalized patients with gastrointestinal or hematological cancer were assessed for PTSD using the Structured Clinical Interview for DSM-IV (SCID-I). Characteristics of the traumatic events were explored in detail. Self-reported measures were used for the assessment of depression, anxiety, and somatisation.

68.2% of the patients were men, mean age was 58.4 years (SD = 12.8), and 69% had first cancer occurrence. The prevalence of non-cancer-related PTSD was 2.3%, and 1.2% of the patients showed full symptoms of cancer-related PTSD. However, 36.3% reported emotional upheaval in response to a cancer-specific event. Most distressing cancer-related traumatic events were cancer diagnosis (41.2%) and treatment complications (20.6%). Also, cancer-related PTSD was associated with higher levels of depressive and anxiety symptoms and higher comorbid somatic symptoms.

The present study demonstrates that symptoms of PTSD are quite common in cancer patients and are associated with comorbid psychological and somatic distress, although full PTSD diagnosis is rare.

P-055 | Psychological side-effects of immunotherapies in the treatment of malignant melanoma

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Immunotherapies play an important role in the modern treatment of melanoma malignum in various stages of the disease. Immunotherapies frequently elicit clinically relevant psychological side effects. We investigated the psychological side effects of low-dose interferon therapy, and anti-CTLA-4 antibody (ipilimumab) immunotherapy focusing on the protective effect of social support on depression and anxiety.

Patients in Group 1. received interferon-alpha-2a in a weekly dose of 3X3 MIU/week subcutaneously. Patients in Group 2. received 3 mg/kg YERVOY® four times in every 3rd week. Patients were controlled at week 0, 3, 6, 9. Depression and anxiety symptoms were measured during control visits. Social support was measured with the Social Dimension Scale. Repeated measures ANCOVA was applied to analyze the effect of treatment during follow-up on psychometric measures with Greenhouse-Geiser correction.

During low-dose interferon treatment (Group 1.) depressive symptoms significantly increased during the 12-month follow-up period ($P < .001$). Social support significantly moderated the depressogenic effect of the treatment: patients with better social support showed attenuated increase of depression ($P < .05$). Anxiety showed no significant changes during the therapy. Ipilimumab has not increased significantly the depressive and anxiety symptoms in advanced melanoma patients.

Enhancement of social support can reduce depressogenic side effects of interferon treatment. In addition we demonstrated that ipilimumab elicited fewer psychological side-effects compared to interferon-alpha immunotherapy which suggests a better psychological side effects profile for ipilimumab treatment.

P-056 | Suicidal ideations of cancer patients within 100 days after diagnosis

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Suicide risk of cancer patients in the period after diagnosis is high but the characteristics are less clear. We aimed to investigate the risk factors of suicidal ideation in newly diagnosed cancer patients.

We identified patients with newly diagnosed cancer from an iPad Distress Screening Program in a cancer center in Taiwan from January 23 to March 22, 2014. The program enquires about depression and suicidal ideation using some of the questions from the Patient Health Questionnaire. Data from the Problem List of the Distress Thermometer and other information, including demographic characteristics, past medical and psychiatric history, substance use history, nutrition and performance status, were collected from the electronic medical records. Univariate and logistic regression were performed to explore the risk factors of suicidal ideations.

A total of 251 newly diagnosed cancer patients were identified and 40 patients (15.94%) had suicidal ideations. Unemployment, past psychiatric history, history of cardiovascular disease, poor nutrition, problems about dealing with the partner, mood problems such as depression and somatic problems such as pain were associated with suicidal ideations. Using logistic regression analysis, depression (AOR = 3.86, 95% CI = 1.70-8.76), pain (AOR = 4.33, 95% CI = 1.45-12.92), nausea (AOR = 4.84, 95% CI = 1.78-13.18) and tingling in hands/feet (AOR = 3.22, 95% CI = 1.24-8.35) significantly predicted the presence of suicidal ideations and history of hypertension (AOR = 0.13, 95% CI = 0.05-0.50) seemed to be a protective factor.

Patients are in significant distress after cancer diagnosis. Management of both patient's mood and physical problems is important and might contribute to lowering the suicide risk in this period.

P-057 | Understanding risk factors for psychological distress in patients with cancer referred for psychological support

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Psychological distress is experienced in up to 66% of people with cancer, ranging from sadness, loss and adjustment to significant depression and anxiety. Early detection of psychological distress is central to the provision of best practice psychological services. Clinical practice guidelines recommend that risk factors including psycho-social and disease/treatment characteristics be used to identify patients and guide optimal psychosocial pathways of care. However, prior to the adjustment of referral processes, the characteristics of patients referred for psychological support need to be better understood.

To determine the type and number of known risk factors for distress in adult cancer patients referred to psychological services.

A retrospective file audit of 295 consecutive patients referred for psychological support at a specialist oncology hospital in Australia.

Of patients referred for psychological support, 55% were female. The most common patient risk factors were younger age (46%), past psychiatric history (37%) and having children under the age of 21 (23%). The most commonly described disease/treatment characteristics were heavier burden of treatment side-effects (25%), advanced disease (20%) and chronic pain (19%).

The present findings describe the characteristics of patients with cancer referred for psychological support. This valuable information can assist service development priorities. Identification of risk factors may enable timely recognition of patients at risk of psychological distress and lead to a more standardized referral process, relying less on subjective assessments and patient self-reporting.

Key words: Cancer, psychosocial risk factors, distress, psychology.

P-058 | The effect of cognitive fusion on fear of breast cancer: An experimental study

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The mass media is filled with stories about breast cancer that often highlight its negative consequences. It has been proposed that this may be a pathway accounting for heightened fear of breast cancer. Such fear may influence adjustment following breast cancer diagnosis.

To examine the extent to which media messages can have an impact on reported levels of negative affect and fear of breast cancer.

Participants were 208 female college students. A between-subjects multivariate analysis of covariance (MANCOVA) was conducted to examine the effect of two breast cancer-related videos (IV) (low- and high-fear inducing) on the level of negative affect and fear of breast cancer (DVs), controlling for the baseline levels of cognitive fusion and fear of breast cancer (covariates).

The MANCOVA revealed a significant multivariate effect of video type (Wilks' Lambda = .93, $F(2203) = 7.85$, $P < .05$, $\eta^2 = .07$). Participants who watched the high-fear inducing video reported significantly higher levels of negative affect, however, no group differences were found in fear of breast cancer. Both covariates had a significant effect on the DVs.

Cognitive fusion with breast cancer-related content seems relevant in explaining fear of breast cancer. This may explain the reason participants' reported levels of fear of breast cancer remained unchanged despite changes in negative affect in response to the videos. Cognitive fusion with narratives about breast cancer may also explain the reason fear of breast cancer continues to be high in relation to other illness with poorer prognosis.

P-059 | Fear of cancer progression-associated psychosocial factors in an Austrian sample of oncological patients

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Fear of cancer progression seems to be one of the most distressing symptoms.

cancer patients experience. The purpose of this study is to examine the association of different psychosocial variables such as dispositional optimism, active-problem-oriented coping and perceived social support with fear of cancer progression.

In this exploratory field study, 50 new diagnosed oncological patients with different solid primary tumors (25 female, 25 men) aged between

36 and 80 years, who started with chemotherapy within the last 3 months, were tested with following standardized psychometric questionnaires: PA-F (fear of progression), LOT-R (dispositional optimism), FKV-LIS SE (coping strategies), F-SozU K-14 (social support). Descriptive statistics, Spearman and Pearson correlations and multiple linear regression models were analyzed.

Regression analyses showed a negative relationship between dispositional optimism and fear of cancer progression, an increased use of active-problem-oriented coping-strategies was not associated with lower levels of fear of progression. Additionally, a negative relationship between perceived social support and fear of progression was found. Regression analysis including fear of cancer progression as criteria and the psychosocial factors as predictors revealed that only dispositional optimism was significantly predictive for fear of cancer progression (R^2 adjusted = 0,36; $P = ,000$).

The results indicate that an optimistic attitude to life and perceived social support seems to be related with lower fear of cancer progression. Optimism as a stronger predictor could be considered to be integrated more in psychosocial interventions.

P-060 | Demoralization among patients with different cancer stages

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Demoralization is acknowledged to be a distinctive psychological distress characterized by hopelessness, helplessness, loss of purpose and meaning, which represent of existential distress and a self-perceived incapacity to deal with encountered stress. Demoralization for advanced cancer patients has been well documented but little is known for early stage cancer patients. Our study is to evaluate demoralization syndromes in different cancer stages.

Patients with heterogeneous tumor sites were recruited from inpatient and outpatient units in a medical hospital. The demoralization status was measured using Demoralization Scale-Mandarin Version (DS-MV). ANOVA and multiple linear regression were used to analysis stages difference.

A total of 350 patients (male 66.6%) were completed the measurement. Breast Cancer 27.1%, Gynecological cancer 26.9%, Head and neck cancer 19.1%, Colorectal cancer 17.4%, Digestive and liver cancer 9.4%. After adjusting for potential confounders, regression model showed demoralization was associated with cancer stage. Patients of cancer Stage 1 and Stage 4 had higher demoralization score (mean 32.8/SD 15.8; mean 32.8/SD 14.9) compared with cancer in situ (mean 24.9/SD 16.8). An interesting result showed that patients who not knowing their cancer stages (12.3%) has highest demoralization scores (mean 38.5/SD 11.3) in our sample.

The results indicate different demoralization status among cancer stages. Our result bring attention for researchers and clinical practitioners to evaluation demoralization in both early and late stage cancer patients. Future study is needed to evaluation the association between acknowledge cancer stage and demoralization.

Elderly with Cancer

P-062 | Unmet needs and quality of life in portuguese elderly myeloma patients

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Multiple Myeloma is the second most prevalent hematologic cancer. Little is known about the needs and quality of life (QoL) of these patients. The present study focused on the relationship between unmet needs and QoL as well as the moderating role of disease symptoms between unmet needs and QoL regarding body image, future perspectives and side effects of treatment.

The sample included 70 Portuguese patients with multiple myeloma, who were receiving treatment in three major public hospitals and answered the following measures: Short-Form Survivor Unmet Needs Survey (SF-SUNS) and the Multiple Myeloma Module (QLQ-MY20) and a sociodemographic/clinic questionnaire.

Patients' mean age was 68 years old (SD = 10.4) and were diagnosed with myeloma for 38 months, on average. Results showed a negative correlation between the unmet need of Emotion Health and all subscales of QoL. Needs regarding Financial Concerns were positively correlated with Disease Symptoms. Duration of diagnosis correlated positively with all unmet needs and patients' age with emotional health needs, only. The negative relationship between needs of emotional health and body image was moderated by disease symptoms, ie, when there was high symptomatology, the relationship was more intense. No other moderation between unmet needs and QoL regarding side effects of treatment or future perspectives was found.

In general, the need for emotional health seems to be paramount in myeloma patients' QoL, and in older patients, in particular. Intervention should address unmet needs, especially in patients with longer duration of diagnosis and with more disease symptoms.

P-063 | Prevalence, types and factors associated with psychiatric disorders in elderly cancer patients referred to psycho-oncology service in a developing country: a cross-sectional study

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Elderly cancer patients are at risk of psychiatric disorders, possibly due to the disease, treatment, and related stresses. This study examines the

prevalence, types and factors associated with psychiatric disorders in elderly cancer patients referred to a psycho-oncology service in a tertiary care cancer centre in a developing country.

A retrospective analysis of prospectively maintained database of charts of all elderly cancer patients referred to our psycho-oncology service in a 3-year period was conducted. Demographic and clinical data, presence and types of psychiatric diagnoses (as per International Classification of Diseases version 10) were noted. Statistical tests were used for overall data and association between presence and types of psychiatric disorders with other variables, using SPSS version 20.

A total of 110 of 1575 (7%) patients were of age 65 years and above, with 70 (63.6%) men, 66 (60%) inpatients, mean age being 70.2 years (SD 4.3), with mainly head and neck, lung and colorectal cancers. Around 50% patients had good performance status, mild pain and moderate fatigue. Ninety-nine of 110 (90%) of referred patients had a psychiatric disorder, most common being delirium (34.5%), adjustment disorders (23.6%) and depressive disorders (15.5%). Age, gender, clinical and treatment variables were not significantly associated with presence of psychiatric diagnoses. Performance status, severity of pain and fatigue were statistically significantly factors with types of psychiatric disorders ($P < .05$).

Psychiatric disorders were present in 90% of the referred patients, mainly delirium, adjustment and depressive disorders. Developing geriatric psycho-oncology services is crucial in developing countries.

P-065 | Patterns of health-related quality of life among nursing home residents with and without cancer

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Knowledge about the natural development of health-related quality of life (HRQOL) and its determinants among cognitively intact nursing home is scarce.

To examine HRQOL over 6 years in cognitively intact nursing home (NH) residents and the impact of sense of coherence and a cancer diagnosis. A prospective study with assessment of 227 residents (Clinical Dementia Rating score ≤ 0.5) at baseline, 52 at 5 years and 18 at 6 years Interviews included the SF-36 Health Survey and the Sense of Coherence Scale. To study different developments over time for residents without and with cancer, interactions between cancer and time were tested.

Sub-scores for physical functioning and role limitation-physical declined with time ($P < .001$ and $P = .02$, respectively). A diagnosis of cancer at baseline was negatively correlated with general health ($P = .002$). Sense of coherence at baseline was positively correlated with all SF-36 subscores from baseline to follow-up ($P < .001$).

HRQOL changed over the 6-year follow-up. Sense of coherence appears to be an important component of HRQOL. A diagnosis of cancer was associated with decline in the general health subdimension.

To improve the situation of NH residents with and without cancer diagnosis, more attention should be paid to residents' HRQOL

and their sense of coherence. Care planning should involve provision of understandable information on health care, information for residents about available resources and assistance in utilizing them.

P-066 | Relationship between physical functioning and quality of life (QoL) in older hematological cancer patients (70+)

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We assessed QoL in older hematological cancer patients up to 5 years after diagnosis and analyzed their relationship with disease specific variables and comorbidities. We compared QoL and comorbidities with a matched sample of senior citizens.

We conducted interviews with hematological patients (C81-C96) and senior citizens being ≥ 70 years. As assessment tool, we used EORTC QLQ-C30, EORTC elderly module QLQ-E14, and a geriatric screening for functional disabilities in elderly patients (Lachs).

A total of 200 patients (64% male, age: $M = 76$ y, 49% lymphoma, 26% leukemia) and 252 senior citizens (61% male, age: $M = 77$ y) completed the questionnaire. Regarding QoL, most frequent limitations were found in role function ($M = 60.8$), physical function ($M = 67.7$), and mobility ($M = 37.4$) like unsteadiness in walking or joint stiffness. Most prevalent symptoms were fatigue ($M = 43.7$), pain ($M = 34.0$), and sleep difficulties ($M = 34.0$). QoL in patients was lower than in the population in almost all areas ($P < .002$ with Bonferroni correction). In the geriatric screening, the most common problems of the patients were polypharmacy (47% vs 27%), limited activity (36% vs 13%) and frequent hospital stays (31% vs 9%).

High physical functioning (geriatric screening—total score) was associated with younger age (Beta = 0.370; $P < .001$) and high QoL (EORTC—Global QoL; Beta = 0.426; $P < .001$). The lowest physical function showed those patients whose chemotherapy was currently ongoing and patients who got transplantation.

Older hemato-oncological patients suffer from specific physical problems which adversely affected their QoL. After-care-programs for older patients should pay particular attention to mobility and polypharmacy.

P-067 | Elderly with cancer: Quality of life and depressive symptoms

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In elderly's cancer patients, depression is the most common psychological distress. The objective of this study was to analyze the prevalence of depressive symptoms and the association between quality of life and level of depressive symptoms among elderly cancer patients.

This is a multicenter, prospective and observational study conducted in patients with non-advanced resected cancer. The study has a website to collect clinical data and questionnaires for doctors and patients that are filled out before starting adjuvant chemotherapy. The EORTC QLQ-C30 to evaluate the quality of life (QoL), and Brief Symptom Inventory (BSI, depressive scale) were administered.

A total of 116 elderly's cancer patients were recruited (mean age, 74 y, and 50% men). The primary tumor localization was mainly colon (49%) and breast (16%). One in three older cancer patients had clinically significant scores on depression (34%), especially women ($P = .002$). No significant differences were found depending on the educational level or marital status. More depression was associated with QoL, symptoms functioning (physical, role, emotional, cognitive, social and global QoL) and symptoms and side effects (fatigue, nausea and vomiting, pain, dyspnea, sleep disturbance, appetite loss, constipation, diarrhea, and financial impact). The results indicated that depression described 46% of the variance in functional scale and symptoms and side effects ($P < .001$).

QoL in elderly patients with cancer is negatively affected by the level of depression. Improving these conditions can contribute to increase the QoL in the elderly with cancer.

P-068 | Perspectives of older adults regarding decision-making about chemotherapy

Margaret Fitch

University of Toronto, Canada

Cancer is largely a disease of older adults given that 60% of cancers are identified in individuals 65 years of age and older. This heterogeneous population may have a range of comorbidities, frailties, and functional impairment. However, relatively little is known about how these factors influence the decision-making of older adults about cancer treatment.

This study was conducted to examine the perspectives of older adults and their family members about undertaking a course of chemotherapy for cancer.

Semi-structured interviews were held with 29 adults aged 70 and older with advanced prostate, breast, colorectal, or lung cancer and 24 of their family members. The sample was stratified by age (70-79, 80+). All interviews were analyzed using thematic analysis.

There was no difference in the treatment decision-making based on age. Most older adults thought they ought to have the final say in the treatment decision but strongly valued the view of their oncologist. "Trust in my oncologist" and "chemotherapy as the last resort to prolong life" were

the most important reasons to accept treatment. Family members indicated the need to improve communication between them, the patient and health care providers, especially around the goals of treatment. Comorbidity and potential side effects did not play a major role in the decision making.

Older patients and their family members would benefit from assistance from psychosocial practitioners in making decisions about chemotherapy. They are positioned to help patients understand the role of chemotherapy and the potential impacts on daily living.

P-069 | Perspectives of older adults regarding participation in cancer research: Implications for psychosocial oncology

Margaret Fitch

University of Toronto, Canada

Older adults are underrepresented in clinical cancer research. It is anticipated patient engagement in the research process may lead to the exploration of relevant research questions and data collection to help improve the health outcomes of this population.

This study was conducted to (1) understand the research priorities of older adults with cancer and their caregivers, (2) examine how to engage this population in research, and (3) examine how to support older adults and caregivers in becoming collaborators in the research process.

Three public meetings and seven focus groups were held. Older adults aged 60+ years, diagnosed with cancer in the past 10 years, and family members were recruited through newspapers, flyers in hospital waiting rooms and email messages. Facilitated sessions were held in community locations, audiotaped, and transcribed verbatim. Data were subjected to thematic analysis.

Fifty-five participants attended a public meeting, and 60 attended a focus group. The majority had not participated in research. They expressed interest in becoming research team members and being involved in the research process if this could benefit them, other patients, and families. Participants identified several factors that would facilitate their participation on research teams: flexibility in time and location, accessibility to computer technology, transportation support, material translation, short training sessions, opportunities for peer support. Their preference was to have meetings with the research team in face-to-face situations.

Older adults are willing to participate on research teams but creative solutions are required to overcome the potential barriers.

P-070 | Is age a risk factor for psychological distress among elderly cancer patients?

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Research findings single age as a protective factor against psychological distress and lower Quality of Life among cancer patients and survivors. However, this may not be the case for elderly cancer patients and specifically for the oldest-old (86 years old and above) cancer patients. The goal of the current research was to assess the relation between age and psychological Quality of Life among oldest-old cancer patient. Participants were 280 patients age 65 to 98. All patients had an active disease or were within 6 months of treatment for an active disease. None of the patients were in palliative care institutions. Participants completed standardized self-report measures of depression, distress, hope and social support.

Patients in the oldest-old age group reported on significantly higher levels of distress and significantly lowers levels of hope in comparison to younger patients. This was true even after controlling factors that may be age related such as comorbidities and social support. Comparison of the content of hopes between older and younger patients revealed that older patients hopes were to be near their families and not to suffer any pain. In concordance with Carstensen's theory of socioemotional selectivity (SST) oldest-old cancer patients may perceive their future as very limited and hence hopeless. Psychological support to the oldest old patients should focus on clear.

and immediate goals that enhance hope and decrease distress. Professionals should relish the challenge of exchanging new information and acquiring new tools and skills defined according to the person's present and past history.

P-071 | Hope and social support among oldest-old cancer patients and their spousal caregiver: An unexpected finding

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The world's population is aging rapidly. In the next few decades a significant increase in the number of elderly survivors diagnosed with cancer is anticipated due to an increase in life expectancy and better medical treatments. Nevertheless, there is a lack of data and research findings concerning Quality of Life the oldest-old (86 years old and above) population of cancer patients and survivors. The goal of the current study was to the Actor-Partner- Interdependence- Model and describe the relations between psychological distress, depression, social support and hope in a cohort of oldest-old (86 years old and above) patients and their spousal caregivers.

A total of 58 dyads of patients their spouses completed standardized self-report measures of depression, distress, hope and social support. Patients presented extremely high levels of psychological distress and extremely low levels of hope compared with their spousal caregivers. The relation between social support and distress was mediated for both patients and spouses by hope. An unexpected finding was that for both patients and spouses, perceived social support was positively correlated to their own level of hope and negatively to the other's hopes level.

While both the oldest-old patient and the spousal caregiver should be considered by the healthcare professional, it would be oversimplification to treat the two members of the dyad as one. Oldest-old Patients and caregivers may need different foci. It could be important to help patients and caregivers understand the importance of social support to the other member of the dyad.

Children with Cancer/Pediatric Care

P-072 | CAT NAP (Carers at night in pediatrics): Development and evaluation of an evidence-based intervention to improve sleep in parents of children with cancer

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Parents/caregivers of childhood cancer patients provide 24-hour supportive care and are often confined to a busy hospital ward, where environmental factors which promote sleep are limited. Elevated levels of anxiety and depression associated with their child's diagnosis, may also lead to impairments in sleep, which can adversely affect parents' physical/psychological health and their capacity to care for their unwell child. This study was conducted in three stages: (1) systematic review of sleep outcomes in parents/caregivers of children with cancer; (2) development of a multi-component sleep intervention guided by the principals of Cognitive Behavioral Therapy (gold standard non-pharmacological treatment for sleep difficulties), and consumer feedback; (3) pilot feasibility and acceptability trial. Participants completed questionnaires pre-and post- intervention and a semi-structured interview. Outcome measures included: sleep, distress, rumination, and feasibility/acceptability indices, eg, intervention satisfaction. Objective sleep/wake data was collected via wrist-actigraphy devices.

Ten parents were recruited from the oncology ward at Sydney Children's Hospital, Australia (response rate 53.3%; age M = 28.6 years, SD = 4.7; 100% female; length of current hospitalization M = 46 nights, SD = 28.8). At baseline parents reported an average of 5.4 hours of sleep (SD = 1.3) and 3.6 night awakenings (SD = 1.7). All parents reported benefitting from the intervention although they identified different components as helpful, reflecting the importance of a multimodal intervention framework. 90% said they would recommend it to other parents.

It appears feasible and acceptable to deliver a brief sleep intervention to parents/caregivers in the hospital environment. Several clinical/logistical challenges were identified, highlighting important considerations for future parent-targeted intervention research.

P-074 | Decision making in pediatric oncology: Needs, preferences, and experiences of families

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Many families of children diagnosed with cancer are faced with difficult treatment decisions, and are at risk of experiencing significant decisional anxiety and conflict, and distress. In an attempt to understand and reduce distress, we explored the treatment decision-making process of parents and adolescents, as well as any information needs and preferences.

We conducted semi-structured interviews with recently diagnosed adolescents and parents. Interviews were audio recorded, transcribed verbatim and analyzed via content analysis using NVivo. The study is still recruiting; anticipated study close is Mar-17. We aim to recruit 20 parents and 10 adolescents.

To date, 3 adolescents (mean age = 14 y) and 8 parents (mean age of child = 8 y) have completed the interview. Early findings suggest families often engage in parent-driven or parent-child shared decision-making, with the relationship with their clinician a major influence in the decision process. Parents tend not to include their child in major decisions (eg, clinical trial enrolment) due to the age of their child, however acknowledge the importance for children to be involved in day-to-day decisions (eg, pain relief). Some parents express dissatisfaction with their level of decisional-involvement. Barriers to involvement include feeling distressed and overwhelmed with information.

Decision-making in pediatric oncology is complex. Families require clearer information provided in multiple modalities, more guidance to engage in shared decision-making, and more emotional support throughout the decision process. These findings have contributed to the development of Delta—an online decision-aid supporting families deciding whether to enroll in a pediatric oncology clinical trial.

P-075 | Nationwide implementation of complete psychosocial admission kits for children and teenagers hospitalized with cancer

Katie Rizvi

Little People, Romania

The psychosocial support workers of the Little People Cancer Charity in Romania are serving 1700 to 2000 children and their families year on year. Trained specialists assess the children's needs with the help of a mobile application that centralizes the data from eight hospitals across the country.

Since September 2016, a new intervention tool is available that not only helps specialists deliver therapeutic interventions with appropriate equipment but empowers children and parents to take home and continually benefit from these instruments in-between treatment cycles and when at home.

The presentation will detail and illustrate through a show-and-tell the therapeutic books, puppets, dolls and medical play instruments as well as the activity pages and the publications especially designed for teenagers. Our 6-month evaluation sheds light on what patients, parents, medical personnel and our support workers find most useful, most surprising and how the new admission kits that are now available for every single newly diagnosed child in every single hospital in the entire country have changed our clinical practice, changed the patient experience and have become national symbols of hope for children with cancer.

Our case study will honestly disclose steps taken to make the tool universally acceptable by all healthcare units and the challenges faced from the moment of first conception through tool design, validation and production including finding investors and sponsorship and inspiring long-term commitment in partners.

P-076 | A new mobile app for children with cancer: an assessment tool at first hospitalization also serving as a personally downloadable intervention tool. Results of the first year of nationwide implementation.

Katie Rizvi; Laura Raducan

Little People, Romania

A mobile application specifically designed for children with cancer was simultaneously launched in eight Romanian hospitals used as an assessment tool at first admission. After filling in the playful questionnaire and gaining registration, patients could download the app on their own mobile device with therapeutic games, a pain scale and digital mood board, facilitating patient-physician or patient-parent communication.

Since its introduction a year ago, 415 patients were assessed on aspects such as anxiety, understanding of medical procedures, emotional spectrum, coping mechanisms, hope scale, self-perception, knowledge of the human body and future plans, with matching questionnaires filled in by their carers. The profiles generated by the specialists analyzing the data were then presented to the treating physicians and the MDT.

Our presentation will highlight the preliminary data collected during the first year. A significant number of patients deemed invasive medical procedures are the main factors for psycho-emotional discomfort during hospitalization. Besides the questionnaire that assesses the child's needs and games developed for pain management, human body

knowledge and cognitive bias modification, it is the pain scale, used in the doctor-patient communication and the mood board that allows the children to express their emotions were rated as the most useful aspects of the mobile app.

The right kind of psychosocial care is preceded by accurate assessment and there is hardly anything more readily accepted than a playful game that collects information that can be interpreted right away with a summary printed and given to doctors and specialists in real time for interventions.

P-077 | Drawing as an evaluation tool in children and teenagers with cancer

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Cancer is a complex disease where it is not often easy to identify its impact in the personal lives of young patients since they do not tend to express themselves. The use of drawing as a tool for therapeutic evaluation may allow a better understanding of the worrying issues associated to the cancer disease. This study aimed to examine the children's thematic drawings and the psychological indicators present on these drawings. The drawings were sorted in categories on the basis of content, and the psychological characteristics showed through them. Participants included 20 children (ages 6 to 17 y), receiving treatment for cancer at Hospital de Especialidades Pediátricas, Maracaibo, Venezuela. A qualitative method was used. A total of 52 artistic productions and the verbal reports of each patient about their drawings were analyzed using the Atlas.ti software. A total of 95 emotional indicators were established from the presence of specific characteristics showed on the drawings. The emotional indicators which showed the highest incidence were associated with: Aggression, threat feeling, anxiety, corporal sensibility, impulsivity, sadness, immaturity, insecurity and social defensive contact. The children's thematic were related to: family union, parents as a protection figures, desires to be with family, needs for leisure, healing need and needs for achieving live goals. Conclusions: Drawing could be a useful evaluation tool through 3 ways: (1) by itself as an expression of patient inner world, (2) to promote the spontaneous conversation regarding the cancer disease and (3) as a "facilitator tool" during the psychotherapeutic interview.

P-078 | Development and pilot testing of an electronic fertility preservation decision aid for parents of children with cancer

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Treatment-induced infertility is important to pediatric cancer survivors. There are options available, however the decision to preserve fertility is complex due to time pressure, the experimental nature of fertility preservation procedures, and the role of parents as surrogate decision-makers. There is a need for decision support. Decision aids (DAs) support value-laden informed choices and have been proven to be effective in other contexts.

To develop to assess usability and acceptability of an online fertility preservation DA for parents of children with cancer.

A decision aid was developed according to guidelines and reviewed for clinical appropriateness. Parents' of pediatric cancer patients who had received cancer treatment (and were not on active treatment) at the Royal Children's Hospital, Melbourne who had made a fertility preservation decision previously were invited to participate. Participants completed pre/post questionnaires and reviewed the DA.

Fifteen parents completed both questionnaires. Most reported the DA explained their child's fertility choices 'clearly' or 'very clearly' (87%), that the amount of information was 'about right' (80%), and all were satisfied with the information provided. The DA improved fertility related knowledge by 15% ($P = .04$). Most (87%) reported it would have been helpful when making the decision, that it would have been relevant (79%), and would recommend the DA to others (87%).

This novel fertility DA is acceptable and improves knowledge in parents of children with cancer who have already made a fertility preservation decision. Prospective assessment of the DA in a clinical setting is planned.

P-080 | Why early psychological intervention in pediatric oncology?

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When cancer intrudes life, an everyday equilibrium is destroyed and treatment protocols preside upon the new lifestyle governed by medical firm rules. But we must consider that the traumatic-oncology related experience begins before cancer diagnosis. The first steps

walked by the child and his family within the Oncology Unit to face the diagnostic process cause anxiety and anguish. Early psychological support since the diagnostic phase, including painful procedures, surgery, diagnosis communication, is pivotal to prevent that the traumatic experience impedes continuity to child's identity developmental process. 'Normality' needs to be part of the medical setting. Art and creativity become an important allied helping to connect to and express the emotional burden related to the new life-threatening cancer condition. Art-therapy engages profound identity and vitality preventing the Self from fading away. The space for art therapy based psychological interventions are not taken for granted in the medical setting. The whole medical team collaboration is essential. Caring taking care of the child identity not to be overwhelmed by cancer, supports child's and family adaptation process and treatment compliance, in this way the cancer experience can be made not only less traumatic but can also promote growth and development. The responsibility distribution between professional team members is facilitated: the medical operator can cure the child knowing that his patient emotional dimension will be taken care of.

P-081 | What can we do today? Creativity and identity despite cancer in pediatric oncology—LAD'ORO Project

Cinzia Favara-Scacco¹; Karolina Maslak¹; Giovanna Russo²; Simona Italia¹; Marinella Licciardello¹; Luca Lo Nigro²; Vito Miraglia¹; Salvo D'Amico¹; Piera Samperi¹; Milena La Spina¹; Francesco Bellia¹; Mariella Inzirillo¹; Carlo Lo Giudice¹; Salvatore Cultrera¹; Andrea Di Cataldo¹

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The traumatic experience of pediatric cancer diagnosis may petrify and rigid treatment rhythm takes place of spontaneity. Bringing creativity into the pediatric oncology unit through art-laboratories restores a natural vitality and offers an imaginary space of containment of what cannot be reached by words. We give a possibility to the patient of our unit to participate in diverse individual and group art-laboratories throughout a day where they can experience and explore different creative techniques, like cinematography, digital editing and create their own art language. All activities proposed are conducted by professionals, supervised by a pediatric psychologist, and are adapted to different age groups. Offering these activities next to the medical ones becomes of major value during long periods of recovery, when the beauty of everyday life is lost. Creativity becomes a vehicle for vitality and "sane parts" to emerge, balancing the treatment experience and preserving child's identity to let it blossom despite the cancer. Often it becomes an important tool facilitating the treatment adaptation process not only for the child but for the caregivers as well. The value of laboratories proposed goes far beyond the distraction from the hospital setting, it becomes a moment of free self expression and affirmation, where the child can be him/herself again.

P-082 | The safe place experience—Stimulating imagery during painful procedures in pediatric oncology

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Supporting the child during painful procedures in pediatric oncology, like lumbar punctures or bone marrow aspirations, is a complex issue that involves professionals and caregivers. Throughout the research and clinical practice, we observed that using pharmacological support to manage the pain, does not always reassure the child. It is a challenge for the professional team to help a frightened child to drain the painful experience from anguishing content. The psychologist role is to help to create a child-centered procedure environment where every procedure the child faces becomes 'just another one' and not a repeated trauma. We have developed an evidence-based method of supporting children during painful procedures that through creativity and imagery stimulation helps children face the painful experience and express their preferences for pharmacological support. Psychologist takes care of child: *before* the procedure, creating a "listening time" where the child is stimulated to find his inner "safe place" and choose among general anesthesia, conscious sedation or no anesthesia; *during*—recalling the "safe place" image and offering support modality according to child's request and personality; *after*—helping elaborate the whole experience. We observed that children's ability to be in tune with their needs and recall reassuring "safe place," expresses the capacity to make the most adequate choice to face procedures. Caregiver's containment modality and operators respect for child's choice is an important factor. Children experiencing child-friendly procedure environment, become more compliant and less anxious, which helps establish a trusting relationship among children, caregivers and multidisciplinary equip.

P-083 | The place of play in the psychotherapy of Mexican children with cancer

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Mexican children suffering from cancer and belonging to the the lower socio-economic group families have been progressively

incorporated into the System of Social Protection for Health. Distressful situations like separation from their families and social isolation, expose these children to a burden of psychosocial distress. Unfortunately, most of the public hospitals have not yet included specialized psychological care in the treatment of pediatric oncological patients.

We present two case reports of children suffering from cancer and undergoing treatment in one of the hospitals incorporated into the the System of Social Protection for Health: a case of a child at the end-of-life and a case of a child in his 6th month of oncological care. In order to conduct a detailed analysis of the way this patient cope with distressful situations, we focus on the description of some play sequences and of some drawings produced during individual psychotherapy sessions.

Playing represents a very important tool in the psychotherapy for children who are exposed to a burden of psychosocial distress. It offers an opportunity for children to express their feelings, to symbolize traumatic events and to cope with loneliness, sadness and sorrow.

In order to provide a better quality of life for Mexican children suffering from cancer and living in poverty, psychological care needs to be integrated in the universal health coverage program.

P-084 | Psychological correlates of leukemia in children: The cognitive orientation approach

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The purpose was to identify psychological correlates of pediatric leukemia. It was done in the framework of the cognitive orientation (CO) theory which enables identifying psychological correlates of diseases which might be considered as factors in the network of risk factors promoting disease occurrence. The hypothesis was that the CO questionnaire of pediatric leukemia will differentiate significantly between children with leukemia, children with solid tumors and healthy controls. The participants of both genders, 5 to 11 years old, included 35 children with leukemia, 30 with solid tumors and 27 healthy controls. The main tool was a CO questionnaire consisting of short stories, each focused on one theme, followed by 4 questions referring to four types of beliefs (about oneself, reality, norms and goals). The themes were based on pretest interviews with leukemia patients following the CO procedure. The results showed that in all four belief types the leukemia patients scored significantly higher than the other groups. A stepwise discriminant analysis showed that the CO questionnaire differentiated the members of the three groups correctly in 71%. Major themes characterizing the leukemia children were complete independence, need for routine, helping or giving others without limitations, not sharing one's inner life with others. Some themes formed conflicts. The CO scores were not correlated with different demographic variables but differed in line with genetic factors and disease severity. The

conclusions are that specific attitudinal themes may be considered as correlates of pediatric leukemia and can serve as basis for therapeutic interventions.

P-085 | An investigation of parent and child sleep patterns on an inpatient oncology unit

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Pediatric cancer patients and their parents often stay in hospital for extended periods of time and report disruptions in sleep. This study aims to examine objective and subjective measures of sleep quality in pediatric cancer patients and their parents, receiving overnight oncology care.

Sixteen patients (11 male; mean age = 13.47 y) and 14 parents have participated. For three consecutive days, patients and parents each wore an actigraphy watch and completed a daily Sleep Diary. Patients also completed the Child Depression Inventory, Multidimensional Anxiety Scale for Children, Child Sleep Habits Questionnaire, Pediatric Quality of Life (PedsQL) Multidimensional Fatigue Scale, and PedsQL Generic Core. Parents additionally completed the State Trait Anxiety Inventory for Adults, Abbreviated Pittsburgh Sleep Quality Index, Proxy PedsQL Multidimensional Anxiety Scale, Proxy PedsQL Generic Core, and a daily Profile of Mood States Questionnaire.

Preliminary findings indicate that 80% of pediatric oncology patients self-report symptoms of sleep disruption and/or fatigue based upon measures of Child Sleep Habits, Anxiety and Sleep Quality. Additionally, the PedsQL Multifatigue Scale indicated that all 16 children reported greater general, cognitive and sleep/rest fatigue in comparison to published norms.

Data obtained from this research will help to identify ways to decrease the effects of an important physiological consequence of current cancer care practices. Research into sleep disturbances in hospitalized pediatric cancer patients and parents will aid in a better understanding of the developmental frameworks that guide intervention/prevention programs, providing benefit to and optimization of child and parent health during their hospital stay.

Adolescent and Young Adults (AYAS)

P-086 | Transcending physical fitness to psychological strength and resources—Adventure-based counseling with young adult cancer survivors for cancer coping in Hong Kong

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Adventure-based counseling (ABC) has been widely practiced all over the world for different people in many settings. In Cancer Fund's CancerLink Support Centers, we have introduced ABC programmes to young adult cancer survivors (YA). They presented to be physically fitter after the programme. The transcending benefits of ABC were not only focused in physical but psychological well-being. ABC is a therapeutic tool to enhance self-esteem, develop personal insights, new skills of organizing self and world views. This paper examines the psychological benefits of ABC to YA.

In 2014 to 2016, 8 ABC programmes (from low challenges to high challenges) have been conducted. A mixed of qualitative and quantitative methods was applied. A total of 22 participants were followed with pretesting and posttesting on self-esteem (Rosenberg's self-esteem scale), anxiety and depression (HADs). Three in-depth interviews with participants were conducted after the programme.

Rosenberg's test on self-esteem and HADs were conducted. Results showed that there is a significant increase ($M = -6.14$, $s.d. = 3.26$) in self-esteem, $t(21) = -8.84$, $P < .001$; significant decrease ($M = 4.00$, $s.d. = 2.33$) in anxiety, $t(21) = 8.05$, $P < .001$; and depression ($M = 3.45$, $s.d. = 2.40$), $t(21) = 6.74$, $P < .001$ among YA cancer survivors. Peer support and social worker intervention were highlighted in the in-depth interviews.

ABC is a powerful tool for YA cancer survivors to restore their sense of physical integrity and confidence, strengthen resilience, reduce anxiety and develop new coping skills for their life-long cancer journey. However, a control group should be included in future studies to increase internal validity.

P-087 | Young adults with cancer: Mental adjustment and psychological distress

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Little is known about how young adults (YAs) cope with cancer or the relationship between psychological distress and coping in this population. The objective of this study was: to analyze the prevalence of psychological distress among YA's cancer patients; and comparing psychological symptoms and adjustment to disease among YA (<45 y) and adults with cancer.

NEO coping is a prospective, observational and multicenter study in which 170 patients were recruited in 13 Spanish hospitals during June

2015 to December 2016. All patients had non-advanced cancer that had been resected with curative intent. The study has a website to collect clinical data and questionnaires for doctors and patients that are filled out before starting adjuvant chemotherapy*. The Mini-Mental Adjustment to Cancer (Mini-Mac), and Brief Symptom Inventory (BSI) were administered.

A total of 85 patients were YA (mean age 39 y, and 80% female). The primary tumor localization was mainly colon (24%) and breast (62%). The adult's patients had a mean age 75 years, and 58% were men. The primary tumor localization in adult's patients was colon (58%) and breast (13%). Most of the YA had clinically significant psychological distress than adult (70% vs 45%), specifically, women. YA report more anxiety than adult patients. Young people with cancer mainly use coping strategies as fighting spirit and anxious preoccupation, while older patients resignation.

Specific interventions are necessary for YA cancer patients to increase their resilience and improve their psychological state.

P-088 | Health literacy in adolescents and young adults with cancer (AYAs)

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Health literacy (HL) can have an impact on long-term health outcomes. In times of patient-centered health care the construct of health literacy is gaining importance. Little is known about health literacy in young cancer patients and its relationship to sociodemographic and clinical variables so far.

Our study sample consists of 234 AYAs between 16 and 39 years and different tumor entities. Perceived HL was measured using a 16-items short form of the European health literacy survey questionnaire (HLS-EU-Q16). In addition to sociodemographic and clinical variables we assessed quality of life with the 12-Item Short Form Health Survey.

(SF-12v2). Multiple linear regression analysis was used to determine predictors of health literacy.

About 28% of the patients had a sufficient HL-score compared to 72%, which had problematic or inadequate HL. Regression analysis revealed following predictors for higher HL: older age, a higher vocational education and having a hematological cancer ($R^2 = 0.11$). There is a significant association between higher HL and the mental components of quality of life ($r = 0.4$).

The results emphasize the importance of health literacy in the context of a cancer diagnosis, especially in young cancer patients with an increased risk of late effects. HL depends on social and medical determinants such as age, educational level and tumor site. Also quality of life could be improved through better HL. Future studies should examine a larger sample of AYAs to complete the construct of health literacy comparing different age-groups between the young patients and the impact on quality of life.

P-089 | Improving the process of referrals to psychosocial care for young adults

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Standards of care for Young Adult (YA) Oncology include integration of developmentally appropriate psychosocial support. A supportive care program within one academic medical center addresses the unique psychosocial needs of young adults (ages 18-39), but low referrals in gastrointestinal oncology were identified relative to the number of YA patients receiving medical treatment. To explore and address this concern, quality improvement (QI) methodology was utilized to gather baseline data, generate solutions with a project team, use plan do study act (PDSA) cycles of change, and gather change data. Baseline data obtained through program statistics showed 7% of YA patients within the GCC were referred to the program over a 6-month period. Through a survey, medical providers identified barriers in referring, citing lack of familiarity with the services and uncertainty of the referral process. Patient feedback reinforced the importance of hearing about psychosocial services directly from their medical providers. The project team developed several change solutions to educate clinical providers about the psychosocial needs of young adults and the impact of support services targeting those needs. Change data collected after three PDSA cycles showed an increase in referrals to 15%. Next steps include working on a developmentally appropriate tool to help medical providers introduce the importance of the psychosocial program, and finding ways to sustain behavior change. This approach is adaptable and can be used to improve the process of referrals to psychosocial care in other disease centers and oncology settings.

P-090 | Long-term changes in self-esteem and value orientations after antineoplastic therapy in childhood

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Due to progress in modern therapeutic protocols for Acute Lymphoblastic Leukemia (ALL) and Hodgkin's Lymphoma (HL) survival rates increased significantly. Therefore study of long-term consequences of conducted antineoplastic treatment is becoming a question of vital importance. Situation of severe and life-threatening disease affects child personality development. The aim of the research: study aspects of motivation, value orientations via structure of self-esteem and locus of subjective control in various spheres of life.

Patients after antineoplastic therapy in childhood, in a present clinical remission (5-14 y remission duration). N = 60 (ALL), N = 50 (HL). Mean age-14 (ALL), (HL)-19 years. N = 60 control group.

Psychometrics methods (Dembo-Rubinstein Method, Rotter's LOCS, original questionnaire) were used. Factor analysis was used to determine the factor structure of actual and prospective self-esteem. Credible factors rate at least 5% contribution to the total dispersion (34 scales of self-esteem were factorized). Clinical and control factor structures were compared.

Two orthogonal factors in actual and prospective self-esteem were defined. Data for internality (Rotter's LoCS) clinical to control group (in males) internality of achievements (7.57 and 5.51 $P < .005$), failure (6.95 and 5.57 $P < .005$), family (2.71 and 6.71 $P < .005$), health (2.71 and 6.71 $P < .005$), production-working (5.71 and 7.11 $P < .005$). In females: internality of health (2.48 and 3.23 $P > .005$) and family (5.08 and 5.31 $P > .005$).

Patients demonstrate uncertainty about self-control in production-working (males) and family (females) spheres. Health for clinical group is more significant value in actual self-esteem (in control in prospective self-esteem). It can be highlighted: clinical group has more internal attributive style. Leading factors in actual self-esteem in clinical group: health, vitality, intelligence, emotionality. In prospective self-esteem: financial well-being, beauty, general adaptation. Psychological rehabilitation programs should take into account changes in patients self-esteem. Consequently, psychotherapeutic interventions are necessary in long-term period after clinical remission.

P-091 | A scoping review of research on the antecedents, correlates, and outcomes of physical activity in adolescents and young adults diagnosed with cancer.

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Physical activity (PA) can improve health, functional capacity, and quality of life, and independence in adults with cancer. PA may also offer important benefits to adolescents and young adults with cancer (AYAs). However, concerns have been raised with regards to our limited understanding of PA and its antecedents, correlates, and outcomes in AYAs. Thus, we conducted a scoping review to determine the extent and nature of published studies on PA in AYAs, identify gaps, and propose strategies for advancing knowledge.

We followed Arskey and O'Malley's methodology. We searched 4 electronic databases for published studies. Two authors independently scanned the titles, abstracts, and full-texts against inclusion criteria: AYAs (aged 15-39 y); on-/off-treatment; reported on PA and antecedents, correlates, or outcomes of PA; original research; published in English peer-reviewed journal. Data were extracted from studies meeting these criteria and subsequently summarized.

Our search yielded 3156 studies; 10 met inclusion criteria. These included 4 cross-sectional and 1 longitudinal studies that explored sociodemographic, physical, psychological, and/or social antecedents or correlates of PA, and 5 interventions focused on changes in behavior, physical and/or psychosocial health, and/or quality of life. We identified

gaps related to content areas, research design, and theoretical underpinning.

We can conclude that PA is not a well-researched topic in AYAs. Findings highlight the need to conduct more high-quality research by adopting longitudinal or intervention study designs, incorporating a range of sociodemographic, physical, psychological, social, and environmental measures to assess antecedents, correlates, and outcomes of PA, and integrating theory.

P-092 | Psychological adjustment of adolescents undergoing hematopoietic stem cell transplantation (HSCT) in Russia: Personal, parental and family factors.

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Growth in the number of allogeneic HSCT and the increasing inclusion of psychosocial specialists in the workings of BMT units provide an opportunity for conducting first researches and evidence based psychosocial programs in Russia. The aims of this pilot study were to examine associations among adolescents' and parents' distress, coping behavior, during HSCT and family structure, communication style.

Measures of emotional distress (DRS, Patel S.) and coping behavior (ACS, COPE) were obtained from 28 families: adolescents (age 11-18) and their mothers prior to admission for HSCT (T1: -1 week) and during the active phase of transplantation (T2: +2/+3 week). The assessment of family factors (FACES IV; FEC, Kholmogorova A.) was carried out before HSCT.

The level of adolescents' distress is significantly higher in T2 than in T1 ($Z = -2.992b$, $r = .003$). Significant associations were found between adolescents' distress level in T1 and T2 ($r = .679^{**}$) and between adolescents' and parental distress in T1 ($r = .408^*$). The strong associations were found between adolescents' distress and adolescents' and parental coping behavior, family cohesion, emotional neglect as family communication style.

The results of this pilot study confirm that pre-HSCT adolescents' and parental distress can have an impact on adolescents' emotional functioning during the active phase of treatment. Lack of family cohesion and of productive coping behavior, as well as dysfunctional family emotional communication style can be recognized as risk factors for psychological adjustment. Research results confirm the importance of pre-HSCT distress screening and Family-centered approach to psychosocial support during the HSCT.

P-093 | Systematic review of interventions to reduce sun exposure and skin cancer risk among adolescents

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Over the last 30 years, rates of malignant melanoma in the UK have risen faster than any of the current 10 most common cancers. Early detection of the disease is important to improve outcomes as is ensuring that people perform safe-sun behaviors. The aim of this review was to identify interventions used to reduce skin cancer risk in adolescents and to compare the effectiveness of these interventions in reducing adolescents' sun exposure.

Relevant publications were obtained from a keyword search of the following databases: CINAHL, MEDLINE, PsycINFO, PsycARTICLES, Scopus and Web of Science (limited to articles published between 2001 to 2016).

A total of 42 publications' full-texts were retrieved based on study relevance determined by titles and abstracts. A total of 25 articles met the inclusion criteria, these were used in the systematic review. Appearance-based interventions were generally effective in significantly improving risk-reducing behaviors as well as improving knowledge about skin cancer. Educational materials/programs were associated with improvement of skin cancer knowledge whereas internet-based programmes generally led to significant improvements to tanning behavior. Interventions used to reduce sun exposure/risk of cancer had a positive impact on the behavior and beliefs of the participants although appearance-based interventions were generally most effective.

P-094 | Emotional and physical late effect of testicular cancer treatment: Implications for follow-up

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Testicular cancer (TC) accounts for less than 1% of all male cancers. Despite a good prognosis, the typically young age at diagnosis and physical sequelae may cause distress in survivors. This study aims to explore the prevalence of distress in TC survivors.

Men previously diagnosed with TC receiving routine follow-up care at a Brazilian Public Hospital were assessed for distress and anxiety/depression.

A total of 26 patients participated (50% seminoma), with a mean age of 28.9, and the majority married and white. The survival rate was 50.8 months, 73.1% of patients received the BEP (2-3 cycles) and 96.2% had an orchiectomy. Clinically significant symptoms of anxiety/depression was found in 7.7% of patients. However, 53.8% of non-seminoma and 30.8% of seminoma reported high distress. Worry (53.8%), nervousness (30.8% vs 38.5%), fatigue (15.4% vs 46.2%), memory (38.5% vs 30.8%), pain (23.1% vs 38.5%), sex (23.1% vs 7.7%), sleep (15.4% vs 23.1%) and appearance (15.4%) were the most common problems reported.

These findings suggest high rates of distress among long-term TC survivors; however the majority possessed sub-syndromal symptomatology and relatively few reported diagnosable symptoms of anxiety or depression. Distress may be associated with fear of recurrence and

possible long-term side effects. These data suggest a role for supportive care in assisting patients with TC in managing distress throughout the cancer continuum.

Cognitive Impairments

P-096 | Cognitive and emotional effects of a group intervention for breast cancer survivors

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Treatments for breast cancer (BC), which is considered the most common type of cancer, specifically chemotherapy (QT), have dramatically increased the survival rate of patients. However, these are associated with side effects, one of which is cognitive deficits (often referred to as chemobrain), which have received increasing attention recently because of their impact on the quality of life (QoL) of survivors. Given that the literature has consistently affirmed the presence of these deficits in this population, which are reflected in multiple domains (attention and memory for instance), it is pertinent to develop intervention programs that help mitigate these effects. The present study intent to develop and implement a group intervention program for breast cancer survivors (called CogMAMAGroup), which includes a psychoeducation component (from a tested program with Portuguese BC survivors, InMAMAGroup) with an adapted cognitive stimulation component. We hope to decrease (or maintain) psychopathological symptomatology associated with the disease and cognitive deficits related to the treatments and to improve the QoL of the participants. We expect that the emphasis given to the chemobrain in this study may be useful in alerting practitioners to the importance of informing breast cancer patients of the long-term impact of QT on cognitive functioning, as well as, making available a program that can be used to deal with experienced cognitive problems.

P-097 | Chemotherapy-induced prospective memory impairment in breast cancer patients with the different expression of hormone receptor

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This study aimed to investigate the prospective memory impairment in breast cancer patients with the different expression of hormone receptor, including estrogen receptor (ER) and progesterone receptor (PR). A total of 120 breast cancer patients who underwent chemotherapy after operation were divided into two groups, A group included 60 patients with ER⁻/PR⁻, and B group included 60 patients with ER⁺/PR⁺. After six cycles of postoperative adjuvant chemotherapy, all of patients were administered with neuropsychological tests and prospective memory, such as mini-mental state examination (MMSE), verbal fluency test (VFT) digit span test (DST), event-based prospective memory (EBPM), and time-based prospective memory.

As the neuropsychological background tests results exhibition, the MMSE DST, and TBPM of breast cancer patients with ER⁻/PR⁻ and ER⁺/PR⁺ was slightly increased, and had no a significant difference, and significantly, the VFT and EBPM was significantly increased breast cancer patients with ER⁺/PR⁺, and had a significant difference ($P > .05$, **: $P < .01$), and indicated that patients with ER⁻/PR⁻ have a significant damage on the EBPM, and however not on the TBPM.

This study indicated that different hormone receptors in breast cancer patients may be associated with the heterogeneity of chemotherapy-induced prospective memory impairment.

Key words

Breast cancer hormone receptor neuropsychological tests prospective memory

P-098 | Altered resting-state hippocampus functional networks associated with chemotherapy-induced prospective memory impairment in breast cancer survivors

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In this study, we aimed to investigate the intrinsic hippocampus functional connectivity (FC) network and the relationship with prospective memory in chemotherapy-induced cognitive impairment in patients with breast cancer. Thirty-four breast cancer with adjuvant chemotherapy (CC) and 31 age- and education-matched cognitively normal (CN) women were recruited and administered prospective memory task as well as a resting state functional magnetic resonance imaging scan. Seed-based functional connectivity analysis was used to compare the hippocampus FC networks between two groups. Partial correction analysis was used to detect the association between hippocampus FC network and prospective memory in CC group. Chemotherapy cancer group showed significant poorer in the scores than CN group on mini-mental state examination, verbal fluency test, digit span, and prospective memory. Compared to CN group, the CC group showed increased hippocampus connectivity in frontal and parietal cortex, precuneus, posterior cingulate cortex and cerebellum. In addition, the increasing hippocampus FC networks were negatively correlated with prospective memory performance in CC group. These findings proposed a hippocampus functional maladaptive mechanism of prospective memory impairment in CICI patients, and the altered hippocampus functional

network might serve as a new biomarker for chemotherapy-induced cognitive impairment diagnoses in cancer patients.

Keywords: Hippocampus, functional network, breast cancer, prospective memory.

P-100 | Cancer and chemotherapy-related cognitive dysfunction in patients with breast cancer: Luria's neuropsychological approach

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Cancer and chemotherapy-related cognitive dysfunction—a set of neuropsychological impairments in cancer patients caused by the disease itself or the consequences of therapy. According to research findings, intensity of cognitive disorders, qualitative characteristics and dynamics-vary in a wide range. The purpose of this research is to study the structure of cognitive functions disorders in patients with breast cancer, using Luria's neuropsychological approach.

A total of 34 patients were observed. Clinical group (A)-patients with breast cancer not receiving chemotherapy(N = 13). Clinical group (B)-patients with breast cancer, receiving chemotherapy(N = 11). Control group (C)-healthy individuals (N = 10). Mean age-45 years. Qualitative, quantitative neuropsychological scales(developed in Luria's approach methodology) and one-way ANOVA on ranks were used.

Kruskal-Wallis H test showed significant differences (<0.05) in several neuropsychological tests. "Stroop Test"-time spent at Tables N^o3 (P = .001) and N^o4 (P = .001). "Proofreading test," "Schulte tables"—the effectiveness of the performance (P = .019; P = .043). Short-term memory-test at volitional remembering the story—the number of semantic units with direct reproduction (P = .048), with delayed (P = .001), the number of confabulations with delayed reproduction (P = .048). "Memorizing two groups of 3 words" number of words in the second group of first reproduction (P = .016). "Memorizing difficult verbalized figures" number of figures with delayed reproduction (P = .029). Estimation of executive functions: In the "choice reaction" number of errors in the first series (P = .047), regulatory scale "H.Head trial" (P = .031). Differences were found in comparison clinical group of patients receiving chemotherapy (A) to clinical group without chemotherapy (B), and control group (C). Identified specific neuropsychological symptome-group, which includes modal-nonspecific impairment of attention, memory, disturbances in executive functions. Praxis, gnosis, spatial functions, verbal and logical thinking remain safe. Described symptome-group is caused by involvement in the pathological (toxic factors) process medial structures of frontal and temporal lobes.

P-101 | Cognitive functions, adjustment to cancer and psychological symptom in patients with resected cancer receiving chemotherapy

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The loss of cognitive functions is a symptom that impairs the quality of life and one of the most feared by cancer patients.

The aim of this study is to analyze the cognitive functioning in cancer patients initiating chemotherapy and to study the relationship between adjustment to cancer, and psychological symptom.

NEO coping is a prospective, multicenter, and observational study. It has a website to collect clinical data and questionnaires for doctors and patients that are filled out before starting adjuvant chemotherapy and at the end of the treatment. The applied tests were: Mini-Mental Adjustment to Cancer (MAC), EORTC QLQ-C30 (cognitive function scale) and Brief Symptom Inventory (BSI-18).

A total of 264 patients' data (mean 59 years, and 60% female) were recruited. The primary tumor localization was mainly colon (41%) and breast (34%). The results indicate that patients perceive that their physical condition or treatment interferes with their cognitive functions (eg, concentration, memory, abilities that enable goal-oriented behavior) have coping strategies more anxious characterized by a constant concern for health type, fear of the spread or recurrence of the disease that leads to frequent reaffirmation search (P < .001). The cognitive function problems were negatively related with somatization, depression and anxiety (P < .001).

The perceived loss of cognitive abilities, uncertainty and loss of control of the cancer survivor patient may hinder adaptation to their situation, the loss of quality of life and greater emotional distress.

P-102 | Preliminary data on perceived cognitive function in Brazilian breast cancer survivors

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Cognitive Impairment has been frequently reported by breast cancer survivors (BCS). However, to our knowledge no study has been previously conducted with Brazilian cancer patients. This pilot study attempted to explore the self-reported cognitive function, considering the most common physical and psychosocial symptoms described in the literature.

BCS were recruited from a Breast Cancer Outpatient Clinic of Brazilian public hospital. They were assessed by the Functional Assessment of Cancer Therapy—General and Cognitive Function (FACT-G and FACT-Cog), Distress Thermometer (DT) and Hospital Anxiety and Depression Scale (HADS).

This pilot sample was composed by 13 BCS who were on average 50.4 (SD = 7.4) years old and 35.4 (SD = 8.1) months posttreatment. The Cognitive Function (M = 108.5, SD = 31.6) was significantly correlated with quality of life, anxiety/depression, fatigue, and sleep. The same was observed with the subscales *Perceived Cognitive Impairment* (M = 59; SD = 17.5), *Comments from Others* (M = 14.9; SD = 1.7) and *Perceived Cognitives Abilities* (M = 22.7; SD = 9.8).

From this preliminary data, it was possible to note that the cognitive symptoms are also an issue for Brazilian BCS, with a significant impact on their life. It was also observed that this late symptom has been poorly discussed among our health team, and probably being unrecognized and untreated. This study is ongoing, towards the implementation of effective evidence-based supportive care practice to enhance BCS outcomes.

Communication

P-103 | Identifying and responding to anxiety and depression in adult cancer patients. Pilot testing of an online communication skills education program targeting challenging conversations for oncology health professionals

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The Psycho-oncology Co-operative Research Group (PoCoG) developed an evidence-based clinical pathway for the identification and management of anxiety/ depression in adult cancer patients to promote standardization in assessing and responding to affected patients and enhance uptake of psychosocial interventions. A key component to support implementation of the pathway into routine clinical practice is health professional training to facilitate effective communication. The aim of this research was to determine the acceptability of an interactive online education program to increase health professionals'

knowledge, and improve skills and confidence in communicating about anxiety and depression screening and referral.

A total of 12 oncology nurses participated in a pre-post simulation study. Nurses participated in 3 pretraining standardized medical simulations with an actor/patient to (1) introduce screening to a patient; (2) discuss referral to psychological support; and (3) manage a patient who refuses referral to psychological support. Participants then completed 5 online training modules. Three weeks later, nurses participated in 3 posttraining medical simulations. Self-reported acceptability of the training and communication confidence related to screening and referral, and communication were assessed by two independent reviewers using a study specific analysis framework.

Nurses reported the training to be relevant to clinical practice. Content, length and format of training were acceptable to participants. Significant improvements in communication were identified pre-post training. Building workforce skills, knowledge and confidence is crucial for the successful implementation of routine screening in busy cancer settings. This interactive online training was acceptable and effective in improving communication.

P-104 | Predictors of willingness to participate in communication skill training for advanced practice nurses in Taiwan

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The educational model of truth-telling for advanced practice nurse (APN) has not been designed globally. Therefore, the purpose of this project is to investigate APNs' intention to participate in truth-telling education and related factors.

We used quantitative cross-sectional design. Structured questionnaires were used to collect relevant data. One hundred thirty-nine APNs (potential subjects = 162) at Division of Oncology in various branches of Chang Gung Memorial Hospital participated in this study with a response rate of 85.8%.

Most APNs had Bachelor degree (81.8%) with an average age of 42.70 (SD = 5.40). We found that 80.9% of the APNs recognized the needs of CST and 74.6% were willing to participate in CST. According to bivariate analysis, family stress, satisfaction of work, average truth-telling frequency per month, and perceived needs of CST had a significant impact on the willingness of participation in CST ($P < .05$). When enter the above independent variables into the logistic regression model, only perceived needs of CST was the significant predictor of willingness to participate in CST (OR = 7.56, $P < .001$). For those APNs who perceived the need of CST had 7.56 times chance willing to participate in CST when comparing with those who did not perceive a need of CST.

To increase APNs' willingness to participate in CST, it may be necessary to facilitate their perceived needs of CST. The findings can serve as a reference for APNs' formal and in-service education on cancer truth-telling.

P-105 | Case study of a woman with mastectomy for breast cancer: What concern for breast reconstruction?

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We are conducting a qualitative study to investigate how women and their partners make the decision to have or not a breast reconstruction for breast cancer, from the diagnosis to 1 year after. For this presentation, preliminary results will be presented with a case study. Our objective was to explore the experience lived by a woman facing mastectomy and to study if decision to have or not a breast reconstruction would appear naturally in an open interview.

A 49-year-old woman who have had a mastectomy without immediate breast reconstruction was interviewed. She will be called Sarah. Sarah was interviewed the month following her mastectomy with only one question: "Could you tell me what you are currently living?". The interview was analyzed using interpretative phenomenological analysis.

Three major themes emerged from the analysis. Firstly, Sarah talked about her expectations and concerns about her family (eg, difficulties to communicate on cancer). Secondly, she expressed several fears (eg, fear of death and how people may look at her). Thirdly, Sarah talked about her body modifications and emotional distress ("I'm not the same"). Surprisingly, Sarah never talked directly about breast reconstruction during the interview. Finally, Sarah never used the words "cancer," "mastectomy," and "breast reconstruction" to talk about her experience. The author will discuss the importance of family communication and the patient's state of mind 1 month after mastectomy. The results will be discussed in comparison with Sarah's husband interview and a literature review will enhance the findings.

P-106 | Responding empathically to patients and colleagues: Focus on working group for implementing an effective communication skills. The experience of the team of Oncology Department in Cosenza Hospital

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Emotions and motivations have a fundamental role in a working group. Showing empathy towards patients/relatives and colleagues results in a positive workload for oncological environment. However, this process is not innate and requires many efforts. The goal of this study is

to implement a resilient and empathic relational style in order to protect working group from stress. An ad hoc and mandatory training course during the working hours may foster this process.

A pre-post test investigated training needs in 31 Helping Professionals (HPs), 10 Oncologists, 17 nurses, 3 psycho-oncologists, 1 social worker, aged between 31 and 62. The evaluated parameters are relative to the integration level with the group and the stress indicators related to work. A training course in two sessions was made, on the job, with the themes requested by (HPs).

All (HPs) have filled into questionnaire form before and after training course. In the pre-test 22 of the 31 (HPs) ranked as medium/low their integration level with the group, and the stress indicators were as follows: 17/31 relationship with colleagues; 13/31 relationship with patients/relatives and 8/31 relationship with Supervisor.

The results let us realize that the training is surely an important tool but it does not solve the more structured problems concerning the operator. Improving empathy is possible but it requires a strong motivation. Difficulties in relation with authority are linked to the operator and should be dealt with in other settings. References Pehrson C et al. *Responding empathically to patients*. Patient Educ Couns 2016 Apr;Vol. 99(4):610-616.

P-107 | Patient-reported outcome (PRO) may facilitate communication physician (phi)/ patient (pt) about the side effects associated with chemotherapy(SE-CT)

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The SE-CT increase the distress in cancer pts, and impact negatively on quality of life of the pt (QoLp) and their compliance. The PRO are measures that allow to describe and evaluate the QoLp through his own perception.

In pts admitted to day-hospital CT, we studied SE-CT, commonly reported in medical records (m.r.) according to the WHO classification, vs PRO, through a structured card (P.Re.SEC.). It has been also given the Distress Thermometer (DT).

We enrolled 50 pts. The greatest discrepancy between the m.r. and P. Re.SEC. card was found in the average level of the "minimum" level: fatigue (pts 16 vs phy 10); pain (22 vs 3); nausea (17 vs 5); vomiting (13 vs 7), constipation (14 vs 10); diarrhea (6 vs 0); problems to feed (13 vs 0); mouth ulcers (11 vs 1); difficulty digesting: (17 vs 2); skin dryness/itching (9 vs 0); stuffy nose and sense of dryness (7 vs 0); tingling in the hands/feet (16 vs 7); bloating (8 vs 0); sleep problems (8 vs 0); sleep problems/concentration (19 vs 0). QoLp: 32 pts have had limitations in their work; 31 pts in hobbies and leisure activities; 26 pts in social activities. DT \geq 4 in 39 patients.

PRO for the detection of SE-CT facilitate pt-phy communication on toxicity from CT and on the patient's health status.

P-108 | How does the frame of communication affect patients decision? - From behavioral economics' point of view-

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It has been said that physicians should provide their patients correct evidences. However, recently, the importance of libertarian paternalism comes to be received attention. The purpose of this research is to clarify how the patient's decision differs when the physician changes the frame when he/she provides information about cancer treatment.

Internet questionnaire survey was performed during March 2017. We mailed questionnaires to cancer patients who have treated their cancer within 2 years thorough the Internet survey company. We provided a scenario of a terminal cancer patient, and showed some hypothetical evidences in different way. Then, we asked the participants whether they choose to receive additional anti-cancer treatment at or not. This survey was approved by the institutional review board of Tohoku University.

We are going to collect the questionnaire during March 2017, and to analyze our data until May 2017.

The result of our survey is expected to provide basic finding, which can be considered in shared decision making.

P-109 | Preferences of advanced cancer patients for communication on anticancer treatment cessation and the transition to palliative care

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The aim of this study was to clarify advanced cancer patients' communication preferences regarding ending anticancer treatment and transitioning to palliative care, and to explore variables associated with these preferences.

Participants were 106 Japanese cancer patients who had been informed at least 1 week earlier of the cessation of their anticancer treatment. They completed a survey measuring their preferences for communication about ending anticancer treatment and transitioning to palliative care, as well as their demographic characteristics. Medical records were also examined to investigate medical characteristics.

Results of the descriptive analysis indicated that patients strongly preferred their physicians to listen to their distress and concerns (96%), assure them that their painful symptoms would be controlled (97.1%), and explain the status of their illness and the physical symptoms that would likely occur in the future (95.1%). Multiple regression

analyses indicated the factors associated with these preferences: telling patients to prepare mentally, and informing them of their expected life expectancy, was associated with cancer site; sustaining hope was associated with cancer site and children; and empathic paternalism was associated with duration since cancer diagnosis.

The majority of patients preferred their physicians to be realistic about their likely future and to be reassured that their painful symptoms would be controlled. For patients with certain cancer sites, those with children, and those more recently diagnosed, physicians should communicate carefully and actively by providing information on life expectancy and mental preparation, sustaining hope, and behaving as empathic paternalism.

P-110 | Patient preferred explanations in discussing cessation of chemotherapy

Maiko Fujimori¹; Masanori Mori²; Hiroto Ishiki³; Jun Hamano⁴; Tomohiro Nishi⁵; Hiroyuki Otani⁶; Yu Ueno⁷; Akira Oba⁸; Tatsuya Morita²; Yosuke Uchitomi⁹

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The aim of this study is to explore cancer patients' preferences to discussions about cessation of chemotherapy treatment and to explore the variables associated with those preferences.

We conducted an online survey. Based on systematic literature review and focus group, we developed nine different explanations in discussing cessation of chemotherapy. Response options ranged from "1 = very preferable" to "5 = not at all preferable." The distributions of patients' responses for all nine explanations were assessed. Multiple regression analyses were conducted to explore variables associated with the patients' preferences for explanations.

A total of 412 cancer patients responded (average age, 60; female, 43%; recurrent or metastatic, 25%). Preferred explanations included: "chemotherapy cannot be continued under the present conditions because it may have strong side effects and shorten your life. We will shift the focus of treatment to symptom management, such as palliative care" (59.3%), and "chemotherapy cannot be continued ... The chemotherapy may be reconsidered if your condition improves" (52.0%). To tell only "the laboratory data are not enough to continue chemotherapy" was the least preferred (12.2%). The explanation including palliative care was significantly more preferred by older patients (beta = -0.13; $P = .01$). The explanation including possible future chemotherapy was significantly more preferred by female (beta = -0.14; $P = .01$), and urological cancer patients (beta = -0.15; $P = .01$).

Cancer patients preferred explanations including palliative care and possible future chemotherapy in discussing cessation of chemotherapy, and their preferences were associated with age, sex, and cancer

type. Discussions about cessation of chemotherapy consistent with each patient's preference should be encouraged.

P-111 | Integrating the patient and partner perceptions about prognosis in women with metastatic breast cancer guides the medical oncology consultation.

Joanne Mortimer; James Waisman; Yuan Yuan; Courtney Bitz; Karen Clark; Matthew Loscalzo

City of Hope National Medical Center, United States

Integrating the patient and partner perceptions about prognosis in women with metastatic breast cancer guides the Medical Oncology consultation. JE Mortimer, Jim Waisman, Yuan Yuan, Courtney Bitz, Karen Clark, and Matthew Loscalzo.

Women with metastatic breast cancer (MBC) and their partners completed couples' tailored biopsychosocial screening and alignment in perception of prognosis immediately before consultation with a Medical Oncologist. In addition, a standardized couples session was offered before the medical consultation, individual couples' counseling, and a strengths-based group intervention. As a component of the biopsychosocial screening, each patient and partner were asked individually what they understood the likelihood of cure: 76% to 100%; 51% to 75%; 26% to 50%, and 0% to 25%.

To date 127 women were eligible for this program. Complete data are available on 113 couples. All were aware of the MBC diagnosis prior to their physician appointment. Average age was 53 for patients and 55 for partners. Average relationship duration was 30 years. Regarding perception of prognosis, 43.4% of patients and their partner were aligned and 56.6% were misaligned. Patients were more likely to have considered their prognosis worse in 61% of couples, and partners in 39%. Partner practical distress was significantly higher for couples not in alignment ($P < .05$).

In women with MBC, lack of alignment regarding prognosis was common with patients being more likely to have realistic expectations than their partners. A better understanding of the patient/partner's expectations about the treatment outcome guides the Medical Oncologist to individualize the discussion about goals of care.

P-112 | The experience of the end of treatment: Why a systematic psychological consultation has a real and substantial benefit?

Patrick Ben Soussan

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This communication report a research whose purpose was to measure, at the end of the treatments, the impact of a systematic psychological follow up on the patients' subjective experience and the psychic process

dynamics of his "psychic recovery." The main hypothesis of such a work confirms how important is for patients to be able to link the onset of their cancer with their history of life and with their social and cultural representations of illness. We established a systematic psychological consultation at the end of treatments for women with breast cancer and for men with prostate cancer, both nonmetastatic. The recruitment concerned 100 patients during 1 year. We took in consideration the psychodynamic determiners of this "work of the disease" a month after the end of treatment and 6 months later, a new interview will be proposed in order return back to the entirety of his experience, work through and reformulate thoughts. This study highlights the important work of "psychic digestion," which is necessary to patients at the end of their treatment. Considering the major anxiety and depressive symptoms' repercussions on the patient's social and personal life, this study provided recommendations in terms of public health, as a systematic psychological counseling at end of treatment, to improve the frame of the post treatments follow up, for patients who have been "cured" of their cancer.

P-113 | Transfer of communication skills into clinical practice. Evaluation of a new coaching concept and results of a RCT.

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Communication skills can be learned in specific communication skills training (CST), most of them have been evaluated in standardized assessments. Little is known, how to transfer acquired skills best into clinical practice. Thus, we developed a new coaching concept to support this transfer. The purpose of this study is the evaluation of the concept and its test for efficacy.

A total of 73 oncologists were trained in a CST, afterwards randomized into an intervention (IG) and control group (CG). The IG had coaching after the new concept with four sessions of detailed video analysis of real patient encounters compared with one video analysis for CG. (1) IG was asked to evaluate the new concept. Blinded raters evaluated 430 video-recorded consultations with real patients at different time points with a rating scale. Mixed model analysis was applied to compare skills (2) before and after the CST and (3) to compare IG and CG before and after the coaching.

(1) Results show a very good evaluation of the new coaching concepts ($M = 1.29$; $SD = 0.46$), with very good evaluation of the feedback by coaches ($M = 1.04$, $SD = 0.19$). By the time of conference we will present data on (2) changes before and after the CST and (3) comparison between IG and CG.

The new coaching is highly accepted and supports physicians in their learning process to optimize communication. It is a promising tool to support oncologists to transfer skills.

Coping, Information and Supportive Care Needs

P-114 | Iatrogenic uncertainty: The hidden challenge in psychosocial supportive care

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Health policy directives have increasingly stressed the inclusion of patient voices and lived experiences and coproduced knowledge, as vital to mainstream health care. An outcome of this direction is the gradually amassed "knowledge" of the experiences of people affected by cancer (PABC). Despite such intention, nonetheless, there is little evidence of knowledge translation with regard to implementation of psychosocial supportive care services.

In this paper, we draw together a body of research from the University of Lincoln, UK, and La Trobe University, Victoria, Australia, and reanalyse our collective findings using a modified form of Foucauldian discourse analysis. Our research triangulates a range of qualitative methods and designs, with participants recruited from rural and regional communities.

An unexpected but important finding was the perceived emotional disconnection of the treating health and social care practitioners towards their patients. We posit that this is a result of unacknowledged professional emotional toil. A significant theoretical outcome, we suggest, is the concept of iatrogenic uncertainty and concomitant mortality salience. Combined, these profound existential responses present significant barriers in the patient-professional relationship. In particular, there is an increased risk of poor mental health outcomes for both PABC and their treating practitioners.

Further research is recommended to explore how health and social care professionals use and resist patient experience, as well as their own existential dilemmas. We offer the concept of iatrogenic uncertainty as a way of reconceptualising such challenges in psychosocial supportive care.

P-115 | Assessment of psychological aspects and socio-relational skills in breast cancer patients

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A critical aspect of breast cancer is the impact on women's social relationships. The aim of the present cross-sectional study is to examine the socio-relational experience of the illness and the possible correlations between self-efficacy, quality of life and anxiety-depressive symptoms in breast cancer patients.

A total of 72 breast cancer patients (mean age = 49.5; range age = 27-76 y) completed the following questionnaires: (1) EORTC QLQ-C30, (2) EORTC QLQ-BR23, (3) Cancer Behavior Inventory—Brief Version (CBI-B), (4) Hospital Anxiety Depression Scale (HADS), and (5) Social Relationship Coping Efficacy (CBI-SR). A socio-demographic and clinical semistructured interview was created to collect other important information about patients.

Preliminary results showed significant positive correlations between relational skills and coping strategies ($r = 0.80$; $P < .01$); significant positive correlations between relational skills and both global health status ($r = 0.46$; $P < .01$) and functional scales ($r = 0.45$; $P < .01$) of EORTC QLQ-C30; significant positive correlations between relational skills and functional scales ($r = 0.44$; $P < .01$) of EORTC QLQ-BR23. Conversely, significant negative correlations were found between socio-relational skills and psychological distress in terms of anxiety and depression ($r = -0.66$; $P < .01$); significant negative correlations between social skills and symptoms scales ($r = -0.27$; $P < .05$). Younger women had higher self-efficacy compared with older ones ($P < .05$); patients receiving chemotherapy showed more social skills than those who had not received it ($P < .01$); finally, women with advanced cancer presented more socio-relational skills compared with patients in early stage ($P < .01$).

The study is still in progress, but these preliminary data highlight the key role of socio-relational skills on breast cancer's coping along the trajectory of the disease.

P-116 | Social support interventions for parents of children with cancer: A systematic review protocol.

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Parents react to their child's cancer diagnosis with a multitude of emotions. The aim of this study is to systematically review the nature and effectiveness of social support interventions for parents of children diagnosed with cancer.

This review will consider quantitative studies that evaluate social support interventions for parents of children with cancer. Social support is a multifaceted concept. In line with House (1981) and Finfgeld-Connett (2005) we have defined social support as a relational and interactive process that involves one or more of the following supports: emotional, instrumental, informational or meaning making. Measures that identify any of the constructs will be included in this review.

Studies that have reported their findings in comparison to a control group (waiting list control, treatment as usual, alternative treatment) or pre and post intervention measures will be included in this review. Searches will be run on PUBMED, CINAHL, PSYCINFO and Applied Social Sciences Index and Abstracts (ASSIA) based on the subscription range of dates for each data base. Thirdly, the reference list of all identified reports and articles will also be searched for additional studies. Two independent reviews will assess the methodological quality of the studies using standardized appraisal tools from the Joanna Briggs Institute. A preliminary literature search suggests that study heterogeneity is too great for the merging of data. Due to the large variation between types of interventions evaluated throughout the literature a narrative summary will perhaps be of more benefit at this time.

P-117 | You will take time to feel well again and it is a good feeling—Peer advice giving in longer term oesophageal cancer survivors

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The benefits of peer support in cancer care are well established. One key facilitator is the provision of cancer related information and the sharing of experience, suggested to support adjustment by providing an illness trajectory which patients can use to prepare for their own cancer journey. The content of experiential information is not well understood yet appears an important area for enquiry given discrepancy between patient and clinician information priorities, with potential for patient peers to identify neglected information and supportive care needs. This study aimed to examine the content of written peer advice from longer-term to newly diagnosed oesophageal cancer survivors.

Oesophageal cancer survivors (n = 23), median 67-month post-diagnosis, completed a single open-ended survey item, which asked for advice they would give to individuals newly diagnosed with oesophageal cancer on how to cope emotionally with the cancer journey (including adjusting to life after treatment).

Results: Conventional qualitative content analysis identified five categories of advice from the written narratives; social support, psychological approach, realistic expectations, support from HCP and self-care. The categories of advice reported appeared in-line with previously reported information priorities in oesophageal cancer patients and distinct from information needs as prioritized by clinicians. With a particularly arduous posttreatment recovery period and a lasting impact of surgery on health-related quality of life, written peer advice may be particularly beneficial to an oesophageal cancer population.

P-118 | Cancer coaching to promote self-management among adults with cancer: Exploring program participants', coaches', and decision makers' perspectives

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Helping adults with cancer acquire knowledge, skills, and confidence to self-manage their health is important, as they hold responsibility for preventing or reducing possible adverse effects of cancer on their health. The goal of the "Cancer Coaching" program offered by the Ottawa Regional Cancer Foundation is to help adults develop knowledge, skills, and confidence to live with and manage the consequences of cancer. In this study, we explored program participants', coaches', and decision makers' perspectives on how the Cancer Coaching program achieves its goal.

Nine adults with cancer ($M_{age} = 59.6$ y, $M_{time\ since\ diagnosis} = 2.6$ y) who participated in the Cancer Coaching program were interviewed. Four coaches and two decision makers participated in a focus group. Thematic analysis was used to analyze the data.

The Cancer Coaching program appeared to promote program participants' self-management knowledge, skills, and confidence. While it was initially difficult for some program participants to actively self-manage, the coaches' ongoing support helped to empower them to take a more active role managing their health. Key supportive strategies used by coaches included helping program participants express concerns, identify goals, brainstorm barriers and solutions, and obtain resources and information. Critical to the program's success was prioritizing program participants, the quality of the coaches' self-management support training, and coaches' interpersonal qualities (eg, nonjudgmental, nonpatronizing, noncoercive).

Findings provide evidence that cancer coaching can help adults with cancer develop self-management knowledge, skills, and confidence, thus suggesting that incorporating Cancer Coaching program referrals as part of routine cancer care could be beneficial.

P-119 | The life experience of advanced lung cancer patients receiving oral targeted therapy in Taiwan

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Lung cancer is the most life-threatening disease and about 30% of patients with advanced lung cancer receive oral targeted therapy as the first-line treatment in Taiwan. However, lung cancer patients still experienced a variety of side effects, which leads to inconvenience in life and concerned their future. Thus, the purpose of this study was to describe how the life experiences of patients receiving targeted therapy in Taiwan.

The descriptive phenomenology guided the qualitative research method. Patients with advanced lung cancer (stages IIIB and IV) were approached in oncology outpatient setting. A total of 13 lung cancer patients completed 3 months targeted therapy (eg, Iressa, Tarceva and Giotrif) recruited in a medical center in northern Taiwan. Open-ended interview questions focused on life experience as patients receiving the targeted therapy. Themes obtained according to Giorgi's method.

Four major themes emerged that were related to the participants' their life experience related targeted therapy, including distress of body image changes, changes eating habits, fear of progression, and worried about future. Understanding the phenomenon of life experience in advanced lung cancer patients receiving targeted therapy provides the crucial issues for health professionals to help those patients with targeted therapy to discuss with their concerns in clinical setting. It might be good for health professionals to offer support.

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P-120 | What do cancer patients need?

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For cancer patients in the Czech Republic, the most important need is to feel comfortable within the health care system. This is the main result of research realized by Amelie NGO that provides psychosocial support for oncology patients and their relatives. The qualitative part of the research consisted of in-depth interviews with eight cancer patients. Then, questionnaire "Needs of cancer patients" was designed, based on the needs identified in the interviews. Respondents determined how important each of the 36 needs was to them, on a scale of 1 to 6. The needs covered areas of "Health care system," "Psychological needs," and "Social and financial area." The questionnaire was completed by 253 respondents, mostly by women with breast cancer. We found that the needs most important for respondents were clearly the needs associated with the health care system. Above all, patients need to trust the doctor and they need the health professionals to treat them nicely and individually. They also need to be appropriately informed by the health professionals regarding the disease, diagnosis, treatment, and its side effects. Psychological needs, such as finding hope, optimism and strength to fight were also important for most of the respondents. Regarding social needs, it was especially important for patients to have information about the state support they are entitled. Women perceived most of the needs as more important than men. The needs that were specific to men suggested that for men it is important to maintain dignity and self-sufficiency.

P-122 | Unmet needs of prostatectomy patients: A qualitative study in Italy

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At least 1/3 of prostate cancer patients show intense psychological distress and unmet needs are reported by more than 50% of patients. This study is the first phase of a multicenter research aimed to assess the feasibility of a targeted psycho-educational group intervention for prostate cancer patients. In the present study, we explored the unmet needs of prostatectomy patients through a qualitative methodology.

Two focus groups were conducted with 12 prostatectomy patients in two Oncological Centers in Italy. Focus groups were recorded, transcribed and anonymized for comparative thematic analysis.

Some key themes were identified. Most patients expressed the need to receive more information regarding the disease, the prognosis and the side effects of treatments, in particular sexual complications. Received information supports patients in making decisions regarding their therapies, but it also helps in facing the consequences of the disease and of the treatments. When information is missing, patients tend to seek it on the internet with the risk of finding scientifically wrong information. Patients felt also the need for a multidisciplinary approach during the care process and the wish to be treated from a holistic point of view. They stressed the need to receive medical and psychological support after the surgery to facilitate the psychological adjustment and improve their quality of life.

Prostatectomy patients seem to experience several unmet needs after the surgery. An integrated and multidisciplinary approach, as well as specific interventions, are required to meet the information needs and to provide psychological support.

P-123 | Posttraumatic growth for mothers of children with cancer in South Korea

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Posttraumatic growth (PTG), which is defined paradoxical change experienced after a highly challenging life event such as childhood, is experienced by parents of children with cancer as well as childhood cancer survivors. This study explores the PTG experienced by mothers of childhood cancer children.

In-depth interviews were conducted with 13 mothers of children with cancer who had completed treatment for cancer.

Participants' mean age was 42.8 years old (SD = 5.7), ranging from 33 to 53 years old. Children's mean age of participants was 12.9 years old (SD = 5.0) ranging from 5 to 21 years. All of interviews were transcribed, and analyzed with Glazer's grounded theory. The PTG experienced by participants was summarized with the ancient Chinese philosopher Lao-tzu's remark: "He who is advancing in Tao may appear to withdraw." The PTG is dialectically obtained between *advancing* (positive reappraisal of trauma experiences) and *withdraw* (suffering from trauma experiences and social isolation). Five subthemes in the

paradoxical context between *advancing* and *withdraw* of mothers' experiences were revealed: (1) finding new values in life, (2) relational changes of family members, (3) spiritual changes, (4) the expansion of empathy, and (5) appreciation for existence.

The study showed that the concept of PTG experienced by mothers of children with cancer embraces not only the positive changes but also negative changes. Based on the conclusion, providing appropriate support for mothers of children with cancer could be addressed.

P-124 | Age differences of interpersonal coping measured by psycho-oncological screening questionnaire

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Functional interpersonal relationships are a prerequisite of successful coping that should be improved by psychooncological counseling. A screening measure should therefore include items that reflect interpersonal relationships. The Hornheider Screening Inventory (HSI) is often used in clinical routine and measures interpersonal context. However, interpersonal aspects are likely to change with age. We investigated whether the HSI could be used to gain more detailed insights into age-dependent interpersonal demands and by this help tailoring the treatment to age-dependent specifics.

The 7 item-version of the HSI was obtained from 1428 inpatient cancer patients. Three items were used to measure interpersonal aspects. An age split was done at 64 years of age.

A significant higher percentage of the younger patients had no one to talk about their sorrows when compared to older patients ($P < .001$). There was a trend that older patients see a larger burden being placed on their family ($P = .06$). In contrast, no age difference emerged in satisfaction with medical information ($P > .05$). Interestingly, older patients had more difficulties in answering this question, which was reflected by significantly more missing answers than in the younger age group ($P < .05$). These data suggest that different age groups need individually tailored treatments. For example, a focus should be on talking about their sorrows with younger patients. With older patients the focus should be more on psychological support of their relatives. Older patients might also need more time in medical consultation due to their reduced information processing capacities.

P-127 | Experience of adopting a pioneer 3-tier therapeutic arts model in a community-based cancer support service

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Art therapy is proven to be supportive in different levels and needs of cancer patients during their journey (Luzzatto & Gabriel, 2000). Clinical observations in traditional art psychotherapy showing that clients need to take time to get into the therapeutic process, depending on their levels of needs, readiness, acceptance of art and expectations. Hence, a 3-tier therapeutic arts model, ranging from art psycho-education activity to art psychotherapy group, was introduced to divert clients with different needs to a suitable art programme in a community-based cancer support service. This paper examines the preliminary therapeutic outcomes of this model.

A 3-tier therapeutic art group aimed at relieving patient's emotional distress was conducted in 2016. Preintervention and postintervention changes of The Chinese Short Warwick-Edinburgh Mental Well-being Scale (WEMWBS) in 6 participants were examined and compared with the data from the same programme conducted in 2015.

All participants increased their WEMWBS score, 2 participants increased 2 points while 3 participants increased from 6 to 16 points. Overall an increase of WEMWBS scores for the experiment group participants was noted when comparing with 2015 data.

The 3-tier therapeutic art model provides a pathway for participants to gradually familiar with arts then engages into a therapeutic relationship with a therapist in a sensible timeframe. Initial findings suggested a meaningful improvement in mental health well-being.

Further studies to investigate the outcomes of a structured model serving recreational, psycho-educational and psychotherapeutic functions should be conducted to understand the factors contributing to the changes.

P-128 | Managing the knowledge of a life-threatening illness: How information-seeking behaviors and coping styles influence awareness levels

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The experiences of glioma patients are vastly underrepresented in the existing literature in comparison to other cancer diagnoses. Gliomas result in early cognitive failure, impaired mobility and an unfavorable prognosis; few patients survive longer than 2 years. As gliomas affect people across the lifespan, with the sample for this study ranging from 19 to 70 years, it is vital to develop evidence-based psychosocial care which meets the evolving needs of this unique group.

This doctoral study conducted repeat interviews ($n = 41$) with 16 glioma patients aged 19-70 years, at key intervals across the treatment trajectory in order to explain how people with glioma adapt, come to terms, and cope with their diagnosis. Data were analyzed using the Grounded Theory method.

Despite participants having a similar (usually terminal) diagnosis, awareness of the facts of the diagnosis varied across the sample. Four dimensions of awareness emerged from the data which were strongly

related to information-seeking behaviors and coping styles: “unaware/don't ask,” “vague awareness/don't seek confirmation,” “know/don't seek further information,” and “know/seek further information.” The participants' positioning within the dimensions suggested how they were likely to experience the subsequent months of their illness.

This framework reveals social processes relating to how participants manage communications and information provision to garner a tolerable awareness of their illness which maximized their ability to cope, based on their own coping styles. This presentation will challenge existing “categories of awareness” and highlight implications for clinical and supportive practice relating to diagnosis disclosure, information provision and psychosocial care.

P-129 | The process of financial toxicity due to cancer: Why age matters

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Thousands of cancer survivors and their families in the United States experience financial hardship due to the cost of cancer treatments, loss of employment, and bankruptcy. This hardship remains as the primary cause of distress among persons with cancer, resulting in substantial, chronic stress, impacting their physical health and emotional health. Yet, little is known about the “process” leading to financial toxicity. This presentation provides an analysis of the lived experience of cancer patients' financial hardship from diagnosis to posttreatment. We use a life course perspective to organize our results and offer suggestions for addressing patients' financial distress, given their stage of life.

In-depth interviews were conducted with 26 cancer survivors who reported experiencing financial hardship during or after treatment. The interviews were analyzed with Dedoose and using a constructivist grounded-theory approach.

Guided by life course and stress theory perspectives, we organize common themes for three age groups (30-44; 45-59; 60-67). Analysis revealed financial stress due to life transitions specific to each age group. The timing and sequencing of these transitions and stress proliferation added to the financial hardship experienced by survivors and their families.

Survivors do not experience financial toxicity as a singular process; it depends on their stage of life and life transitions. These findings provide a framework for “screening and assessing” patients at risk and inform practitioners about psychosocial issues that impact financial distress. Future research is needed to develop strategies to assist patients of “all ages” to cope with the financial repercussions of having cancer.

P-130 | Patterns of unmet supportive care needs in Chinese cancer patients: A latent class analysis

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This study aimed to (1) identify distinct patterns of unmet needs in Chinese cancer patients; (2) examine whether patients' socio-demographic and medical characteristics distinguished these patterns; and (3) examine whether people with distinct patterns of unmet needs reported differential quality of life (QoL).

This cross-sectional study included a heterogeneous sample of cancer patients (N = 195) at a general hospital in China. Latent class analysis was performed to identify patterns of unmet needs.

Four patterns of unmet needs were identified, differing in levels and patterns. Participants in Class 1 (48%) reported the lowest levels of unmet needs, with elevated scores on “health care system and information” and “patient care.” People in Class 3 (11%) had a slightly higher level than those of Class 1 and presented a flat pattern with similar levels across all domains of unmet needs. People in Class 2 (27%) reported an overall high level of unmet needs, with elevated scores on “psychological,” “health care system and information,” and “patient care” domains but low levels on “sexuality.” People in Class 4 (14%) reported the highest levels of unmet needs, especially on “psychological,” “health care system and information,” and “patient care” domains. Cancer recurrence was the only factor that significantly distinguished these classes. Compared to people in other three classes, people in Class 1 reported better QoL. This study demonstrates the existence of four patterns of unmet supportive needs in Chinese cancer patients. Patients with few unmet needs reported the best QoL.

P-132 | Perceived barriers to psychological treatment and depressive symptoms in Chinese cancer patients

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This study aimed to (1) identify perceived barriers to psychological treatment in Chinese cancer patients; (2) the relationships between these barriers to socio-demographic and medical characteristics as well as depressive symptoms.

This cross-sectional study consisted of 301 cancer patients recruited from two hospitals in Xi'an, China. A self-reported questionnaire was used to collect data. Perceived barriers was measured by the Perceived Barriers to Psychological Treatment (PBPT) scale including 9 subscales on barriers: stigma, lack of motivation, emotional concerns, negative evaluation of therapy, misfit of therapy to needs, time constraints, participation restrictions, availability of services, cost of treatment). Depressive symptoms were measured by Patient Health Questionnaire (PHQ-9).

Among the nine areas of PBPT, negative evaluation of therapy (37.5%), misfit of therapy to needs (35.5%), stigma (35.2%), availability of services (34.2%), and participation restrictions (33.9%) were the most prevalent barriers. Of these barriers, only participation restrictions were correlated to patients' socio-demographic and medical variables: patient living in rural areas and with more severe cancer perceived more participation restrictions. People with perceived barriers on negative evaluation of therapy, misfit of therapy to needs, stigma, availability of services, and participation restrictions reported higher levels of depressive symptoms than patients without barriers.

This study suggests that cancer patients experienced several prominent barriers to psychological treatment, which might influence cancer patients' psychological well-being. Strategies for improving psychological help-seeking by cancer patients may focus on reducing stigma and participation restrictions, increasing availability, and consider patients' negative evaluations and their needs.

P-133 | Meeting psychological support need in oesophageal cancer—The perception of healthcare professionals, patients, and carers

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Oesophageal cancer survivors and carers report significant levels of clinical anxiety and depression before, during and at long-term follow-up from curative treatment. Despite this, only a small number of patients wish to be referred to a professional for support. This is reflective of the wider literature, which suggests despite reported need, few cancer patients indicate an interest in or access psychological services. This study aimed to address the dearth of research exploring barriers and facilitators to patients engaging with psychological support and understand how an intervention may be tailored to an oesophageal cancer patient population.

Semistructured interviews were undertaken with $n = 14$ oesophageal cancer survivors, carers and health care professionals from across the treatment pathway.

Results: Directed content analysis was utilized to code the transcripts according to preconceived categories. Patients and HCP reported experience of high distress in this patient population, particularly after diagnosis and in the immediate postsurgical period. Barriers to accessing support focused on the stigma of mental health support, lack of flexibility, individual differences and lack of patient/carer autonomy. Inclusion of peer support and further development of the clinical nurse specialist role were suggested as key in supporting the patient population on a whole.

Patients, carers, and HCPs perceive a need for enhanced psychological support for this patient population. A number of barriers and facilitators were identified to support increased access of generalized psychological support, with perceived need for a tailored approach for distress experienced in the postsurgical period.

P-134 | Positive psychology: Exploring an alternative to treat patients with breast cancer

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Breast cancer is one of the most frequently diagnosed cancer among females. In 2016, approximately 2.8 million women in the United States were diagnosed with this type of cancer. Preventive measures are available and have helped in the reduction of the annual number of diagnosis. Medical research has shown treatment alternatives to breast cancer. However, the way breast cancer affects a patient psychologically has not yet been extensively explored. Studies have investigated the link between a positive mind and its impact on cancer progression/regression. Furthermore, many psychological disorders (eg, depression, anxiety) have been associated with a larger deficit in impaired immune response and poorer survival rates among patients with cancer. Over the past decade, positive psychology has provided insight into the human's positive mindset of developing personal strengths and virtues, as well as increasing overall functioning of well-being. The use of positive psychology as a proper therapeutic technique in breast cancer patients stems from the overarching idea of positive psychology which is to transform the negative and enhance the positive. This paper aims to discuss the use of positive psychology as an effective strategy to combat the psychological stressors breast cancer patients are exposed to.

P-135 | Need for nutritional counseling by patients receiving outpatient chemotherapy

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Numerous cancer patients experience general nutritional problems with the progress of their condition. The aim of this study is to examine whether ambulant cancer patients need nutritional counseling.

A survey was administered to adult patients receiving outpatient chemotherapy at Tokyo Medical and Dental University Hospital. The participants completed self-report questionnaires, which included questions about their nutritional state (PG-SGA) and quality of life (EORTC-QLQ30).

A total of 115 patients with head and neck ($n = 9$), oesophageal ($n = 7$), gastrointestinal ($n = 14$), colorectal ($n = 48$), and lung ($n = 37$) cancers were recruited. Among these, 91 (79.1%) indicated their need for nutritional support and 32 (35.2%) of them applied for nutritional counseling. There was no significant relationship between application for nutritional counseling and

anorexia or body mass index, and no significant difference by the type of cancer. Additionally, there was no significant relationship between application for nutritional counseling and their symptoms (weight loss, anorexia, taste disorder, dysphagia, mouth sores, dysosmia, and/or nausea) on the PG-SGA. However, there was a significant association between application for nutritional counseling and emotional functioning ($P = .019$), social functioning ($P = .044$), pain ($P = .004$), and constipation ($P = .045$) on the EORTC-QLQ30.

We concluded that when nutritional counseling is provided, should be considered the background factors of aspect of emotional and social function and not merely physical symptoms of cancer patients.

Relatives and Family Issues

P-136 | An exploration of cancer-related beliefs and perceptions in adolescents and young adults who have a parent with cancer

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Recent estimates suggest that 21 000 young people in Australia have a parent diagnosed with cancer each year and more than half of them experience clinically-elevated levels of depression and anxiety following their parent's diagnosis. According to Leventhal's Self-Regulatory Model of Illness, the beliefs, perceptions, and understanding that a person has about an illness and its treatment influences their ability to cope with and adjust to the illness. Despite some significant findings, there has been limited research exploring this relationship in the context of parental cancer. The present study is part of ongoing work that aims to determine the relationship between young people's beliefs and their psychological adjustment following a parental cancer diagnosis. We conducted focus groups to explore the types of beliefs and perceptions that young people have about their parent's cancer. Participants were adolescents and young adults aged 12 to 24 who were living in the family home at the time of their parent's cancer diagnosis. The findings are discussed using Leventhal's model as a theoretical framework and provide a basis for the development of a quantitative measure of illness cognitions in this cohort. This research will enable further investigation into the role of cancer-related beliefs in determining young people's psychological adjustment following a parental cancer diagnosis.

P-137 | Unheard voices: Parentally bereaved danish students' experiences and perceptions of the support received following the return to school

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Research on children's experiences surrounding the loss of a caregiver have traditionally been rare. Historically, reasons for this include a lack of belief in the value of consulting children as well as the ethical pitfalls associated with conducting research on bereavement with vulnerable participants. When the Danish school bereavement response system (b-system) was introduced in the early 1990s, students' views were entirely ignored.

This PhD study explored the challenges parentally bereaved students face when returning to school. Nineteen focus group interviews were conducted with 39 participants aged 9 to 17 who mainly lost a parent due to cancer. Twenty-two of the children participated in four reoccurring focus groups over the duration of a year. Sessions explored the participant's encountered challenges when returning to class following the loss and their suggestions for how the school could offer support that better fitted their needs. Following the main interviews, confirmatory focus groups were undertaken with the remaining 18 participants. These groups were invited to provide their perspectives on dilemmas uncovered during the initial interviews.

This presentation provides an account of the study findings. Themes discussed are the loss of power over own life; feeling isolated in the class; and trying to function in school who often forgets the loss as time passes. Concluding, the presentation discusses the participants' own suggestions for an improved b-system and how these are being implemented in the Danish cancer society's efforts to revise the Danish school bereavement response.

P-138 | A telephone outcall program to support caregivers of persons diagnosed with cancer: Acceptability, changes in levels of distress, and supportive care needs.

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We evaluated the acceptability of a 4-month outcall program for caregivers of persons with cancer and examined changes in caregivers' levels of distress and unmet needs.

One hundred eight caregivers of persons diagnosed with cancer received three outcalls from an Australian Cancer Council 13 11 20 nurse at three time points (7-10 d post-baseline, 1 and 4 months

later). Caregivers were screened for distress and referral to appropriate services was offered to those with a distress score of ≥ 4 and an impact score of ≥ 3 on the Distress Impact Thermometer. Six topics were raised for discussion to address caregivers' potential unmet needs at each call. Caregivers completed a utility survey 1 month postintervention.

Caregivers reported that the outcall program was very relevant to them (82%) and that they have used the information given to assist them in providing care (89%). Distress levels decreased significantly between outcall 1 and 3 ($P = .019$) and were significantly higher in younger compared to older caregivers at outcall 1 ($P = .004$) and 2 ($P = .008$). Psychological distress was the most frequently discussed topic at all three outcalls. Family ($P = .008$) and practical issues ($P = .036$) were significantly more often discussed by younger than older caregivers. Psychological issues ($P = .036$) and health-related concerns ($P = .004$) were significantly more often discussed by female than male caregivers.

Acceptability of this outcall program was high. Identifying the best mechanism for providing caregivers improved access to the 13 11 20 service warrants further investigation.

P-139 | A review on the influence of caregiver burden on bereavement adjustment in former caregivers of cancer patients

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The long-term repercussions of caregiver burden on caregivers of cancer patients have rarely been examined. A high caregiver burden has been shown to adversely influence mental health during caregiving, yet little is known about its effect on bereavement. Conflicting perspectives exist, suggesting either an improvement in mental health after bereavement due to alleviation of caregiving stress or a lasting adverse effect of caregiver burden, mediated by the accumulation of stress over time. A systematic review was conducted to provide a summary of the effect of caregiver burden on post-bereavement mental health of adult caregivers of cancer patients. A systematic search of the electronic databases PubMed, Web of Science and PsycINFO was conducted across empirical studies published in a peer reviewed journal up until November 2016. A total of 17 papers were included, mostly reporting data from longitudinal studies and measuring caregiver burden in various ways. The presented results vary considerably, yet there is evidence indicating that (especially emotional) caregiver burden has an adverse effect on post-bereavement mental health. These results highlight the importance of psychosocial attendance especially to heavily burdened caregivers and indicate that preventive approaches targeted at reducing caregiver burden may have beneficial effects far beyond the loss of the patient.

P-140 | Being parent in the face of cancer

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Many aspects of cancer treatment such as hospitalization, tiredness, uncertainty about the future, changes in mood and appearance affect parenthood. After cancer diagnosis requirements connected to the illness and its treatment are imposed on previous family life duties. Patients-parents are forced to link a double role: a parent and patient and balance between being in need and looking after their children, a wish to be strong and allowing oneself to ask for help and between telling children the truth and protecting them from it. The aim of this presentation is to discuss (1) the latest research results on experiencing parenting during cancer, (2) theoretical background for my own research, (3) my own research project which combines qualitative and quantitative methods. In the first stage I plan to conduct semistructured interviews with mothers and fathers with cancer and analyze them an interpretative phenomenological analysis. Experiencing parenting is a process that requires restructuring in the face of cancer. This process consists of four dimensions: (1) emotional, (2) cognitive, (3) behavioral, and (4) evaluative. In the second stage, I plan to check which factors are connected to seeing parenting as a source of strength or stress during cancer treatment. The factors are divided into 5 groups: (1) personal, (2) relational, (3) connected to cancer and treatment, (4) resulting from cancer experience, and (5) contextual.

P-141 | Coping in parents of childhood cancer patients after the end of acute treatment—A pilot study in a family-oriented rehabilitation clinic

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Childhood cancer is for both parents and children a long-term challenge. The aims of this pilot study were to examine changes in parental coping in family-oriented rehabilitation (FOR) and to investigate the relation between parental coping and quality of life (QOL) of parents and ill children.

A total of 73 parents (mean age 39 years, 60% female) of 48 minor children with cancer (mean age 8 years, 44% female) filled in questionnaires on coping (Freiburg Coping Questionnaire), QOL (SF-8) and the QOL of their ill child (KINDL-R) at the beginning (T1) and at the end of FOR (T2). We conducted repeated measures ANOVAs to reveal changes in parental coping and QOL. Further, we calculated Pearson correlation coefficients of QOL and parental coping. Parental *depressive coping* decreased significantly from T1 ($M = 2.4$) to T2 ($M = 1.9$). This decrease was significantly stronger in mothers than in fathers ($P = .024$). At T1, child's QOL was negatively associated with parental *depressive coping*, but not with any other parental

coping style. Except for *distraction and self-encouragement*, all coping styles were significantly negatively associated with parental QOL at T1. Parental QOL increased significantly from T1 ($M = 41.2$) to T2 ($M = 47.7$). This increase was significantly stronger in mothers than in fathers ($P = .017$).

These findings reveal a significant association between parental coping and QOL of parents and ill children. Further, the results indicate that parental depressive coping can be reduced during a rehabilitation program. Thus, FOR seems to support families in dealing with childhood cancer and its long-term effects.

P-142 | Loss of self as a cancer caregiver: Learning from RFT and ACT to develop more effective psychological interventions to improve wellbeing

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Psychological sequela and vulnerability to increased mortality can manifest when caring for someone with cancer at the end of life. Immersion into an informal caregiving role can be overwhelming and challenging. This may lead a person to experience personal identity loss, or “loss of self”—a concept known to predict poor psychological well-being. A systematic search and narrative review of current literature was performed, highlighting multiple psychosocial interventions that have been tested to improve psychological well-being for cancer caregivers. Nineteen systematic reviews, appraising these different approaches, were sourced from examination of computerized databases and hand searches. Evaluation found the impact of interventions on psychological outcomes to be inconsistent and overall efficacy questionable. Interventions that target loss of self seem especially suitable with this population. To date, no study has tested the usefulness of Acceptance and Commitment Therapy (ACT). Given the emphasis on concepts of self within the ACT model, this therapeutic approach holds promise. An emerging body of work exploring ACT processes from a Relational Frame Theory (RFT) perspective attempts to offer deeper insight and development of optimally specific intervention components. Extension of this research by studying loss of self for caregivers seems a logical next step. Our objectives are to (1) develop a psychometrically sound and clinical useful measure of self-concept and (2) to draw on latest RFT science to develop and test specific components for those in this population who are struggling with loss of self.

P-143 | Care in connection: A participatory action research project on family-focused care in oncology

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Cancer is a complex family issue as it affects both patient and his loved ones. Although health care providers (HCPs) are aware of this rippling effect, the actual implementation of family-focused care (FFC) is not straightforward. There seems to exist a gap between theory and practice. Our project *Care in Connection* aims at bridging this gap by developing or strengthening FFC tailored to participating wards.

Bridging this gap requires a transformation of culture and context of care; a change in thinking about care models (levels of family-involvement) and personal attitudes. Three wards of the Ghent University Hospital (eg, palliative care unit, head and neck cancer unit, and acute geriatric ward) developed a tailored FFC trajectory by means of a participatory action research (PAR) approach. The researchers enabled co-creation with HCPs, patients and family members, as opposed to imposing ideas.

Each ward developed their unique interpretation of FFC by way of tangible practice-oriented change with different foci. Premises and considerations were written down in a manual for external users interested in launching FFC. Remarkably, PAR allows adaptability to conditions in which practice occur (eg, staff turnover) whilst providing a rigorous framework that holds processes on track.

PAR has the strength of inducing ownership, long-term sustainability and local theory. Conversely, PAR presents with the challenge of tenacious reflection on considerations in each PAR-cycle while ensuring collaborative decision making and open communication with all stakeholders.

P-144 | Quality of life and psychological states of caregivers of patients with breast and head and neck cancer: A study in India

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Breast, head, and neck cancer (HNC) often lead to a certain body disfigurement of the patients owing to the surgery and other treatment procedures. This causes distress not only to the patients but also for the family caregivers. This in turn may result in poor quality of life (QoL) for the family caregivers and also may be seen in the form of psychological states such as distress, depression, anxiety and somatization.

Aim: (1) To investigate if there is any difference between the quality of life of caregivers of breast and HNC patients. (2) To investigate if there is any difference between caregivers of breast and HNC in their psychological states. (3) To examine whether caregivers' psychological states predicts their quality of life.

Caregiver Quality of Life—Cancer and Four-dimensional Questionnaire. A total of 120 family caregivers of patients with breast cancer ($N = 60$) and head and neck cancer ($N = 60$) from two different states of India such as Hyderabad (Telangana) and Aizawl (Mizoram) participated in the study.

Statistical analysis used: Independent t test, regression.

The results show that there was a significant difference between family caregivers of breast and HNC in distress, anxiety, and somatization. Distress was found to significantly predict QoL. The study suggested psychological intervention for the family caregivers to address these issues.

Keywords: cancer, caregivers, quality of life, psychological states.

P-145 | The psychological needs of parents who have children with cancer

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The main aim of this study is to determine the needs of parents who have children with cancer. A qualitative methodology was used because the goal of the researchers is to gain an in-depth understanding of what needs are necessary during the treatment process and feelings about cancer. The study was conducted in Oncology Departments in Faculty of Medicine. The sampling method was purposively and participants of the research were selected by snowball sampling. There were 10 participants who are volunteers to share their experiences, feelings and thoughts about the cancer and the cancer treatment process. Data were collected through individual interviews using a questionnaire developed by researchers. The mean duration of interviews was 35.12 minutes. Descriptive and content analyses were utilized. The transcripts were coded and the content of the text was organized accordingly to the repeating ideas and themes. To provide validity and reliability, the data were coded more than one researcher. Interview results were categorized under three themes; psychological, social, and economical needs. In the text, the data related to each theme were analyzed separately. Discussion part will be presented.

P-146 | How children cope with parents' terminal cancer in Hong Kong

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Terminal cancer induces traumatic stress to a family that causes emotional distress and functional impairment to family members. Studies have found that children facing the impending death of a parent experienced higher psychological distress than those who did not (Siegel et al. 1996). Dealing with this distress, children would have different strategies to cope with their vulnerability (Huizinga et al., 2011). This study sought to explore how Hong Kong children cope with parent's terminally ill situation to develop a better understanding of their needs. Appropriate service provisions are suggested.

An exploratory design was chosen employing a qualitative research method to understand the phenomena of children's experience. A total of 5 families with 15 family members were interviewed. Data were collected through in-depth interviews. The interview process was analyzed using thematic analysis (Braun & Clarke, 2006). An interrelationship examination between categories led to the creation of lists by themes.

Five dimensions related to coping experience were found: responses to the shaking news, impact on daily functioning, coping strategies, family capabilities, and suppressed needs. Among the dimensions, it was identified that interactional contexts contribute to the adaptive and maladaptive coping.

Analysis led to some practical recommendations for supporting parents and children in crisis: respect culture differences, facilitate

communication, address children's psychological needs, provide practical support to families, facilitate quality moments and make collaborative effort with larger systems.

P-147 | A study on the experiences undergone by the parents whose children had died of pediatric cancer in South Korea

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The purpose of this study was to examine the pain and hardship suffered by the parents whose children had died of pediatric cancer and thereby, find their needs in overcoming their sense of bereavement, and thereupon, suggest some social service approaches for them.

In-depth interviews were conducted with 7 parents whose children had died of pediatric cancer. This qualitative case study used "within case analysis" and "between case analysis" that had been widely used for the qualitative case studies; the methods were once referred to by Bryman and Burgess.

Participants' age was ranging from 38 to 55 years old. Children's age when they dead was ranging from 3 to 22 years. This study may be significant in that it listened to the bereaved parents' experiences and thereupon, reviewed the hardships and difficulties they had experienced in the processes from diagnosis to bereavement. This study that analyzed bereaved parents' subconscious hardships according to 13 categories and 36 subcategories is deemed to provide for a turning point for future qualitative case studies.

The study showed that the bereaved parents' need social support. (1) There were few exit strategies that could be chosen by the parents in the process of their children's medical treatment. (2) The bereaved parents refused to admit the fact of their children's death or could hardly accept the reality they were facing.

P-148 | What happens when the treatment is over in childhood cancer? A snapshot of parents' perception

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The diagnosis and onset of treatment in childhood cancer is often acute and the treatment process may take several years. Thus, the family faces many challenges (Jones, 2006), including fear of relapse, loss of social support, need to move house, loss of job or disruption of treatment etc. Even though the survival rates have increased over the past decades, families facing the illness still have concerns about their child's future. So this study aims to explore the parents' not only psychological state but also their fears that shadows their hope for their child's future. For this purpose the families, whose children have successfully completed the curative treatment and are considered in remission for up to a year, are invited to participate in the study.

The study is being carried in Marmara University Pendik Training and Research Hospital Pediatric Hematology and Oncology Clinic with the parents of children whose curative treatment have been successfully completed between February 2016 and February 2017. The sociodemographic data of the participants are recorded by the researcher and the parents are asked to fill Beck Depression Inventory, Beck Anxiety Inventory, Beck Hopelessness Inventory, and the COPE Inventory. They are also interviewed about their experience during treatment, especially whether they sought medical advice with fear of relapse. Results and Conclusion will be discussed in presentation.

P-150 | Impact of patient's cancer on their caregivers

Fatima Asbayo

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The suffering of patients and caregivers is real in Oncology today, is a global suffering given the complexity and the multiplicity of aspects involving games during the trajectory of cancer and requires a holistic support of patients. That is, suffering dislodges the world of care and is only an opportunity to interview the previous relationship.

Imaging by functional magnetic resonance techniques were used to identify today a network of brain areas activated in phenomena painful and had shown the close link between proven pain and pain experienced, live the pain and see the pain, seeing someone who has active regions similar in those who observes it, these activated areas are the emotional pain component and are all enabled by visual means; however, the caregiver uses his body mirrored the body of the patient, his emotions and his suffering in an emotional space.

The present study makes new contributions to our understanding of this emotional share experienced by caregivers in oncology at Morocco. To our knowledge, it is the only study devoted exclusively to this type of suffering caused by the confrontation with physical pain and psychic patients with cancer and so far, no research has not quite centered on the idea that suffering is contagious and that the individual suffering repercussions on the environment also the effects of the pain of the patient on caregivers in oncology.

Cultural Issues

P-151 | Coping styles and causal attributions of Turkish and German patients with cancer: A qualitative study

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Coping styles and subjective illness theories of patients with cancer have a substantial impact on the course of illness and are essentially influenced

by culture. Therefore, trans-cultural comparative studies are needed to investigate cultural and migration-related differences regarding patients' causal attributions as well as dealing with symptoms and treatment. The objective of the study was the cross-cultural comparison of coping styles and subjective illness theories of oncological patients. A semi-structured interview was conducted. 11 autochthone German and 11 oncological patients with Turkish origin participated. The narratives were analyzed using a combination of the qualitative content analysis (Mayring, 2000) and grounded theory (Strauss & Corbin, 1997). Crucial contents and cultural differences will be presented.

P-153 | Inuusinni Aqqusaaqtara—My journey: Meeting the information needs of Inuit living with cancer

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Inuit have a higher rate of cancer incidence and mortality compared with other Canadians. Many factors contribute to these differences in the burden of cancer, including limited knowledge about cancer and limited access to culturally and linguistically appropriate cancer information. To address this need, Pauktuutit Inuit Women of Canada and the Canadian Cancer Society collaborated to improve cancer literacy and to provide culturally and linguistically appropriate cancer resources for Inuit with cancer.

This project uses a community-based research approach to inform the development of Inuit-specific cancer resources and builds on earlier work conducted by Pauktuutit. An advisory committee made up of community members with cultural, regional, administrative, and subject matter expertise was formed to guide the project. An environmental scan of materials was undertaken to determine the gaps in available resources and to avoid duplication. A final evaluation of Inuit knowledge, attitudes and behaviours on cancer will be completed to measure the project's impact.

Based on the research, we created *Inuusinni Aqqusaaqtara - My Journey*, a website and two booklets to help increase Inuit knowledge about cancer. The booklets are designed to help Inuit newly diagnosed with cancer understand their diagnosis, support them throughout their journey and facilitate better communication with healthcare professionals. This project is the result of a collaborative process with Inuit for Inuit. By increasing cancer knowledge through the provision of Inuit-specific cancer information, we can help break down the barriers Inuit face in navigating the cancer care system.

P-155 | A qualitative study on the use of war metaphors and beliefs about cancer in illness narratives

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Instituto Oncologico Fundacion Arturo Lopez Perez, Chile

The rhetoric and terminology of war metaphors has prevailed in cancer care for decades. Controversy exists about the pros and cons of this figure for patients, with evidence showing mixed findings.

Patients and Methods: in-depth interviews were conducted with 10 cancer patients with diverse diagnoses and time-points of their illness trajectories in a cancer center in Santiago, Chile. Interviews were transcribed verbatim and entered into Atlas.ti software. Metaphors were identified and narrative content analyzed using grounded theory.

Patients tended to spontaneously use war metaphors to narrate their illness experience. Most patients found them useful in describing and giving meaning to their process, especially symptom management and treatment adherence. Findings show that patients tend to believe in a psychogenetic origin of cancer (i.e., cancer is caused by distress, depression or "weakness of character"), and *fighting* cancer is understood as a positive attitude that can impact significantly on treatment outcomes. Nonetheless, patients were able to problematize the shortcomings of the coping ways this metaphor promotes, and identified contexts where the idea of "fighting" is not suitable for comprehending the complexity of the illness process.

Despite scientific evidence, cancer remains to be associated by patients with a psychogenetic cause and its cure conditioned by positive thinking. The promotion of war metaphors in cancer care seems to reinforce this conceptualization of disease. Although it may provide a useful and socially desirable way of coping, actors involved in cancer care should be aware and consider the illness beliefs it strengthens.

P-156 | Psychooncology in middle income countries: A focus on Latin American and the Caribbean

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As global cancer incidence is increasing with well documented poorer outcomes, cancer is receiving increasing attention in Latin America and the Caribbean. Due to the urgency of the cancer burden in developing countries (LMIC) where mortality ranges from 50-90% compared to the 20-40% range for developed countries (except for lung cancer), we are compelled to ask provocative questions and cultivate innovative best approaches in research and practice for more rapid translation of new knowledge and implementation of interventions to bring whole person cancer care and reduce the undue burden of cancer in this region. Further, mounting evidence directs our attention to the social determinants of cancer outcomes. Yet, there are several challenges in examining broad social contexts requiring the inclusion and guidance of survivor-advocates.

This symposium will discuss survivorship outcomes and survivorship care development within the Caribbean region focusing on two specific nations Brazil and Trinidad and Tobago.

Our findings indicate high cancer related societal and survivor burden. The health care systems in LMIC countries are overwhelmed with the

increasing cancer incidence. Multilevel factors including socioeconomic status, quality of care, distress screening and management seem to be associated with patient outcomes.

Developing psychosocial and supportive care in developing countries involve the engagement of multisectorial stakeholders including civil society, government, healthcare system, clinicians, advocates and patients. The need to develop these cancer care components is urgent and compelling.

P-157 | Understanding Roma cancer patients' beliefs—The first step for a better medical communication

Andrada Parvu

"Iuliu Hatieganu" University of Medicine and Pharmacy Cluj-Napoca, Romania; "Prof. Dr. Ion Chiricută" Oncological Institute Cluj-Napoca, Romania

Doctor-patient cultural differences influence the patients' attitudes towards medical care, coping with disease, patients' explanation about the cause of the disease and the acceptance of medical treatment.

The Roma (Gipsy) people are a minority in Romania, representing about 3.2% of the population, divided in numerous communities.

This study is part of a qualitative research that aims to analyze perceptions and attitudes in regards to death, terminal status, and dignity of the Roma, in the context of Romania's health services. We have done 48 semi-structured interviews (with Roma cancer patients and their careers) that were analyzed using Interpretative Phenomenological Analysis.

Traditional Roma, live in a world filled with taboos, cultural values and laws. They are resistant to change, considering tradition to be sacred.

The family plays a central role in caring for the patient, extended family/a community part accompanies him at doctor visits, and interferes to doctor-patient communication.

The diseases, hospital and medical stuff are interpreted as impure and the disease as a stigma or a punishment from God.

In terminal stages, Roma patients prefer to die at home, near their family, not in hospital (impure space).

To optimise communication, medical staff should be aware and respectful of cultural values, customs, and perceptions of the Roma regarding health and illness. Failure to observe these criteria may lead to breach of doctor-patient relationship, and possible failure of medical care. The degrees of individual Roma acculturation into the Romanian culture must be considered, and adjust the pattern of communication accordingly.

Partnership and Sexuality

P-158 | Sexual behaviour in the immediate post-surgery period predicts sexual activity 2 years later in women with non-metastatic breast cancer

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Longitudinal studies showed that the sexual life of women with breast cancer often remains problematic over time, even when their overall quality of life has improved. In a previous paper, we showed that women who were sexually active before the illness follow 3 different patterns of sexual behaviour in the immediate post-surgery: *active-stable* (sexually active without changes in sexual functioning), *active-with-change* or *inactive-after-surgery*. The aim of this study is to test whether these early patterns can predict the women's likelihood of being sexually active at 2 years post-surgery.

47 women with non-metastatic breast cancer and engaged in a couple relationship were recruited at the Lausanne University Hospital (Switzerland). Patterns of sexual behaviours (predictor) were assessed through interviews. Psychological distress, body image and satisfaction with couple relationship (control variables) were assessed through questionnaires. Binary logistic regression analyses were performed in order to predict women's likelihood of being sexually active 2 years later (dependent variable).

Analyses showed that early patterns of sexual behaviours predict sexual activity; in particular, women who stopped any sexual activity with their partner in the immediate post-surgery period are more likely to stay sexually inactive 2 years later. In addition, body image disturbances at 2 years post-surgery further reduce the chances to be sexually active.

Early detection of sexual problems in the immediate post-surgery period is useful to set interventions for women at greatest risk of experiencing an enduring negative impact of breast cancer on their sexual activity.

P-159 | Psychosocial predictors of satisfaction with intimate life in the context of cancer. A quantitative study of people with cancer in Romania

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This study investigated the influence of a set of socio-demographic, cancer specific, and psychological characteristics of Romanian cancer patients on their intimate life. It is the first multicenter study on this topic from Romania. Data were collected in 2014 through a cross-sectional study from the main four oncological institutes in Romania (Bucharest, Cluj, Iași, and Oradea). Measures included: assessment of intimacy, quality of life (FACT-G), psychological variables (Schwarzer's Self-Efficacy Scale and Folkman-Lazarus Coping Strategies Inventory), cancer distress (Emotion Thermometers Tool), variables related to family life, disease and health status, and socio-demographic variables. Univariate and binary logistic regression analysis were applied to a national sample of 800 cancer patients, of whom were 58% women, with an age range between 18 and 82. As expected, significant associations were found between each group of variables and (dis)satisfaction with sexual life. Statistically significant results from multivariate analysis revealed that lack of satisfaction with sexual life was higher among cancer patients: who

perceived lower closeness to the intimate partner; were single, divorced or widowed; to whom cancer diagnosis was not personally disclosed; and those who reported a low level for the overall quality of life; and had a low level of education. We draw attention to the importance of including assessment of quality of sexual life in the overall evaluation of cancer patients' psychosocial needs, as our results show that altered and unfulfilled sexuality following cancer diagnosis or treatment might impair quality of life of both the cancer patient and the intimate partner.

P-160 | Factors associated with specific DSM-IV sexual dysfunctions among breast cancer survivors: A study of patients and their partners

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Many women experience sexual problems after breast cancer treatment. Little is known about the factors associated with specific DSM-IV-based sexual dysfunctions in breast cancer survivors (BCS). We evaluated: (1) patient-related and clinical factors that are associated with specific DSM-IV sexual dysfunctions and the level of sexual functioning and sexual distress of BCS; and (2) the association between the sexual functioning of BCS and that of their partners, and dyadic agreement regarding relationship functioning and intimacy.

We analyzed baseline data from a trial of the efficacy of online cognitive behavioral therapy for sexual dysfunction among BCS.

The study included 169 BCS and 69 partners. The most prevalent female sexual dysfunctions were hypoactive sexual desire disorder (HSDD; 83%), sexual arousal disorder (40%) and dyspareunia (33%). Endocrine therapy was associated with HSDD ($p = .003$), and immunotherapy with dyspareunia ($p = .009$). Higher age was associated with lower sexual distress ($p < .001$). An indication for erectile disorder was present in two-thirds of the partners. Few associations were detected between the women's and partners' sexual functioning. High levels of agreement were observed for the couple's ratings of social intimacy (ICC = .65) and marital sexual satisfaction (ICC = .61). There was poor dyadic agreement on sexual intimacy (ICC = .32) and emotional intimacy (ICC = .22). Partners reported lower sexual intimacy than the BCS ($p < .001$).

Endocrine therapy and immunotherapy are relevant risk factors for HSDD and dyspareunia in BCS. Both the women and their partners

experience sexual problems, underscoring the importance of involving both partners in sex counseling after breast cancer.

P-161 | The mediating role of trait and contextual self-concealment in the relationship between shame-proneness and distress: The psycho-oncology setting

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Although both shame-proneness, and self-concealment behavior have previously been found to be associated with psychological distress, no study has yet examined the process in which both variables affect distress, in the setting of psycho-oncology. The current study reports a preliminary examination of a mediation model, in which both trait and contextual self-concealment mediates the relationship between shame-proneness and distress (anxiety and depression), among patients with cancer and among spouses of patients with cancer.

The present study was part of a large scale cross-sectional study on self-concealment behavior in the setting of psycho-oncology. Two independent sub-samples of 80 patients diagnosed with cancer and 80 spouses of patients diagnosed with cancer, completed the study questionnaires. Shame-proneness, trait and contextual self-concealment, anxiety and depression were assessed.

Both trait and contextual self-concealment partially mediated the relationship between shame proneness and distress.

The current study findings suggest that contextual self-concealment and shame proneness are important variables to consider when assessing distress in the setting of dyadic coping with cancer. Findings suggest that psychological interventions in psycho-oncology would benefit from focusing on reducing self-concealment behavior. This seems to be especially critical for individuals who are more prone to both shame and self-concealment behavior, as these factors found to be associate with elevated levels of psychological distress.

P-162 | A grant funded pilot program changes standard of medical care: Supporting metastatic breast cancer patients and partners through enduring audio recording information and couples counseling

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Metastatic breast cancer (MBC) patients have high levels of symptom burden, psychological distress, and disruption of functioning, yet remain underserved. Patients have better adjustment and medical outcomes if partners are emotionally supportive. Partners also experience distress and report challenges in providing emotional support to patients. A review of the literature documented no psychosocial programs for MBC patients/partners integrated into care.

A team of medical oncologists, nurses, couples counselors, and lay patient navigators developed a MBC Couples Program that included: (1) A sophisticated biopsychosocial distress screening tool, *SupportScreen-MBC* in English and Spanish. *SupportScreen-MBC* includes a question asking patients/partners to identify their perception of prognosis (2) A standardized couples session prior to medical consultation (3) Audio recording of the session and physician consultation (4) *SupportScreen-Satisfaction screening tool*.

127 opposite/same-sex patients and 117 partners completed *SupportScreen-MBC*. 30 patients and 33 partners completed *SupportScreen-Satisfaction*. 100% of patients/partners agreed/strongly agreed that they would recommend this program for other couples. Additional data and analyses will be presented.

This pilot demonstrated feasibility of integrating a MBC couple's psychosocial program into care. The innovations were in three areas: (1) It is possible to query patients/partners about their perception of prognosis. (2) It is acceptable to patients/partners to state: "When most people hear the word cancer they think about death or dying" in the couple's session (3) All consultations were audio recorded for couples to take home. This pilot became the standard of care for all MBC patients/partners at a NIH designated cancer center in 1 year's time.

P-163 | The couples illness self-concealment (CISC) questionnaire: Assessing contextual concealment behavior among couples coping with cancer

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Within the field of health psychology, there is a lack of measures evaluating self-concealment as an active conscious process. The current study presents the development and evaluation of the psychometric characteristics of a new brief self-report, of self-concealment behavior in the context of couples coping with chronic illness.

The Couples Illness Self-Concealment (CISC) scale was developed on the basis of scientific literature review and clinical knowledge of experts. It was tested among 56 cancer patients and partners of cancer patients. Correlations and multiple regression analyses were conducted in order to assess the internal consistency and validity of the scale.

The CISC final version included 13 items, based on the feedback of participants and the feedback of experts regarding the content appropriateness of the scale (expert validation). The scale displayed high internal consistency reliability, and acceptable construct validity, examined by both convergent validity and between groups differences (patients vs. spouses).

The CISC scale has acceptable psychometric qualities. The use of CISC may broaden the understanding of self-concealment behavior in the context of illness, and its associations with psychological outcomes.

Inequalities and Minorities

P-164 | Obstacles to cancer treatment in people with intellectual disability

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People with intellectual disability (ID) have the same risks of developing cancer as the general population. However, due to psychological particularities and communication impairments, especially to express pain and other symptoms, the cancer diagnosis is often delayed, and cancer treatment is difficult. The present study aims at identifying obstacles to the cure of cancer in people with ID. We conducted 40 semi-structured interviews with members of oncological teams (OT) who delivered cancer treatment to people with ID; with professional caregivers (PC) who assisted people with ID living in institutions throughout their cancer journey and with family members (FM). They were asked about their past experiences of patients with ID treated for a cancer, their knowledge about patients and on ID (OT), their difficulties linked to ID patient management (OT), and the communication issues between OT, PC, FM. These three groups were also asked if the treatment could be delivered according to the usual protocol, and which modifications are needed to improve the cure of people with ID affected by cancer.

According to the preliminary results, the following obstacles are initially identified 1) the lack of familial or professional caregiver accompanying the patient throughout the cancer journey 2) the

lack of communication between oncological teams, professional caregivers and families. To our knowledge this is the first study conducted on obstacles to cancer treatment in people with ID. The study is funded by the Fondation de l'Avenir, Paris, France.

P-165 | Is it feasible to deliver cancer prevention health messages to migrants attending a migrant language class? Preliminary investigations

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In Australia, there are cancer disparities between different migrant communities, and not all groups engage in cancer prevention behaviours to the same degree. Traditional health messaging may be inaccessible to migrants for cultural, language, or literacy reasons. New methods of health promotion are needed. Abroad, blending cancer literacy education into migrant language education is promising. This could be an alternative approach to reach non-English speaking migrants to Australia. Guided by the RE-AIM framework, this preliminary project aims to identify, from teachers of migrant English-as-a-Second-Language (ESL) programs, whether this approach could be feasible in the Australian context. Five focus groups were held with teachers representing all adult migrant English programs in South Australia.

Data are currently being analysed. Preliminary analyses indicate overwhelming enthusiasm for a cancer prevention resource, particularly regarding secondary prevention strategies. For successful implementation, this resource should be flexible to cater for multiple cultures, language levels, and incorporate a range of communicative activities and media.

This study offers some understanding of barriers and facilitating factors to guide development of an ESL resource feasible for inclusion in current migrant ESL programs.

We identified limited consideration of cultural constraints on curriculum design. Future work will address this limitation and a module will be developed and trialed.

Merging cancer prevention literacy with available ESL education programs could be a feasible alternative to traditional health messaging for migrants to Australia.

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P-166 | Is survival after a diagnosis of cancer influenced by schizophrenia and/or psychosis? A meta-analysis of all-cause mortality

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It is well known that psychological outlook is linked with survival after cancer. Depression is also associated with a 22% (1.14–1.30) increase in cancer mortality. There is a concern that survival disparities (if any) may be due to later diagnosis or lower quality treatment.

We conducted a systematic search citation search data extraction data analysis / meta-analysis according to existing principles for observational studies (NOS). Qualifying studies were those that reported all cause or cancer specific survival in patients with cancer and a population with and without schizophrenia or psychosis.

We located 10 publications containing 12 analyses of schizophrenia or psychosis. There was no significant bias (Begg-Mazumdar $P = .06$) and there was little heterogeneity ($I^2 = 68.5\%$; 95% CI = 33.2% to 81.3%). On random effects meta-analysis the increased cancer related mortality was 34% (1.337; 95% CI = 1.262 to 1.417). We conclude that mortality is 34% higher after a diagnosis of cancer in patients with schizophrenia or psychosis.

Patients with schizophrenia have approximately a one third reduced survival after the diagnosis of cancer; higher than the previous reported association with depression. Further research is needed whether inferior survival is most marked for specific cancers such as lung, prostate, and breast cancers.

Further work is needed to clarify the reasons why patients' survival after cancer is lower following schizophrenia and how this can be addressed.

P-167 | Distress and psychosocial needs: Insights to address health inequities in Brazil

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Inequalities exist between healthcare systems in Brazil. Understanding patient-reported outcomes provide valuable information to guide health services and clinical practice. We aimed to characterize distress in cancer patients treated at private or public service.

1211 cancer patients (52.1% from public service) were assessed for distress during the chemotherapy. Descriptive statistics and logistic regression models adjusted for potential confounders were used.

The most commonly endorsed sources of distress by patients treated at public and private services were finances (39.5% vs 19.5%), anxiety (40.4% vs 35%), sadness (41.2% vs 43.1%), worry (54.2% vs 49.1%), fatigue (55.9% vs 46.9%), pain (49% vs 24.1%), sleep (44% vs 49.3%), and nausea (26.8% vs 34.3%). The logistic regression model was statistically significant. Female patients were 1.23 times more likely to report distress. Decreasing age and being treated at a public service were associated with and increased likelihood of exhibiting distress. Marital status and race were not significantly associated with distress.

Patients reported disparate levels and sources of distress. Patients from public hospital, and who are also lower socioeconomic status, were 20% more likely to be diagnosed with advanced disease and 50% more likely to reported pain. Importantly, early integration of palliative care seems urgent especially with the public health system. Further investigation on access to care leading to disparities are needed to address the unequal burden of cancer.

P-168 | Perceived stigmatization and its impact on quality of life—Results from a German study including breast, colon, prostate and lung cancer patients

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Research on stigmatization among cancer patients and related consequences for quality of life (QoL) are scarce. We investigated stigmatization and its impact on QoL among a large sample.

We included 858 patients (breast-, colon-, lung- and prostate cancer) from two cancer registries in Germany. Stigmatization was assessed with the Social Impact Scale (SIS-D). QoL was assessed with the EORTC QoL Questionnaire. Group effects were analyzed via ANOVA, relationships were investigated via regression analyses.

The mean age was 60.7 y, 54% were male. 34.6% were breast, 31.2% prostate, 19.6% colon and 14.6% lung cancer patients.

Across cancer sites, the dimensions of stigmatization (isolation, social rejection, financial insecurity and internalized shame) were in the lower and middle range, with the highest values found for isolation. Stigmatization was lowest among prostate patients. Stigmatization predicted all five areas of QoL among breast cancer (Beta > -.304; $p < .05$), but only affected emotional functioning among lung cancer (Beta = -.605; $p < .01$).

We could show that perceived cancer-related stigmatization negatively affects various dimensions of QoL, but varies for each cancer site.

The study was supported by a grant from the German foundation Roland-Ernst- Stiftung für Gesundheitswesen (grant no. RES 7/15).

P-169 | Attitudes towards breast cancer in a sample of Spanish college students

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The last three decades have witnessed advances in the oncology field and a decline in breast cancer mortality rates in industrialized nations. However, breast cancer continues to evoke great fear among women, even more than deadlier conditions according to some studies.

To establish the extent to which breast cancer is the most feared type of cancer among female Spanish college students, and to inquiry about the factors that may be associated with such fear.

250 female college students provided information about their demographic characteristics and attitudes towards different types of cancer.

34.9% indicated that breast cancer was the type of cancer they feared most, followed by leukemia (15.7%) and brain cancer (14.1%). The three main reasons behind fear of breast cancer were dying (57%), receiving chemotherapy (13.3%), and becoming seriously ill (13.3%). 98.4% of participants remembered seeing at least one health campaign about breast cancer. 86% of participants overestimated the probability of developing breast cancer, and 82% underestimated the 5-year breast cancer survival rate. However, survival rates were reported to be lower in other types of cancer (i.e., brain, colon, stomach, ovary, pancreas, and lung).

It appears that heightened fear of breast cancer cannot be only explained by perceived threat of breast cancer, relative to that of other types of cancer. Participants' fear was fueled by general cancer concerns (i.e., dying) rather than breast cancer-specific concerns (e.g., mastectomy). As suggested by previous research, socio-cultural factors may increase the fear of breast cancer.

P-170 | The role of cumulative disadvantage in explaining breast cancer disparities in African American women

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Compared to White women, breast cancer mortality rates for all Black women are 39% higher and tend to be more common and aggressive among Black women younger than 45 years. One potential culprit may be cumulative disadvantage (CD), which is the accumulated social, economic, and interpersonal stressors experienced over the life course. The goal of this study was to preliminarily developed and test a comprehensive quantitative instrument of CD and validate it both behaviorally and physiologically. Telomere length, a biomarker of cellular age and fitness, was used as the physiological validation tool. We recruited 15 White and 15 Black women who had donated normal tissue to the Komen Tissue Bank. First, qualitative life course interviews, focused on exposure to lifetime stressors, were used to improve upon and add to items from various existing instruments of life course stressors. Respondents then completed the final CD

instrument and their telomere length was assessed using DNA extracted from peripheral blood leukocytes. We found that qualitative and quantitative assessments were correlated for childhood stressors ($r = 0.74$, $p < .001$), lifetime stressors ($r = 0.62$, $p = .002$), and adulthood stressors ($r = 0.42$, $p = .022$). Telomere length was not correlated to CD score, however these pilot data yielded distinct patterns by race. Black women with high CD scores experienced substantial shortening of telomeres between two sample time points, while white women with low/moderate CD scores gained length between samples. Findings provide preliminary evidence of validity of this instrument and of CD as a potential contributor to cellular damage, a physiological precursors of breast cancer.

Palliative and Supportive Care

P-171 | SQiD: Can a single question help clinicians identify delirium in people in hospital with cancer?

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Delirium carries serious risks of death and morbidity. Prevention is the mainstay of management; where prevention fails however, early detection is crucial.

To test a Single Question in Delirium (SQiD) in hospitalised, cancer patients.

Setting: inpatient, oncology wards of two comprehensive cancer centres in Sydney, Australia. Prospective screening excluded admissions of: <24 hours, chemotherapy or radiotherapy only. The SQiD "Do you feel that [patient's name] has been more confused lately?" was tested against interview by consultant psychiatrist (CPI), using DMS criteria. The primary endpoint was negative predictive value (NPV) of the SQiD v CPI; secondary endpoints included NPV of SQiD versus Confusion Assessment Method (CAM).

A total of 120 patients were recruited: mean age was 66.5 years (range 22-89), 43% female, main cancer types: lung 21%; breast 12%, and prostate 10%. 73% had stage 4 cancer. Delirium on CPI ($n = 71$) was 35% (4/71 hyperactive, 17/71 hypoactive, 6/71 mixed). Primary endpoint: NPV of SQiD was 72.2% (95% CI,

58.36-83.54). NPV of CAM was 71.2% (95% CI, 57.92-82.24). The NPV of SQiD vs CAM, was 97.6 (95% CI, 91.57-99.71). Delirium prevalence was 9.2% on CAM v 23.1% on SQiD. CAM identified 1 of 16 cases of hypo-active delirium versus 6 using SQiD.

The SQiD performed well against both comparators. Unlike the CAM, the SQiD required minimal training, and administration was feasible in busy inpatient oncology settings. This single question in delirium screening has potential to set a new standard of care.

P-173 | Managing Cancer and Living Meaningfully Information Group (CALMING): Pilot study of a novel psychoeducational session for patients with advanced cancer

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The diagnosis of advanced cancer challenges the physical and psychological wellbeing of patients. Distress and uncertainty are amplified by unmet informational and coping needs. However, there are currently no comprehensive, standardized approaches to provide informational and psychosocial support for patients with advanced cancer and their families. We propose a pilot study of a psychoeducational session to improve knowledge about the disease and its physical, emotional, and family impact; reduce uncertainty; and improve satisfaction with care.

To evaluate the feasibility and acceptability of a group psychoeducational session for patients with pancreatic cancer and their families, called Managing Cancer and Living Meaningfully Information Group (CALMING).

Patients diagnosed with advanced pancreatic cancer will be invited to attend CALMING with their families at the Princess Margaret Cancer Centre. Feasibility outcome data will be collected. Measures assessing illness uncertainty, satisfaction with care, and knowledge will be administered at baseline and at 1 month. Follow-up interviews with participants and clinical staff will be conducted to inform feasibility and acceptability.

CALMING, a 1.5-hour session will be led by an interdisciplinary team. The session will address disease management, communication with loved ones and HCPs, personal and family impact of cancer, preparing for the future, and supportive care services.

A group psychoeducational session for patients with advanced cancer may reduce uncertainty and facilitate adaptation for end of life. Preliminary findings will be discussed in relation to the feasibility and acceptability of psychoeducation for patients with advanced disease and their families.

P-175 | The epidemics of pain and insomnia: Where are the psychosocial clinicians

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Moderate/severe cancer pain is widely reported in 25-30% of cancer patients in high resourced cancer centers with a higher prevalence in women. The WHO identified insomnia as the number one symptom in the world and again women are at higher risk than men. Pain/insomnia are biopsychosocial problems with severe implications for mental/physical health and grave societal consequences. For example, in screening data on over 20,000 cancer outpatients, pain (30%)/insomnia (36%) are consistently two of the top five biopsychosocial problems rated as highly distressing. In addition, both symptoms increase depression that in turn increases pain and insomnia. Despite Randomized Controlled Trials demonstrating benefits of psychological approaches, there remains an acute shortage of clinicians with the interest or skills to address overlapping epidemics of pain or insomnia.

Many psychosocial clinicians see pain and insomnia as solely biological events that are beyond their expertise and for which they may be intimidated. Quite the contrary, pain and insomnia are near perfect examples of the need for comprehensive biopsychosocial care. There is no noxious physical symptom that does not have a negative psychological implication. Given that people are comprised of evolving interacting biopsychosocial systems—There lies the opportunity. The presenter will focus on specific comprehensive biopsychosocial interventions (supported by the literature) while providing a template for the treatment of pain and intractable insomnia. The goal of the presentation is to engage and inspire health care professionals to recognize this unique opportunity and commit to the treatment of pain and insomnia.

P-176 | Insomnia in terminal cancer: coincidences and divergences between what concerns patients and what family members believe about

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Many patients with advanced cancer disease present psychological distress linked to physical symptoms. Insomnia is one of the most frequent symptoms, which usually increases the presence of worries and discomfort. Communication between patients and

family members in these situations is very important and depends in part on the adequate relative's perception of the patient's concerns.

To analyze the concerns of terminal patients with insomnia problems, and the perception of these needs from the point of view of the relative (primary caregiver).

60 palliative cancer patients and their relatives were assessed separately through an individual interview that included a list of possible concerns and open-ended questions.

There is a high number of needs and concerns among patients, similar to those perceived by relatives. However, they did not agree on the importance. According to family members, what most worries his patient is "Possible suffering during the process," "Close to family and friends" and "Do not feel pain." The most relevant patients were "Possible suffering during the process," "what will happen next with the family" and "the possibility of dying in solitude."

Although family members generally perceive many patients' needs and concerns, professionals can help to improve communication between both in this situation, promoting a more active attitude of the primary caregiver.

P-177 | Dignity in care—3 sides perspective: The patient, patient's relative, medical worker

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Dignity in medical setting, especially in palliative care is of a significant importance. Being able to treat patient in dignified way is a basic ability for health providers, at the same time for patients this may be factor influencing their quality of life.

Aiming to explore the possible similarities and differences in perceiving dignity in palliative setting, the qualitative research was designed. 12 persons from 3 different, but interdependent groups in hospice were invited to the study: 4 patients, 4 patients' relatives, 4 medical workers. Structured interviews were audio recorded and then analyzed. Interpretative phenomenological analysis was implemented to analyze the data.

The results indicate aspects of dignity which are important for those who benefit from medical help, but also for medical workers. Conclusions regarding assessment of the extend to which dignity was implemented into care, the advantages of palliative care in supporting patients' dignity, the expectations and needs of patients, their relatives and medical workers regarding dignity in care. Practical implications for medical workers, people benefiting from medicine (hospice) and for medical training will be presented.

P-178 | Education and medical students' convictions about acceptable actions towards incurably ill patients

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Physicians are often exposed to suffering of their patients, especially while facing incurably ill people in advanced stage of illness. At the same time doctors participate in making decisions concerning treatment. Euthanasia, physician assisted suicide and futile medical treatment are actions widely discussed in medical, legal, social approach.

The exploratory-descriptive study aimed to recognize the medical students' attitudes concerning possible actions towards incurably ill patients in advanced stage of the disease and to find some variables related.

458 students of the first, middle and last year of medical studies were researched. Questionnaires used in research are Life Attitude Profile (revised) and questions compiled by authors.

There were differences in acceptance for certain actions taken towards people in the advanced stage of the disease between students of different years. Students of the final year tended to approve euthanasia and futile medical treatment less than others. They also more often chose physician assisted suicide as approved action. There was some dependence between approval of certain actions towards people on advanced stage of an incurable illness with attitudes towards life, fact of having assisted a person who was approaching their death (a relative or a patient). Those who assisted dying (especially relative) person, tended to approve less futile treatment, compared to students who did not have such experience.

The research shows that students' attitudes change throughout education and implies some inspirations for teachers to support medical students' coping while meeting palliative patients. This conclusions and practical inspirations will be widely described.

P-179 | Factors influencing prognostic awareness in advanced cancer patients: A study protocol

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Patients' understanding of their prognosis (prognostic awareness, PA) is a fundamental prerequisite for all decisions about their future care. However, current evidence about PA in cancer patients is contradictory and limited by methodological and

cultural issues. This project aims to build a novel integrative model of PA, which combines cross-sectional and longitudinal design.

The stage 1 of this project will be exploring the variety of factors, which are important for patients with advanced cancer, with particular aim to investigate the role of PA. Data will be collected through interviews with patients, relatives, and focus groups with physicians. Stage 2 will be a cross-sectional survey aimed to assess the importance of PA as compared to other factors, identified in stage 1. The method will be a postal survey, aimed at patients, relatives and health care professionals ($N = 400$ in each group). The broader inclusion criteria will be used to identify impact of cancer diagnosis compared to other diagnoses.

Stage 3 will be a cohort study focused on a longitudinal assessment of the level of PA in patients, their families and physicians ($N = 400$). The secondary aim is to identify factors, which are associated with change in PA, such as new line of treatment, decline in health status or change in PA in relatives. Data will be collected in three comprehensive cancer centres. Measurement will be conducted either by phone or in person at baseline and then periodically every 4 months and also when a significant change in health status will occur.

P-180 | Reasonable hope: The use of group therapy to assist cancer patients and their family during treatment in building their capacity to live hopefully. A narrative perspective

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Weingarten (2010) conceptualises reasonable hope as the actions people take with others to make sense of what exists currently in the belief that this prepares them for what lies ahead.

Using the National Comprehensive Cancer Network's guidelines for distress screening high risk patients were identified to participate in a closed support group. The aim of the group was to create an empathic conversational space to acknowledge and address needs during treatment and also to allow patients and their families to seek goals for new possibilities and meanings.

The poster will illustrate the group work model used to assist cancer patients in rebuilding hope and creating meaning of their cancer experience.

The outcomes support the value that group support practices can have when implemented within the oncology social work practice. Furthermore it enhances the evidence base behind distress screening as a way to identify and address the psychosocial needs of cancer patients and their families during treatment.

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P-181 | Agreement was poor between states of preferred and actual life-sustaining treatments in terminally ill cancer patients' last months of life

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The extent to which patients' preferences for EOL care are honored may be distorted if preferences are measured long before death.

Aim: To longitudinally examine the agreement between cancer patients' states of preferred and actual life-sustaining treatments (LSTs) over the last 6 months of life.

States of preferred and actual LSTs (cardio-pulmonary resuscitation, intensive care unit care, cardiac massage, intubation with mechanical ventilation, intravenous nutritional support, and nasogastric tube feeding) were examined in 271 terminally ill cancer patients' last 6 months by a transition model with hidden Markov modeling (HMM). The extent of concordance was measured by a percentage and a kappa value.

HMM identified four states of LST preferences as uniformly preferring, uniformly rejecting, and uniformly uncertain about LSTs, and favoring nutritional support but rejecting other treatments. States of actual LSTs received in patients' last month were identified as generally received LSTs, LSTs uniformly withheld, selectively received LSTs, and received intravenous nutritional support only. Actual LSTs received concurred poorly with patients' preferences (38% and kappa value: 0.06 [95% confidence interval: -0.02, 0.13]) primarily for receiving no LSTs when patients preferred all/some LSTs or were uniformly uncertain about them and receiving intravenous nutritional support against patients' preferences.

Agreement was poor between terminally ill cancer patients' states of preferred and actual LSTs. Healthcare professionals should clarify patients' goals and expectations about LSTs to facilitate their understanding of LST efficacy in prolonging life at EOL in making EOL care decisions consistent with patients' wishes while avoiding futile LSTs.

P-182 | Positive feelings experienced by nurses engaged in terminal-stage cancer care and analysis of related factors

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To identify the positive feelings experienced by nurses during terminal-stage cancer care and analyze factors related to them.

Statistical analysis of results from a paper-based survey of 673 nurses from eight general hospitals.

Results: The positive feelings of terminal-stage cancer care nurses can be classified into five categories: building a relationship with the patient, providing psychological care for the patient, adjusting for the patient's and family's needs, pride in terminal-stage practice, and positive feelings. The study found a relationship between years of nursing experience and care experience within the family. The category that scored highest for positive feelings was < providing psychological care for the patient >, which was selected by a high proportion of nurses from novices to veterans. Additionally, in the context of education and training, approval from senior coworkers and regular feedback on the care increased the positive feelings.

Nurses are feeling an increasing sense of difficulty in the clinical practice of care for terminal-stage cancer. In such circumstances, receiving approval and feedback from others are clear factors for increased positive feelings. In contrast, considering approximately half of the nurses have had receiving approval experiences, the importance of improved staff development has become clear.

P-183 | Psychological stress and health of palliative caregivers: Relevance of social support and leadership style

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In European countries, societal demand for palliative care is increasing, which is leading to greater efforts among palliative caregivers working in hospitals. From an organizational perspective, reasons for differences in stress and burnout among palliative caregivers may be due to work conditions, institutional resources, and the implementation of preventive measures, such as participatory decision-making or flexible work schedules. Social support may be an important resource and appropriate way to reduce the negative implications of stressors among healthcare providers. A less-explored aspect that could contribute to a better understanding of working conditions affecting healthcare providers' wellbeing is their perceived supervisors' leadership style.

To explore the role of social support and leadership style in relation with stressors and strains of palliative caregivers.

35 palliative caregivers (nurses and faculties) answered questionnaires and scales on role stressors, anxiety, turnover intention, leadership style, supervision and co-workers' social support.

First results indicate that a leadership style with greater presence of transformational elements is related (Spearman correlations) to greater social support ($r = .683$, $P = .000$) and lower perceived stressors ($r = -.43$, $P = .017$) and intention to leave ($r = -.42$, $P = .019$). These results obtained with a limited sample should be confirmed in future research with an increased sample in further palliative care units.

The leadership style influences burnout risk and wellbeing of caregivers, additionally to perceived social support, and should be incorporated to the best practice guides in palliative management.

P-184 | "It is over and I will probably die soon" Catalepsy associated with sequential life-threatening events in a patient with advanced pancreatic cancer

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Cancer is commonly perceived as life-threatening and universally stressful; however, brief psychotic disorder which occurs in response to extremely stressful events has not been reported.

A 63-year-old woman, who was diagnosed as having pancreatic cancer with liver metastasis, became unresponsive with very little reaction to verbal contact after sequential life-threatening events, such as thrombosis of both pulmonary arteries and stenosis of the third portion of the duodenum, due to disease progression over 3 weeks beginning with oncological emergency hospital admission. Laboratory findings and electroencephalography were unremarkable. She maintained the position when the psycho-oncologist raised her hand (catalepsy). She had no medical history of psychiatric illness or alcohol or drug abuse. From these findings, she was suspected of having a brief psychotic disorder with catalepsy and substupor, and 2.5 mg of haloperidol was administered. Her psychiatric symptoms disappeared in 4 days and the diagnosis of brief psychotic disorder was confirmed.

Brief psychotic disorders can manifest in patients with cancer. Careful clinical assessment is needed to correctly diagnose patients with cancer who develop brief psychotic disorders and identify those who will benefit from correct treatment.

P-185 | Pilot-testing of a couple-based mind-body intervention for patients with metastatic lung cancers and their partners

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Given the incurable nature, short survival and high symptom burden of metastatic lung cancer (mLC), patients and their partners are at risk of experiencing psychological and existential/spiritual distress. To address these concerns, we developed a dyadic intervention integrating meditation training with emotional disclosure exercises. The intervention involves 4 weekly, 60 min sessions along with homework. Each session focuses on skill development cultivating mindfulness, compassion, gratitude and purpose. The goal of this initial study was to examine intervention acceptability. We conducted focus groups involving 7 patients with mLC (μ age = 64.5 yrs; μ time since dx = 4.2 mo.; female: $n = 3$) and their partners (μ age = 55.3 yrs; female: $n = 4$). Couples participated in skill training and then completed semi-structured interviews and written evaluations including Likert-scale and open-ended questions to solicit their feedback. All study participants perceived each component of the intervention to be either "beneficial" or "very beneficial" (0-4 scale; μ 's = 3.7-3.9). On 6-point scale, participants indicated that during the sessions they felt "calm" ($\mu = 4.8$, SD = 1.2), "relaxed" ($\mu = 5.3$, SD = 0.8), and "energized" ($\mu = 4.6$, SD = 1.4). None of the participants endorsed feeling "nervous," "tense," "upset" or "sad." On 6-point scale, immediately after the sessions, participants endorsed having improved their emotional ($\mu = 4.6$, SD = 1.3), social ($\mu = 4.3$; SD = 1.4), and physical ($\mu = 4.8$, SD = 1.0) wellbeing. All participants would recommend the program to other couples. Open-ended comments were encouraging regarding general acceptability and usefulness of the program. As the intervention was deemed acceptable, we are currently conducting a 3-arm trial to examine the feasibility and initial efficacy of this novel treatment for an understudied population.

P-186 | The psycho-oncologist as a contact person for the palliative care

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The Psycho-oncologist is part of the A.D.A.M.O. team since 2009. This experience has made us reflect on the importance for the team and for the families of an analysis of the social, psychological, living conditions of the patient and of the caregivers at the beginning of the home care pathway. The Psicho-Oncologist is the first who meets the family and fills a report for the *équipe*. She helps people to compare their expectations with the effective offer of assistance, allowing them to consider all the care possibilities. This way, the team will save energy and the family will feel heard, sustained and oriented. The Psicho-Oncologist makes some further periodical visits, to see if the caregiver's burden is sustainable and to discuss critical issues and underline resources that emerged. The team can work better, by accelerating the path to the hospice for patients who can't stay at home, or delaying the care taking of patients who are not yet motivated. More resources are available for patients who do want and can be cared for. Moreover, the improper requests for the Emergency Medicine, mostly moved by psychological and cultural factors, are reduced. An atmosphere of

trust, of reflection over the resources is encouraged, in order to make the assistance more structured. About 20 situations have been tested who showed a feeling of greater confidence and stability. Further data collected will confirm the results.

Quality of Life & Life Satisfaction

P-188 | Response shift effects in cancer patients and cancer survivors—Assessed with anchoring vignettes

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Cancer patients and cancer survivors experience detriments in multiple dimensions of quality of life. Nevertheless they often rate their general health as relatively good. The aim of the study was to analyze whether anchoring vignettes are useful in identifying such response shift effects. A sample of 308 breast cancer survivors and a sample of 197 urologic cancer patients were asked to assess their state of health on a visual analogue scale (0-100). In addition, two vignettes A and B (fictional persons suffering from various health complaints; A: mainly physical problems; B: mainly mental problems) were designed. The cancer survivors and patients were asked to assess the health of the characters in these vignettes as well. Samples from the general population served as controls.

Both cancer groups rated the vignette character A with physical problems as being significantly healthier compared to the ratings of the general population (urologic cancer patients: effect size $d = 0.46$; breast cancer survivors: $d = 0.55$). The other vignette B which was mainly characterized by mental problems did not show such mean score differences between the cancer patients and the controls. Age, education, and time since diagnosis were only marginally associated with the assessments of the vignettes.

The differences in the assessments of the vignettes indicate a change in the internal standard. Self-rated health of cancer patients should therefore be evaluated with caution. Anchoring vignettes are a promising tool for use in correcting for response shift effects.

P-189 | Systematic QOL and care needs assessment in a transmural clinical pathway for patients with gastrointestinal cancer

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This study explores the feasibility and acceptability of systematic screening of QOL and care needs in a transmural clinical pathway for patients with gastrointestinal cancer.

Patients starting their treatment in the gastrointestinal department are asked to complete the CARES-Short Form at the start of treatment, 3 and 6 months after start of treatment. Each time a CARES-summary is sent to the trajectory nurse with following data: global CARES-score; average severity of problems experienced in physical, psychosocial, relational and sexual functioning, medical interaction and other aspects; problem statements rated applicable with 'a fair amount', 'much' or 'very much'; indicated care needs. The feasibility, acceptability and consequences of the intervention are queried in patients and the trajectory nurse.

Data collection is still in progress and will be presented at the IPOS Conference of August 2017. To date, 40 individuals have been recruited with a mean age of 59 years; 48% are males. The majority positively evaluates the timing and frequency of screening, and indicates that the intervention could stimulate the discussion of problems with healthcare professionals and improve tailored care. The trajectory nurse actively uses the CARES-summaries in follow-up with patients to discuss problems and concerns, and potential referral to other healthcare professionals.

Patients as well as the trajectory nurse positively experience the systematic screening with the CARES-Short Form. When this study is completed, more data on feasibility and acceptability of the intervention will be available, as well as longitudinal data on patients QOL and care needs.

P-190 | Spiritual well-being and depression severity in post-operative breast cancer women

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Spiritual Well Being as psychological construct in the recovery from cancer has been studied widely. Studies have reported that Spirituality play a predictive role, giving insight into how to deal with psychological symptoms associated with diagnosis and treatment phases of cancer. This study aims to find out how well Spiritual Well Being predicts the Depression Severity in post operative breast cancer survivors. 49 patients, age range 30-65 years were studied in two groups i.e. Post Surgical group ($n = 24$) and Surgery Waiting Group ($n = 25$). All patients were tested with Functional Assessment of Chronic Illness Therapy - Spiritual Well-Being Scale (FACIT Sp) and Depression Anxiety Stress Scale (DASS) (Indian adaptation). The results indicated that symptoms of Depression were observed more in patients who had already received Surgical treatment (Mean = 6.58; SD = 2.41) when compared to patients who were waiting for surgery (Mean = 4.48; SD = 1.47) ($F = 13.68, p < .05$). Results also showed spiritual well-being as strong correlate of Distress, providing a unique

contribution to the prediction of Depression severity among breast cancer patients. The results have important implications for care of terminally-ill individuals because they show the importance of spiritual well-being in keeping psychological distress of patients who are facing death to a minimum and targeting spiritual well being in various Mental health interventions.

P-191 | Quality of life, emotional distress, and desire for psychosocial help in male patients with newly diagnosed oral cancer in Taiwan

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Emotional distress is common among patients with oral cancer which is often related to their quality of life. However, many patients are reluctant to utilize psychosocial help. The aim of this study was to understand the relationship of these factors in patients with oral cancer.

From 2006 to 2008, male patients with newly diagnosed oral cancer in a medical center in northern Taiwan were enrolled. A set of questionnaires was used to measure physical symptoms (using M.D. Anderson Symptom Inventory, MDASI), quality of life (QOL) (using Functional Assessment of Cancer Treatment, FACT), and emotional distress (using Hospital Anxiety and Depression Scale, HADS). Besides, patients had the option to specify a desire for psychosocial help. The demographic data, sites of cancers, initial staging, and past stressful life events were also recorded. Descriptive statistics includes mean, SD, percentage, etc. The t-tests, ANOVAs, and linear regression with backward selection are applied to inferential statistics.

A total of 116 male patients were enrolled. 60.3% of them were at advanced stage. Of these, 23.3% reported desire for psychosocial help. Emotional distress (HADS scores) were correlated to higher MDASI scores, more stressful life events, and higher desire for psychosocial care. Poorer QOL were correlated to higher emotional distress and MDASI scores and higher desire for psychosocial help.

Patients with oral cancer who reported poorer QOL, high emotional distress, severer physical symptoms and stressful life events were more desired for psychosocial help. It is important to provide psychosocial care timely.

P-192 | Factors influencing quality of life after curative resection of gastric cancer

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Even though surgical resection can provide the best treatment outcome for patients with curative cancer, physical, psychological distress of cancer and related treatments could deteriorate quality of life (QoL) in these patient groups. This study explored the QoL and related factors in patients scheduled for curative resection of gastric cancer.

89 men and 46 women participated. Initial evaluation was performed 1 to 3 days before operation, post-operative evaluation six to 7 days after operation. The self-report questionnaires done at visits were; Functional Assessment of Cancer Therapy for patients with Gastric Cancer (FACT-Ga), MD Anderson Symptom Inventory (MDASI), Distress Thermometer (DT), Hospital Anxiety and Depression Scale (HADS), Pittsburgh Sleep Quality Index (PSQI).

Comparing the mean scores pre- and post-operatively with paired t-tests, FACT-Ga total score and subscales including physical and functional well-being, additional concerns domain, cancer related symptoms in MDASI except for 'remembering things', DT, depression of HADS, PSQI showed significant worsening postoperatively ($P < .01$). At multivariate linear regression analysis for examining the relationship between QoL and related factors, a significant relationship between pre-operative QoL with anxiety of HADS, PSQI, 'shortness of breath' of MDASI ($R^2 = .407$, $p < .001$), and post-operative QoL with HADS, 'nausea', 'dry mouth', 'numbness or tingling' of MDASI ($R^2 = .659$, $p < .001$) was found.

Results show that QoL deteriorates post-operatively, especially in physical and functional domains. The QoL is related with pre-operative sleep quality and breathing difficulty, post-operative cancer-related symptoms, pre- and post-operative cancer-related symptoms. Interventions targeting mood, sleep and personalized cancer-related symptom management may relieve deterioration of QoL after cancer resection.

P-193 | Psycho-social predictors of quality of life in a group of Indian cancer patients

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Psycho-social predictors of Quality of Life in a group of Indian cancer patients.

To identify psychosocial predictors of Quality of Life of Indian cancer patients.

After clearance from the Institutional Ethics Committee, patients from out-patient as well as in-patient department from a tertiary care cancer centre were randomly selected & screened with self-rating questionnaires for Quality of life (FACT-G), Psychological Factors (DASS-42) and Perceived social support (multi-dimensional scale of perceived social support). The study had 118 cancer patients diagnosed with cancer at different stages of treatment. The age range was 20-87 years with mean age 51.06 (SD \pm 14.58 years). The mean quality of life was 68.23 (SD \pm 17.33). The Quality of life of the study population was significantly predicted by Depression ($\beta = -0.548$, $t = -7.075$, $p < .001$) along with perceived social support from friends ($\beta = 0.152$, $t = 1.954$, $p = .053$) and Gender ($\beta = -0.134$, $t = 1.727$, $p = .087$).

The Indian society is very closely knit. Generally, it has been seen that members of a family come closer in the face of adversity. In our study we found that, the patient's perception about the social support from friends significantly predicts Quality of life. Females are more vulnerable to the effects of cancer on their Quality of life. Cancer patients having depression have lower overall quality of life.

These findings from the Indian setting can be translated into practice by early identification of the vulnerable population and providing them with appropriate and adequate psychosocial support so as to avoid implications on the Quality of their lives.

P-194 | Cognitive, emotional and medical correlates of quality of life in cancer patients

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Presently quality of life is considered a priority in cancer care. Among many theories there is no agreement on definition of quality of life, and the defining elements mention both physical and emotional well-being. The aim of this study was to investigate cognitive, affective and medical correlates of quality of life in the group of cancer patients. Study included 69 patients with cancer. Participants were asked to complete a battery of psychological questionnaires. Subjective (measured by Cantril Ladder) and objective (measured by EORTC QLQ-C30) quality of life, emotional state, social pain, pain catastrophizing and time perspective were measured. Additionally, medical parameters such as progress and location of the disease, type of treatment, BMI and laboratory values were monitored.

The level of subjectively assessed by the patients quality of life turned out to be poorly associated with objectively measured quality of life. Almost none of the medical parameters was correlated with quality of life, there were also no statistically significant differences between groups of patients with varying disease severity. Pain catastrophizing, time perspective and emotional state showed the strongest correlation both with subjective and objective quality of life. Among the time perspectives, past-negative perspective was most strongly correlated with cognitive and emotional state and quality of life.

Quality of life appears to be primarily associated with cognitive-emotional state of the patient. Including psychological interventions within the scope of standard treatment is suggested.

P-195 | Posttraumatic growth after breast cancer

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Can be considered breast cancer a life challenge which may generate positive changes in lives of women? We formulated working hypothesis according to the theory of posttraumatic growth which defines this concept as positive changes after a confrontation with negative extreme events (Tedeschi & Calhoun, 2004). The levels taking into consideration are behavioral, cognitive, emotional and physiological. The aim of our paper is to examine if there is a real growth after confronting a breast cancer and which psycho-social variables are correlated with it. Material and methods: we examined two groups, each of them made by 57 breast cancer after at least 6 month since diagnostic. One group is made by breast cancer patients with mastectomy and the other one with conservative surgery. We used Stress-Related Growth Scale in order to measure personal growth. We assessed also depression, anxiety self-esteem, self-efficacy, unconditional self-acceptance, attitude and beliefs and quality of life. Results: we found strong negative correlation ($p < .01$) with depression and anxiety, positive correlation with self-esteem, self-efficacy, unconditional self-acceptance and high rationality. Concerning quality of life, there are positive correlation with role, cognitive and emotional functioning, body image, sexual functioning and enjoyment, future perspective and negative correlation with upset by hair loss. Conclusion: the research shows that even a small percentage of patients have a significant personal growth after breast cancer, this has relevance for psychological intervention and mental health prevention.

Key words: breast cancer posttraumatic growth quality of life

P-196 | Resilience as a predictor for emotional distress and quality of life during neoadjuvant chemotherapy in women with breast cancer

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Neoadjuvant chemotherapy is recommended for treatment of large or advanced breast cancer, to improve surgical outcomes and raise opportunities for breast-conserving therapy. At the period of neoadjuvant chemotherapy, patients may have several distress symptoms, diminishing quality of life. The purpose of this study is to investigate the role of resilience for prediction of emotional distress and quality of life during neoadjuvant chemotherapy in women with breast cancer. This prospective observational study recruited patients with breast cancer due for neoadjuvant chemotherapy. Participants completed the Connor-Davidson Resilience Scale before receiving the first cycle of chemotherapy. Emotional distress and quality of life were assessed before receiving the last cycle of chemotherapy using the Hospital Anxiety and Depression Scale and the Functional Assessment of Cancer Therapy-Breast. The effect of resilience for emotional distress and quality of life were evaluated using linear regression and logistic regression analyses.

A total of 109 patients were included in the analysis. Higher levels of resilience were negatively associated with emotional distress ($\beta = -0.281$, $p = .003$) and positively associated with quality of life ($\beta = 0.234$, $p = .015$) after controlling for relevant covariates. The highest tertile group of resilience level was associated with a 72% ($p = .011$) reduction in the risk for emotional distress compared to the lower tertile group. Higher resilience level may protect patients from high emotional distress and maintain quality of life during neoadjuvant chemotherapy. Psychosocial interventions to strengthen resilience might be useful for overcoming emotional distress and increasing quality of life.

P-197 | The role of perceived social support and quality of life during the treatment of gynecological cancer

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Patients diagnosed with gynecological cancer are often subjected to aggressive treatment regimens; as a consequence, they are likely to experience a reduced quality of life. Perceived social support might be an important factor in helping patients cope with their condition. Eighty-six patients undergoing chemotherapy for gynecological cancer at the San Raffaele Hospital completed a battery of tests including: a self-report questionnaire to collect socio-demographic characteristics, the Multidimensional Scale of Perceived Social Support (MSPSS), and the EORTC QLQ-C30 to evaluate quality of life before the first and third chemotherapy infusion.

The age range of the sample was 27-84 years (mean = 59.14; SD = 13.35). Results show a significant improvement in global quality of life, emotional functioning and social functioning between the two time-points ($p = .020$, $.004$ and $.016$, respectively). The difference of the Emotional Functioning subscale between the two time-points shows a significant negative correlation ($p = .029$) with age (thus worsening over time as age increases) and a significant positive correlation ($p = .040$) with the subscale "Friends" of the MSPSS (thus improving over time for patients who perceive a higher social support from friends). Contrary to what may be expected, these results indicate that the quality of life of patients undergoing chemotherapy improves over time, suggesting a possible adjustment to cancer and its treatment. Patients who are older and who perceive less support from their social network, including friends other than family, might be more vulnerable to emotional distress; identifying these patients is important to properly address their issues.

P-198 | Assessment of the relationship between physical symptom distress, fear of progression, social support on quality of life among newly diagnosed hepatocellular carcinoma patients

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Health-related quality of life assessment has become an important outcome measurement in clinical practice. Hepatocellular carcinoma (HCC) is the fourth most common cancer in Taiwan. It is characterized by a poor prognosis tumor. Literature investigating the interrelationships between quality of life and associated variables is limited, and causality among these variables has not been tested in this group.

This purpose of this study was to use path analysis to investigate the relationships between quality of life and relevant variables including physical symptom distress, fear of progression and social support in newly diagnosed HCC patients.

This is a cross-sectional study. The instrument includes the modified Edmonton Symptom Assessment System, Fear of Progression Questionnaire-short form, patient perceived social support and EORTC-QLQ-C30 were used to measure the major concepts.

A total of 128 newly diagnosed HCC patients were recruited. Path analysis demonstrated a number of significant relationships with a large effect size ($\beta > 0.25$), i.e., physical symptom distress and Global health status ($p < .005$), physical symptom distress and fear of progression. Significant relationships with a moderate effect size ($\beta = 0.19-0.21$) were shown between fear of progression and Global health status ($p = .001$), and social support and Global health status ($p < .005$). The model explained 37.3% of the variance in Global health status.

This study evidenced that physical symptom distress, fear of progression, social support had influenced quality of life. A more comprehensive biopsychosocial treatment is recommended to integrate into the clinical care plan for newly diagnosed HCC patients.

P-200 | Reciprocal relationship between psychosocial resources and the mental health functioning among colorectal cancer patients

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This project was to examine the reciprocal relationships between time-varying psychosocial resources and mental health functioning among newly-diagnosed colorectal cancer (CRC) patients undergoing adjuvant chemical treatment.

A total 108 newly-diagnosed CRC patients were recruited and it was adopted 3-wave longitudinal design to measure resource loss, resource gain and psychological health functioning using new-revised resource change scale and patient-specific quality of life (FACT) in the beginning (T1), middle-stage (T2), and final stage (T3) of chemical therapy.

Results showed Personal-trait/ability resource gain and family-and-environmental-support resource gain gradually decreased in the duration of chemical treatment, and economic resource gain had an increased trend. High loss of personal-trait resource in T1 predicted lower FACT in T2, and high loss of economic resource in T1 predicted lower FACT in T3. High gain of family-support resource in T2 predicted higher FACT in T3. In addition, high FACT in T1 predicted lower loss of personal-trait resource in T2, higher gain of family-support resource in T2 and lower loss of economic resource in T3; high FACT in T2 predicted lower loss of personal-trait resource, higher gain of personal-trait resource in T3, and lower loss of family-support resource in T3.

This project supported both resource gain and resource loss had direct influence on psychological functioning and there were reciprocal relationship between resource change and psychological functioning. Resource-based interventions that target personal, social, and financial resources could benefit people diagnosed with colorectal cancer in the duration of chemical treatment.

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P-201 | Quality of life and physical activity in long-term colorectal cancer survivors—Systematic review

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Due to the increasing number of long-term (≥ 5 years post diagnosis) colorectal cancer (CRC) survivors, long-term quality of life (QOL) is an important issue. Several studies found positive associations between physical activity (PA) and QOL in CRC survivors, however, no systematic review has been published which focuses on long-term CRC survivors.

A systematic review was conducted using the databases PubMed, Web of Science, PsychINFO, and CINAHL. Studies which investigated associations between PA and QOL in long-term CRC survivors were included. Ten articles based on seven studies were identified. Two studies included long-term CRC survivors, the other studies included long and short-term survivors with a mean time since diagnosis ≥ 5 years.

Long-term CRC survivors who were physically active reported better QOL than survivors who were not physically active. Both moderate to vigorous PA and lower levels like light PA were associated with higher QOL. Most studies assessed the association between PA and QOL cross-sectionally but one prospective study that measured PA five, six, and 7 years post-diagnosis also found associations between PA and QOL. Sex, comorbidities, and treatment moderated the association of PA and QOL. The findings of this systematic review support an association between PA and QOL in long-term CRC survivors. As only two studies were identified which specifically included long-term survivors, and as most studies used a cross-sectional design, the evidence of a beneficial effect of PA on QOL is not conclusive and further prospective studies are needed.

P-202 | Mental health, loneliness and illness perception outcomes in quality of life among young breast cancer patients after mastectomy: The role of breast reconstruction

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This study explored the relationship between mental health (depression, anxiety and stress), loneliness and illness perception with health related quality of life (HRQoL) in young breast cancer patients, within a year after mastectomy, and investigated the role of breast reconstruction.

A sample of 81 women with stage II breast cancer, 35 with breast reconstruction and 46 without breast reconstruction, completed the Missoula-VITAS Quality of Life Index-15, the Depression Anxiety Stress Scale 21-DASS 21, the UCLA Loneliness Scale, the Brief Illness Perception Questionnaire and a questionnaire with demographic and medical information. It was found that breast reconstruction was a negative predictor of total HRQoL and its domains, suggesting that women who underwent breast reconstruction had better HRQoL; they had also, significantly better mental health, less stress and anxiety levels. On the other hand, patients without breast reconstruction had higher level of loneliness, which was found to be correlated with poor HRQoL and higher levels of anxiety, whereas negative illness perceptions were associated with poor HRQoL, for both breast reconstructed and non-reconstructed women. Furthermore, women who did not receive adjuvant therapy have a poorer subjective sense of emotional "well-being." Additionally, although women with breast reconstruction had an overall better HRQoL, they experienced more physical discomfort associated with breast cancer and perceived higher level of physical distress compared to the ones without breast reconstruction.

In summary, this study demonstrates that breast reconstruction is not a panacea for patients improved HRQoL. These findings and their implications are also, discussed in this study.

P-203 | The impact of cumulative toxicity on physical quality of life in patients with metastatic colorectal cancer receiving first line chemotherapy

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We have previously suggested that toxicity affects physical quality of life (QOL), as opposed to global QOL. Moreover, the cumulative effect of toxicities, including low-grades AEs, may be of importance. We evaluated the relation between cumulative toxicity and physical and global QOL in patients with metastatic colorectal cancer (mCRC) receiving chemotherapy.

105 patients starting first line chemotherapy completed the EORTC-QLQ-C30 questionnaire at baseline and after 10 weeks. Toxicity, clinical outcomes and demographics were retrieved. For each patient, we calculated cumulative toxicity in three different ways: (i) total number of adverse events (AEs) (all grades), (ii) total number of grade 3-4 AEs, and (iii) total number of AEs multiplied by their grade. The relation between each cumulative toxicity score and QOL at 10 weeks was studied. Mean age of patients was 64.8 ± 9.7 years, 70.5% were male. AEs occurred in 98.1% of patients, grade 3-4 AEs in 37.1%, and grade 1-2 AEs in 61.0%. The mean number of experienced AEs was 5.3 ± 2.7 . A higher total number of all grades AEs ($\beta = -2.2$, 95% CI = -3.7 ; -6.6) and total number of AEs multiplied by grade ($\beta = -1.3$, 95% CI = -2.2 ; -3.5) were significantly associated with worse physical QOL. None of the toxicity scores was related to global QOL.

Cumulative toxicity, defined as the total of all grades AEs, significantly affects physical QOL in patients with mCRC receiving first line chemotherapy. Our results emphasize that future RCTs should present physical QOL outcomes instead of global QOL, as well as all grades and total number of toxicities for individual patients.

P-204 | If I only had a true team around me: With a little help from my friends

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Cancer care can be deeply rewarding to health care professionals but there are also ongoing difficulties that are endemic to caring for these patients, and their families. Stressors from shortages in work force, resulting from aging, stress and dissatisfaction have become barriers to excellence in cancer care. Settings for cancer care may also be inherently unnatural and reactive at multiple levels: **1. Physical settings** (microbes, noxious sensory assaults, mechanical devices); **2. Social milieu** (poor communication, silos, power hierarchies, sex/gender); and **3. Psychological environments** (emotionally charged, high levels of uncertainty, unmanageable workloads, emotionally dys-regulation). **Opportunity: Psychosocial leadership in oncology.**

Team health (honest, communicative, and trusting) has been shown to impact quality of patient care, efficiency and safety, yet teamwork has not been prioritized to manage the potential toxicities of how cancer care is delivered. Psychosocial professionals, by their expertise, values and temperament are in a unique position to play a critical role in

implementing a change toward wellness among healthcare professionals. This presentation will describe how a department of supportive care introduced and implemented a systematic approach to employee wellness, leading to superb employee engagement scores (Gallup 4.9 of 5), and tripling of the number of staff. This approach included: a unique staff leadership model, commitment to one unifying vision and mission, personal accountability, truly open honest communication, depersonalization of problems, systematic team building, emotional regulation with ongoing group practice and role playing. The speaker will present specific strategic unifying principles that can be applied in low and high resource settings.

Health Care Services Research

P-205 | Perspectives of development of psycho oncology in Georgia

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Nowadays, psycho-oncology as a separate direction and department does not exist at oncology clinics in Georgia. To explore psychological status (PSt) and provision of relevant psychological support (PS) of oncology patients at various stages of their pathway from symptoms appearance to cure is crucial.

Objectives: To assess PSt and results of PS of oncology patients in Tbilisi Cancer Center, Georgia.

Design: After a short Questioning, PSt of patients/family members were assessed and relevant types of support were offered. Results assessment and analysis of participant's interviews and behavior via qualitative and quantitative methods were done.

Participants: 195 patients and 45 family members.

Fair in 30%-70%, Anxiety in 25%-45%, Depression in 10%-30%, Phobias in 10%-20%, Apathy in 15%-28% were defined in total. Combating stress/fair with regards of diagnosis and before surgery appeared in 85-85%, during chemotherapy in 98%, after surgery and chemo/radiotherapy in 66%. Comparison of results of behavior between patients with and without PS showed that correct decisions increased by 50% in general.

Education of psychologists in the field of Psycho-oncology and provision of psychological support of oncology patients in the state/social programs' frames is obligatory to improve treatment outcomes results. Preliminary study about various institutions in this field proves importance of creation European Psycho-oncology Society (EPOS) to share experience and develop this direction in East European and Central Asian countries.

P-206 | New model of care for patient undergoing radiation treatment in Wellington Regional Hospital

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Patients were receiving inequitable service during their radiation treatment. Skills of the different staff groups caring for patients were not being utilised effectively. To achieve patient centered care and appropriate allocation of staff resources a more collaborative multidisciplinary approach was required.

To achieve equitable service a universal assessment tool was required. A literature search was undertaken to formulate the best assessment tool. Consultation occurred with other Medical, Allied, Pacific and Maori Health representatives to ensure the tool was appropriate in a New Zealand setting. In order for the patients to be seen by the appropriate staff, current scopes of practice were reviewed for both Radiation Therapists (RT's) and Registered Nurses (RN's).

An online assessment tool was created and a detailed protocol was developed to ensure RT/RN's were confident carrying out the assessment. Both staff groups completed an online training module, classroom based teaching, cultural competency training and shadowed staff performing assessments. Once the training was complete the RT's and RN's started using the tool. This has been modified in accordance with the users' feedback.

Evaluation of the tool will be performed in two ways. To evaluate the user experience, staff will be divided into mixed professional groups with a facilitator present. Allowing opportunity to provide feedback on the tool, discuss complex case studies and receive advice from their peers on how to manage diverse situations. The patient's perspective of the tool will be evaluated in early 2017 after the tool has been implemented for 6 months.

P-207 | Waiting Interactive Time project (W.a.i.t.)

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This project moves from a critical aspect of our oncology unit waiting room: Medical staff noted that patients and caregivers usually pass their waiting time talking about death episodes and making comparison between very different therapies. A survey conducted in August 2014 and August 2015 has revealed a high level of emotional distress among the people waiting.

With a view to reduce the patient and care-givers emotional distress during the waiting time before medical visit or clinical treatment, we propose them a variety of artistic, creative and relaxing activities. During these activities we apply a psychosocial support, thanks to our health staff (oncologists, psychologists and nurses). This aspect is useful to intercept medical, psychological and social needs, and also to make the medical staff work easier.

Our main aims are: (1) decrease the risk of incidence of psychiatric syndromes, like depression and anxiety disorders, that often exacerbate clinical disturbances related to the cancer disease or treatments; (2) enhance resilience factors that help the patient to cope with his cancer.

Distress is the specific target: We look for a significant reduction by offering psychosocial support and fulfilling activities. Patients and

caregivers directly benefit from this waiting interactive time; medical staff do the same in a roundabout way (less people waiting standing in the corridor and more compliant patients).

In order to verify a real lowering of the patient and care-givers distress, we avail ourselves of an instrument largely used in psychooncology research: the "Distress Thermometer" (DT).

P-209 | Determination of requirements for psycho-oncological care in oncological ambulant patients

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Various studies show that diagnosis and treatment of oncological diseases may cause specific psychological and social stress in patients. This can also affect family members to an extent they cannot cope. It is documented in several studies that 1/3 to 1/2 of patients cannot deal with these problems personally.

The "Tagestherapiezentrum, Mannheim" (TTZ) is an outpatient cancer treatment center where about 100 cancer patients are treated every day. To investigate the requirements on specific psycho-oncological care in ambulant patients a number of 100 patients of the TTZ were interviewed so far. The "Hornheider Questionnaire" and "PO-Basisdokumentation," validated screening instruments, were used as the basis for the interview, respectively.

From more than 200 addressed patients 100, (46/54 male/female), agreed to participate in the survey. The evaluation of the interview resulted in 11 male (24%) and 24 female (44%) patients showing the need of psycho-oncological intervention (p-value 0.0372). Out of these 35 patients, 15 (1/14 male/female) stated (43%) that they already had received or are receiving psychological treatment. To show differences in the two used screening instruments some more data are needed.

Intended is to interview additionally 100 patients (i) to validate the proportion of needed psycho-oncological intervention and (ii) to address differences of the short patient self-evaluating 'Hornheider Questionnaire' and the more comprehensive 'PO-Basisdokumentation'.

Health Care Professionals

P-212 | Cancer patients and oncology nursing from the perspectives of oncology nurses in Turkey

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To evaluate the aspects of oncology nurses about their profession to enhance the standards of oncology nursing.

70 oncology nurses working at Hacettepe University Oncology Hospital were included. A study form that included questions regarding sociodemographic information, three open-ended questions about difficulties, positive aspects, and required skills for oncology nursing, and a custom questionnaire for evaluating level of participation and clinical perception of oncology nursing was completed by each participant.

Mean age was 29.9 ± 5.7 years, 51.4% were married and 30% had at least one child. Percent of working in oncology to entire work life was 75.8%. Most frequently expressed difficulties were exhaustion (58.6%), coping with the psychological problems of the patients (25.7%), and frequent deaths (24.3%); positive aspects were satisfaction (37.1%), changing the perceptions about life (30%), and empathy (14.3%); and skills were patience (60%), empathy (57.1%), and experience (50%). 28.3% of difficulties were attributed to job related factors, 30.3% were attributed to patient related factors, and 77% were attributed to individual factors. The independent predictors of participation level of the nurses were self-thoughts of skills and positive aspects of oncology nursing.

According to the findings of this study, nurses declared working with cancer patients increase burnout, they are insufficient in managing work stress and giving psychological care to patients, but their job satisfaction, clinical skills and awareness about priorities of life has increased.

Key Words.

cancer patient oncology nursing participation perception

P-213 | Reconceptualising psychosocial care as meaningful occupation

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Whilst the provision of psychosocial care has been linked to quality of life for people affected by cancer (PABC), the provision of this care is often inadequate.

For over a decade, we have used a multitude of qualitative methods to capture the experiences of rural Australian health professionals involved in the provision of psychosocial cancer care.

There has been commonality across studies, with most health professionals describing psychosocial care as 'emotional toil'. Themes reflect the unique nature of the rural environment, including the impact of dual relationships. Health professionals describe their own fatigue and emotional exhaustion, and the impact this has on their well-being. Australian research aligns with findings from the United Kingdom and other major Western countries. Recommendations have focused on education and clinical supervision. In our current work, we contend that traditional approaches to psychosocial care perpetuate a biomedical approach that reinforces health professional views of emotional toil. By reconceptualising psychosocial care to recognize the need for meaningful occupation, there is opportunity to refocus health professionals from a paternalistic framing of the emotions associated with

working with people with cancer, to a dynamic relationship where strategies can be coproduced to support people to engage in occupations that are meaningful and purposeful to them.

Paternalistic approaches to psychosocial care perpetuate emotive responses to working with people with cancer. By reconceptualising psychosocial care, health professionals can reframe their thinking and reconsider their roles in enabling PABC to meaningfully engage in chosen occupations.

P-214 | Trainee psychiatrists' ability to correctly identify cancer related DSM5 depression and symptoms of depression

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A number of studies have examined non-specialist's ability of correctly identify depression but few have examined ability of trainees in mental health.

We examined the ability of trainees working in psychiatry for 4 months to identify depression in 50 patients who completed the PHQ9. 47 returned complete data.

Using an algorithm approach, across 47 patients the prevalence of major depression was 32% and any depression 53%. Based on a linear score, 44.7% of patients had a score of 10 or higher.

When looking for just clinical depression (vs major depression) trainees had a sensitivity of 100% and specificity of 25% (PPV = 38.5% NPV = 100%). Clinical utility for screening and case finding was poor.

When looking for just clinical depression (vs major OR minor depression) trainees had a sensitivity of 88% and specificity of 27% (PPV = 38.5% NPV = 100%). Clinical utility for screening was poor and case finding fair. When looking for just clinical depression (vs PHQ9 > 9) sensitivity was 95.2% and specificity 30.8% (PPV = 52.6% NPV = 88.9%). Clinical utility for screening was poor and case finding was fair. When looking for just clinical depression/adjustment disorder (vs PHQ9 > 9) trainees sensitivity was 100% specificity of 11% (PPV = 47.7% NPV = 100%). Clinical utility for screening/case finding was poor.

Trainee psychiatrists tend to have high sensitivity and high NPV but low specificity and PPV. Over their clinical utility was not good.

Further research is needed to understand if these rates improve with experience.

P-215 | Cancer cases in clinical ethics consultations at an advanced treatment hospital in Japan (follow-up report)

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Not only psychosocial problems but also ethical issues are found in cancer treatments. We previously reported cancer cases in Clinical

Ethics Consultations (CECs) that conducted between September 2009 and March 2012 at the University of Tokyo Hospital. The aim of this study is to describe the recent cancer cases of CECs and identify and clarify the ethical challenges in these cases.

In total, 52 CECs were conducted between October 2014 and September 2016. A qualitative content analysis was conducted on the secondary use of these documents.

The number of cancer cases in the CECs was 12 (23.1%). Most consultations (6 cases, 50%) were sought by physicians, followed by the Patient Relations Office' staffs (3 cases, 25%), nurses (2 cases, 16.7%), medical social worker (1 case, 8.3%) and others (2 cases, 16.7%). As a result of the classification of ethical problems, 4 cases (33.3%) were classified to "refusal of treatment", followed by "cancer notification" (3 cases, 25%), "demand for ineffective treatment" (1 case, 8.3%), "disagreement between patient and their families" (1 case, 8.3%) and others (3 cases, 25%).

There were no significant changes in the number of cancer cases and these contents from previously. These CECs were sought by regardless of profession, it suggested that the necessity for ethical support in different phases on treatment. Cancer cases often include the issues which influence treatment decisions, such as "refusal of treatment" or "demand for treatment". Therefore, it is important to provide decision-making support from an ethical viewpoint.

P-216 | Patient-caregiver relationship in cancer movies of the last 10 years: "And the winner is" ... the hope!

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The objective of this study is to evaluate the emerging role of caregivers in the last 10 years cancer films, analyze the impact of cancer evolution in the relationship caregiver-patient and evaluate the psychological and social implications.

Each film was viewed by an observer to record patients and tumours characteristics and by a psychologist in order to better define the role of caregiver-patient relationship and evaluate the emotional and psychological impact in cancer management.

99 films produced by 16 countries (years 2005-2015) were analyzed. In the movies 42 characters with cancer were women, 43 men, and 14 children. The most common cancers were leukemia and breast cancer (23%; 14% respectively).

Death occurred 44 times (44% of all movies). Caregiver is the main character in 9 movies.

Family members represent the caregiver in 44 movies (44%). In 49% of movies the role is covered by a boyfriend or girlfriend, husband or wife. Only in 4 movies doctors assume caregiver role. The support of caregiver isn't expressed in 9 movies.

In 68 movies, a significant positive relationship has been recorded and the hope emerges influencing the ability to cope with stressful situations and develop an emotional resilience.

Caregiver-patient relationship in these cancers movies reflect some real psychological processes and interpersonal dynamics, as cancer

is not only the pathological condition, but also the dynamic transformation of patient in the personal life and interpersonal relationships.

P-217 | Comparison between male vs female physician's communication style

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There is some evidence that men and women can practice medicine differently and that women achieve greater adherence to clinical guidelines and provide more care to their patients. The aim of this study is to analyze the differences between male and female physicians in communication patterns. Prospective, observational and multicenter study. All patients had non-advanced cancer that had been resected with curative intent. The doctors answered the Shared Decision Making Questionnaire-physician version (SDM-Q-Doc).

Thirty-two medical oncologists from 14 Spanish hospitals participated in this study. 78.1% were females; mean age was 35 years, and mean years of experience were 12. No significant differences were found between male and female oncologists with respect to age or years of experience. Most were super-specialists who treated patients with a tumor subtype (68.8%) and worked at a public center. These medical oncologists recruited 502 patients of whom 61% were female, with a mean age of 59 years. The most frequent kinds of cancer were colon and breast. The total SMD-Q-Doc score was unrelated to patients' age and sex, but did correlate with physicians' sex, age, and years of experience ($p = .026$ and $p = .020$, respectively). Female oncologists tend to feel that they provide more information and that they are more interested in patients' treatment preferences ($p < .01$).

There are potential differences in communication styles among medical oncologists regarding sex, age, and years of experience that may influence the patient physician relationship.

P-218 | Knowledge of the discipline of psycho-oncology amongst health professionals in Zimbabwe: A survey in Harare

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Psycho-Oncology is growing as a discipline and shaping the landscape of cancer care across disciplines; unfortunately, Africa in general and

Zimbabwe in particular is not abreast of the work and importance of the discipline in managing cancer patients.

Our purpose was to assess the level of knowledge of the said discipline amongst medical doctors who are often the pivotal contact persons in the lives and in the broad management of cancer.

A self administered questionnaire was conducted from July 2016 to January 2017 amongst doctors in both private and public hospitals/institutions in Harare, Zimbabwe. A set of validated, pre-tested questions were used to collect demographic data, assess source of knowledge, level of knowledge, knowledge of the relation between psycho-oncology and the other disciplines. With the help of a statistician, a two steps logistic regression analysis was employed to assess the association of respondents' demographics and other explanatory variables with knowledge.

A total of 128 participants were enrolled.

61%(78) were males versus 39% (50) were females. 37.5% were general practitioners and 46% were specialists; of those specialists, 83% had intricate knowledge of the management of cancer patients.

10.1% of the respondents had satisfactory knowledge and 83% indicated the willingness to learn more about the discipline.

Level of Knowledge is generally low but there is a great opportunity to leverage the enthusiasm of the health professionals to make the discipline more accessible and assist in delivering quality comprehensive cancer care to our patients.

P-219 | Psycho-oncologists throughout their career lifespan: A model of workplace support

Carolyn Messner

Cancercare, South Africa

Psycho-oncology practitioners in oncology settings experience significant stress throughout the lifespan of their careers. There are five major sources of distress for these practitioners: the patient's cancer; psychosocial and interpersonal characteristics of patients and their families; the work environment; inter-professional conflict; and a personal crisis. The work environment poses its particular set of stresses. Staff shortages; heavy workloads; administrative lapses in communication; interdisciplinary friction; inadequate training; poor leadership and inadequate career mobility; unrealistic expectations regarding work performance, and a lack of organizational support contribute to making the practitioner's work life stressful. The psycho-oncologist's role, when it poses ethical or moral conflicts, may be a source of strain. Personal losses and bereavement are experiences which may exact a toll on the practitioner.

This poster presentation will identify the efficacy of a model of workplace interventions, including: workplace design and architecture; orientation and training; supervision; team conferences; teamwork and resilience training to counteract the potential for burnout; and programs to foster practitioner resilience throughout their career lifespans. The author will provide a comprehensive analysis of: copers in psycho-oncology; models of workplaces which foster effective navigation of workplace stress; and how to reap the meaningful experiences which a career in psycho-oncology provides. The importance of developing a system to acknowledge and recognize psycho-oncology employees' role in patient care will be highlighted. The efficacy of evidence-based workforce resilience training for health care

professionals will be highlighted. Case vignettes, handouts, interactive exercises, a literature review and a bibliography will be included.

P-220 | Burnout syndrome in kids' cancer hostels staff in Greece

Dimitrios Nanis

Elpida Association OF Friends OF Children With Cancer, Greece

The study of burnout syndrome constitutes in the past few years one from the most popular regions of research. There is a big amount of researches that concerns the professional burnout syndrome and is reported in workers of different spaces. There are few studies that would be reported in the professional burnout of professionals of health that deals with the children's cancer. A new institution that exists in our country the last 15 years are the Hostels that entertain children that suffer from cancer and their families for the space that is submitted in treatments. These Hostels function from two not governmental organizations "ELPIDA" and "FLOGA." For this particular category of professionals of health no study is reported. It is a particular space where the professionals of health come daily in contact with the long-lasting illness and the death and in particular in a space where for these families and the children it is their house.

Aim of this study was to investigate the professional burnout of personnel (auxiliary, scientific, voluntary) that provides services in these two hostels. For the measurement of professional burnout, the MBI Questionnaire was used (Maslach & Jackson, 1986). The results of the study showed that the level of professional burnout personnel is in low levels, according to norms.

Key Words: professional burn out syndrome, professionals of health, children's cancer.

P-221 | A model unit of hospitality for children with cancer and their families

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Elpida Association OF Friends OF Children With Cancer, Greece

"ELPIDA" Guesthouse is the first of its kind in Greece. It is a 7-floored building in Athens, destined for the use of the families of children who are suffering from neoplastic diseases and come from the Greek provinces. During the 18 years of its use, hundreds of children in need of treatment at the Oncological Clinics of Children's Hospitals of Athens have been welcomed. The basic goal through all these years, except from providing comfort and housing, is the psychosocial support of children and parents. Thus, several programs were developed in order to reinforce this goal. Such programs are firstly, the "Child Support Programs," which include "Going Back to School," "Creative Occupations," "Enjoy the Party," "Educational and Recreational Excursion," and "The List of Celebrities," secondly, the Program of "Financial Support to Families" and finally, the Program of "Psychosocial Support," which is supported by a Social Worker and a Psychologist.

The basic aims through the above programs are the psychological support to the children's attendants, to the children themselves in order to

experience and cope with the illness and treatments in a realistic and comprehensive way, creating a safe framework where communication is encouraged, motivation and socialization of the families.

Programs that are now in development are the psychosocial support of the children and their family when they are going back home and the psychosocial support of the staff of the Guesthouse through "sensitivity groups".

P-222 | Reducing distress and burnout symptoms in health professionals using a mindfulness program

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Health professionals often develop their activities in high-demanding settings and experience distress reactions such as anxiety, depression and burnout symptoms. Interventions based on the Mindfulness procedures could be useful in reducing these reactions. This study aims to test whether participation in a mindfulness schedule program of 6 sessions allows to a decrease in anxiety, depression and burnout symptoms in health professionals.

From 2013 to 2016, the Instituto Oncológico del Vallés (IOV) offered to the hospital staff (doctors, nurses and social workers) a Mindfulness program twice a year. The program developed a 2-hour weekly session during 6 weeks. Anxiety, depression, and burnout pre and post-intervention were assessed with the STAI, BDI, and MBI inventories. 143 participants were engaged in 9 mindfulness programs developed between 2013 and 2016 and 122 of them completed the study. Statistically significant ($p = .000$) reductions were observed in BDI (pre = 11.7, post = 7.4), anxiety-state (STAI-E: pre = 23.0, post = 15.6) and anxiety-trait (STAI-R: pre = 21.6, post = 18.4). There was also a statistically significant reduction in the MBI Emotional Exhaustion scale (pre = 16.4, post = 13.0) as well as an increase in the MBI Personal Accomplishment scale (pre = 37.5, post = 38.7).

The results suggest that the Mindfulness technique is useful for improving mood states and reducing burnout symptomatology in health professionals.

P-223 | Nurses' thoughts in response to witnessing the traumatic experience of cancer patients: Frequency of cognitive reactions in the development of compassion fatigue

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Nurses in cancer care are frequently exposed to patients' traumatic experiences and are at high risk for compassion fatigue/secondary traumatic stress. This study examined the frequency of various cognitive reactions during nurses' exposure to cancer patients' traumatic experiences during the development of compassion fatigue.

Semi-structured interviews were conducted with 30 Japanese nurses with a minimum of 2 years' experience in cancer care and a history of compassion fatigue. Content analysis was used, and frequency counts of identified attributes and categories were also employed.

Forty attributes and 13 categories were identified. Attributes that appeared with relatively high frequency among the participants were "I want to support the patient and his/her family as much as I can" ($n = 22$, 73%), "The patient and his/her family must be having a tough time" ($n = 21$, 70%), and "I wonder how it would be if I or my family got into a situation like the patient's" ($n = 21$, 70%). Categories that appeared with high frequency were "a sense of insufficiency as a professional" ($n = 28$, 93%), "compassion for patients and their families" ($n = 27$, 90%), "desire to support patients or their families" ($n = 25$, 83%), and "rumination on oneself or one's family" ($n = 22$, 73%).

This study identified the frequency of components of cognitive reactions among nurses exposed to cancer patients' traumatic experience. This information can help understand the onset of compassion fatigue and develop better methods of assessing medical nurses' states.

P-224 | Role of the personal peculiarities in the development of the emotional burnout syndrome among oncologists

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The purpose of this presentation is to show the relationship of the Emotional Burnout Syndrome (EBS) with the personal peculiarities, the degree of empathy and the neuropsychic instability on the example of oncologists.

Most at-risk groups for the development of EBS are representatives of "supportive" and "altruistic" professions, therefore we have involved 20 oncologists and 20 teachers in the survey sample.

Emotional Burnout Assessment Questionnaire (Boyko V.V.), modified MMPI test (Sobchik L.N.), Neuropsychic Stability Assessment Questionnaire and Empathy Levels Assessment Scale (Yusupov I.M) have been utilized in the survey.

In the survey sample, EBS was in the stage of development among 50% of surveyed individuals, already developed among 20%, and absent among 30%. There is a positive correlation between the intensity of EBS and indicators of hypochondria (0,36*), depression (0,51**), hysteria (0,41*) and paranoia (0,51**) (* $p < .05$; ** $p < .01$).

The highest indicators of neuropsychic instability were observed among individuals with developed EBS. A positive correlation was discovered between EBS and neuropsychic instability. There is no relative relationship between EBS and empathy indicators.

Personal peculiarities have substantial impact on the development of EBS among oncologists. Preconditions of the development of EBS include the prevalence of depressive-panic radicals in the personality

profile and the high degree of neuropsychic instability. There is no direct relationship between the degree of intensity of empathy and EBS.

The results can be useful in the implementation of preventive measures (e.g., Ballint groups) for oncologists, with the purpose of maintenance and improvement of specialists' well-being.

P-225 | Annual index for research and (evidence based) care projects in psychosocial oncology in Flanders (Belgium) (2016)

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Many projects on psychosocial care for cancer patients have been implemented in oncology care in Flanders (Belgium). The Cédric Héle institute (CHI)—Flemish institute for psychosocial oncology—demonstrated that the need of an overview was high. Inspired by the example of the NVPO, the CHI created the first edition of the Flemish Annual Index. Its purpose is to give attention to ongoing projects on psychosocial oncology as well as to induce collaboration on the same topics.

A group of experts in scientific research in Psychosocial Oncology was established: 16 caregivers and researchers were carefully selected from universities, university hospitals and relevant cancer organizations. Two abstract formats were drafted; for research projects and for evidence based care projects. The call for abstracts was sent to professionals conducting research on the topic. Additionally, abstract submission was promoted by the CHI newsletter and website.

48 projects were submitted: 38 research and 10 care projects from 21 different Flemish organizations. The projects were categorized based on the classification of the online library on the website. The paper version of the index was spread amongst caregivers and researchers during the annual CHI-congress ($N = 220$) and on training days. The online version is available on the website.

The index acts as a platform to share results of research and care projects across borders of organizations. The next edition will attempt to be more representative for all research and care projects in the field of psychosocial oncology in Flanders.

Distress Screening

P-226 | Screening von Patienten und Angehörigen auf psychosoziale Belastung in der ambulanten Krebsberatung

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Bisher gibt es kaum Ergebnisse zum Screening der psychosozialen Belastung von Krebspatienten und ihren Angehörigen in der ambulanten Krebsberatung.

In den zwei Krebsberatungsstellen der Hamburger Krebsgesellschaft e. V. haben wir 2016 ein solches Screening für alle Ratsuchenden, die zu einem persönlichen Beratungstermin kommen, eingeführt. Es umfasst das Distress-Thermometer (DT) und den PHQ-4 mit je zwei Items zu Depression und Angststörungen. Befragt wurden sowohl Patienten als auch Angehörige.

Es wurden 261 Fragebögen (196 Patienten und 65 Angehörige) ausgewertet. 74% der Ratsuchenden waren weiblich, das mittlere Alter betrug 53 Jahre (range 22-82, SD 13,88).

DT-Werte von ≥ 5 gaben insgesamt 224 (87%) der Befragten an, der Unterschied zwischen Patienten (85%) und Angehörigen (91%) war nicht signifikant. Der mittlere Distress lag bei 6,67 (SD 2,08), bei Angehörigen (6,60) ebenso wie bei den Patienten (6,69; $p = .39$). Im PHQ-4 zeigte sich ein signifikant höherer Gesamtwert der Patienten (5,29) als bei den Angehörigen (4,73, $p = .026$).

Diese ersten Ergebnisse unseres Screenings psychosozialer Belastung zeigen, dass fast 90% der Ratsuchenden mit einem Distress über dem Cut-off Wert in unsere Krebsberatungsstelle kommen. Dabei sind Patienten und Angehörige in gleichem Maße belastet. In Bezug auf eine mögliche Depression oder Angststörung gibt es bei den Patienten stärkere Hinweise.

Einschränkungen der Erhebung sind die kleinen und zwischen Patienten und Angehörigen unterschiedlichen Fallzahlen sowie die Vorauswahl der Gruppe durch den bereits bestehenden Beratungswunsch. Das Distress Thermometer ist bisher für Angehörige nicht validiert, so dass diese Ergebnisse nur als Hinweis gelten können. Eine solche Validierung wäre eine sinnvolle Erweiterung dieses Instruments.

P-227 | Preliminary validation of a distress screening tool for family caregivers of patients with lung cancer

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Family caregivers (FC) often report higher distress than their relative with cancer. However, systematic distress screening programs currently implemented in cancer centres only target patients. The distress screening tool used for patients, that includes the Distress Thermometer (DT) and a problem checklist, has been adapted for FC (DST-FC). To preliminarily validate the DST-FC.

Eighty two FC of patients with lung cancer were recruited at an ambulatory oncology clinic in Quebec (Canada). They completed

the DST-FC and the Hospital Anxiety and Depression Scale (HADS). The HADS serving as gold standard to identify FC with distress, sensitivity and specificity were calculated separately for different DT scores and numbers of problems checked. ROC curves indicated the best thresholds.

Twenty-eight FC (34%) reported distress, based on the HADS (score-15/42). Their mean DT score was significantly higher than the one of FC with no distress (5.8 vs 2.8; $p \leq .0001$). Similar results were found for the HADS anxiety and depression subscales. Correlation between the DT score and the HADS was good ($r = 0.68$; $p \leq .0001$). ROC curves identified DT score $\geq 4/10$ and ≥ 6 problems checked as the best thresholds. With DT score ≥ 4 , sensitivity and specificity were respectively 86% and 69%. When ≥ 6 problems checked was considered simultaneously, the sensitivity and specificity for these two combined tests raised respectively to 99% and 89%.

DST-FC provides reliable data to detect distress in FC and it appears as a valid and short screening tool for this population.

P-228 | Initial validation of the distress rating scale among Russian pediatric oncology patients and caregivers

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According to PSCPCC, youth with cancer and their caregivers should routinely receive screening of their psychosocial health care needs. There is a lack of psychosocial standards of care, including a valid tool for the assessment of child and family emotional functioning in Russian pediatric oncology. As a result, psychosocial problems often go unrecognized and without due attention lead to greater long-term distress. The present study focuses on the initial validation of pediatric Distress Rating Scale (DRS) among Russians.

The study aimed to investigate the levels and correlates of distress in youth with cancer and their parents.

A total of 160 parent-child dyads were assessed via child-report, parent self-report and parent child-report using DRS (Patel S. et al.), CDI, Peds QL.

20% of patients (age 7-18), 48,6% of parents, 41,8% of patients rated by parents reported moderate or high distress level. Distress was associated with emotional and physical problems in DRS, lower QOL in all samples, patients' depression. While there is a comparable mean levels of distress, depression and QOL among boys and girls in general, in 15-18 age group girls self-reported higher distress and depression than boys. We investigated significant agreement with the patients' self-report of distress, depression and parents' ratings of the patient. However, patients' self-reported ratings correlated with caregivers' ratings for younger age group and girls.

Distress is a common problem. DRS Russian version pretends to be a valid tool in cancer patients and caregivers. However, further evidence of psychometric quality is needed.

P-229 | The distress thermometer in a nurse-led intervention. Does it improve quality of life? Results of a randomized controlled trial.

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The Distress Thermometer (DT) is a screening instrument, translated, validated and implemented in many countries. Randomized controlled trials to investigate the longitudinal effect of DT screening during disease trajectories of cancer patients are lacking. In an RCT, we studied the effect of the DT on the quality of life (QoL) of primary breast cancer (BC) patients.

The study design was a non-blinded RCT to evaluate the effect of a nurse-led DT intervention versus usual care without the use of the DT on the QoL of curatively treated BC patients. The intervention offered from diagnosis, during treatment until 2 years of follow-up, consisted of a discussion of the DT results by a trained nurse. Both groups filled out questionnaires at baseline, after each treatment modality and follow-up visits during 2 years. The primary outcome measure was the QoL (EORTC QLQ C-30). Secondary outcomes included (breast) cancer related quality of life, anxiety, depression, emotional distress, coping, illness cognitions and general distress.

153 out of 194 randomised patients continued to fill out the questionnaires until 2 years of follow up. The analyses showed that using the nurse-led DT intervention at fixed time-points during treatment and follow-up did not improve the global QoL. Subgroup analyses of QoL in patients having different treatment combinations and distress levels will also be presented.

A nurse-led intervention based on results of the DT did not improve the QoL of curatively treated BC patients from diagnosis to 2 years follow up.

P-230 | A path to catch the spiritual concern: The finding of combing the distress thermometer and the brief symptom rating scale as a screening tool for suicide risk

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The oncology team wanted to prevent their patients from suicide risk carefully. We combine the Distress Thermometer (DT) Chinese version and the Brief Symptom Rating Scale (BSRS), an efficient suicide-ideation screening tool in, Taiwan

In the 3-month pilot study, the patients of the hematology and oncology ward were invited to complete the questionnaire composed of the DT and the BSRS. If the suicidal ideation score of the BSRS was

1 or more, the patient would be referred to the suicide prevention center.

There were 109 valid questionnaires (95.61%). Among 46 patients (42.20%) with the DT score of 4 or more, 9 patients (19.56%) were with suicide ideation. Among 63 patients (57.80%) with the DT score of less than 4, 8 patients (12.69%) were with suicide ideation.

In this study, suicide ideation was related with the spiritual concerns. But most patients would not check this of the DT, they checked the physical and practice problems most. The BSRS can help the oncology team to pay more attention to the spiritual concerns.

It needs to explore if integrating the BSRS into the DT is an appropriate way to understand the spiritual concern for the patients in this medical center.

Straightforwardly asking about suicide ideation is an acceptable path to discover the spiritual concern.

P-231 | Does distress screening vary based on gender differences?

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It has been found that female cancer patients tend to ask for more psychological support and express different emotional distress. In the Indian context, distress screening becomes tactful skill as many patients are unaware of cancer diagnosis.

To explore distress screening and gender differences of patients along with knowledge of cancer diagnosis in semi-urban Indian context.

A pilot study with NCCN Distress Thermometer to assess the distress of randomly selected cancer patients undergoing treatment at a tertiary care cancer center in India.

Data from 108 patients with the mean age of 52.54 (SD ± 12.24) was analyzed. Of which 11.11% patients were unaware of diagnosis. Greater number of males had knowledge of diagnosis. No significant difference observed in the Visual Analogue scores across gender. On analyzing each item in emotional problems domain more number of females expressed positive response on the items - Depression, Fear, Nervousness and Worry, whereas on sadness and loss of interest in usual activity scores were at par in both genders.

This trend represents that female patients voice their emotional concerns more, but they are likely to be kept away from their diagnosis. It will be interesting to study, whether male patients tend to express their emotional needs differently in the Indian cultural context.

P-232 | Validation of the distress thermometer in a Chilean population of oncology patients

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Identification of patients suffering from elevated psychosocial distress, and the sources of the distress, are ethical challenges in treatment of oncologic patients. The distress thermometer (DT) is a single-item simple distress screening tool to identify the sources of suffering and proposeing intervention strategies.

The objective of this study is to determine the optimum DT cut-off score that would identify significant distress in Chilean oncologic adult patients.

One hundred twenty ambulatory and hospitalized patients with various cancers in any disease's state participated in this study. Patients completed a standard socio-demographic form and the Chilean version of Hospital Anxiety and Depression Scale (HADS) was used.

In order to examine the ability of the DT detecting distressed patients, receiver operating characteristics (ROC) analysis will be performed. HADS cutoff score for Chilean population will be consider as the gold standard.

Keywords: thermometerdistressChileanvalidation

P-233 | Screening of psychological distress in oncology and hematology department at Ospedali Riuniti Ancona

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The screening of the psychological distress is one of the most important steps in Psycho- Oncology research and clinic assistance. In our institution, 4 main studies have been carried out from 2013 to date involving this area: 2 in Oncology and 2 in Hematology Department. 441 people were screened (201 patients in Oncology and 122 in Hematology, 37 relatives and 81 operators) and 881 questionnaires were administered.

The tools used in this study can be divided into nine categories: scale for Expressed Needs (Needs Evaluation Questionnaire)-207 administrations, Visual Analog Scales-26, tools of coping strategies (Mini-Mental Adjustment to Cancer Scale)-40, tools detecting symptoms such as depression (Beck Depression Inventory II)-181, distress (Psychological Distress Inventory)-161, burden of the relatives (Caregiver Burden Inventory)-6, burden of the operators (Link Burn Out Questionnaire)-82, instruments of the aggressiveness (State-Trait Anger Expression Inventory II)-84 administrations and measure for anxiety, discomfort / health and changes after psychological interventions (Cognitive Behavioral Assessment – Exit Evaluation)-94 administrations.

Correlations of some scales of Link Burn Out Questionnaire with Depression and Aggressiveness are already known, other correlations are being evaluated; screening tests also confirmed the widespread discomfort of patients and their relatives: the psychological distress is present in 38% of cases and depressive symptoms are common. Moreover several requests for Psychological assistance were carried out both in Hematology (28%) and in Oncology (32%).

P-235 | Distress and regional brain metabolism in metastatic breast cancer patients: Methodology and preliminary results of a study using PET

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Cancer patients experience high levels of cancer-related distress, which may negatively impact their clinical outcomes. Flattened diurnal cortisol rhythmicity is related with higher self-reported distress and has been shown to predict shorter survival among women with metastatic breast cancer (mBC). These cortisol alterations are related to hypothalamic pituitary adrenal axis dysregulation, indicating that distress and brain functioning in cancer patients may be correlated and therefore investigated with objective measures of cerebral metabolism. Studies using positron emission tomography (PET) with cancer and non-cancer subjects have demonstrated correlations between negative affect assessed by self-report measures and alterations in regional cerebral glucose metabolism (rCGM), as well as regional cerebral perfusion/blood flow.

Main objective of this study is to examine individual differences in reported distress and correlate them with rCGM measures (FDG-PET) of baseline activity in specific regions within the limbic-cortical circuit of the brain in mBC patients. Also to assess whether changes in distress, depression, anxiety and cortisol levels over a 6-month follow-up period covary with 6 month changes in rCGM of specific brain regions identified.

Patients complete self-report measures to assess distress, anxiety and depression (DT, BSI, HADS). Cortisol is measured 2x/day in the saliva. Brain glucose metabolism in specific brain regions is measured using FDG-PET under baseline conditions.

Recruitment of 100 eligible patients with mBC under treatment at the Breast Unit undergoing a whole body FDG-PET study including brain data acquisition as part of their work-up and best clinical practice, has started. Preliminary results and study methodology will be presented.

Psychometrics and Methodological Issues

P-236 | Insights from themes arising from an automated “real time” analysis of large volume cancer patient experience survey freetext responses

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Large-scale surveys of patient experience typically include freetext responses. An example is the national Cancer Patient Experience Survey (CPES), which produces over 70,000 freetext comments from patients annually. Such data provide significant insights beyond those produced through survey closed questions yet are under-utilised, due to the resource-heavy processes involved in analysing them. When they are analysed, this can take so long to complete that the results are generally not produced within a useful timeframe for service improvements.

We have developed an artificial intelligence type approach to automated analyses of these comments. Our process provides literal themes that are suitable for informing service improvement and recommendations for better cancer care, and developing more conceptual themes on the patient experience.

Through examples, we will discuss our translation of cancer patient experience comments into actionable service improvements. We will provide exemplar comments to illustrate our core set of six descriptive themes, and our more conceptual analysis of these data.

An artificial intelligence approach can successfully reduce the effort needed to produce thematic analyses of large volume freetext data that can be used to drive service improvements and as the basis for more conceptual analyses, which are discussed.

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P-237 | Self-report measures of help-seeking barriers in the context of cancer: A systematic review

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A range of attitudinal and structural barriers can make it difficult for some people to engage with health services. A greater understanding of these barriers may inform the development of strategies to facilitate earlier help-seeking and therefore more timely cancer detection, diagnosis, and treatment. A number of measures have been developed to quantify health and mental health help-seeking barriers, and these have been tested in various clinical populations. The purpose of this

review was to identify, describe, and critically analyse these measures, to inform future research in this field.

Search terms related to "barriers," "help-seeking," and "measures" were entered in to four electronic databases. The search was supplemented by hand-searching and a grey literature search. Results included English-language full-text articles and dissertations that described self-report measures of barriers to accessing medical, allied health and mental health services, and reported a psychometric criterion. Two independent reviewers screened titles, abstracts and full-texts. We identified 5,698 non-duplicate initial results, and included $n = 49$ full-text studies. For the purposes of the congress, we will only report findings from a subset of studies focused on barriers to help seeking in the context of cancer. Our discussion will focus on the quality of these measures and the types of barriers that need to be overcome to optimise timely cancer detection and treatment.

Findings will be useful for clinicians and researchers with an interest in improving access to care for people affected by cancer.

P-238 | Pre-testing of the EORTC satisfaction with cancer care core questionnaire and outpatient module

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Advances in cancer care delivery require further development of questionnaires assessing patients' perceived quality of care. This study pre-tested the revised EORTC satisfaction with cancer care core questionnaire applicable in the cancer in- and outpatient settings, and its new, complementary outpatient module.

The process of revision, extended application development, and pre-testing of this questionnaire was based on phases I to III of the "EORTC Quality of Life Group Module Development Guidelines," consisting of literature reviews, interviews with health care professionals (HCPs) and patients, and patients completing provisional versions of the questionnaires in eleven countries in four European regions, South America and Asia. Interviews with patients ($n = 102$) and HCPs ($n = 82$) elicited 57 important issues from a list of 88 generated from literature reviews and input from experts. These were operationalized into provisional items, and subsequently translated into ten languages. Assessment of understanding, acceptability, redundancy and relevance by patients ($n = 151$) from in-patient wards, and outpatient chemotherapy, radiotherapy and consultation settings, led to retention of, deletion of, merging of, and reformulation of 43, 12, 4, and 1 items, respectively. Cronbach's alphas of hypothesized item scales were above 0.70, except for hospital access. The EORTC satisfaction with cancer care core questionnaire will allow comparisons of cancer patients' judgments across cancer care settings and the outpatient module provide nuanced cancer patients' perceptions about outpatient care. Cross-cultural development will permit this assessment in international studies, integrating information across studies.

P-239 | Supporting consumer-centred care via activation: Validation of the consumer health activation index (CHAI) in an Australian population sample

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The predictive value of health activation level in the cancer context—including for screening behaviours and check-up attendance—has been demonstrated as greater than known sociodemographic values. To improve health-promoting attitudinal and behavioural outcomes, accurate measures of health activation that are accessible, amenable to change and validated in local contexts are needed. This study sought to validate the 10-item Consumer Health Activation Health Index (CHAI), recently developed in the United States, in an Australian population sample.

Exploratory factor analysis was conducted on data from a community sample of participants ($n = 250$; 50% female), aged 55-74. Confirmatory factor analysis was used to evaluate dimensionality in participants with confirmed Barrett's oesophagus under surveillance ($n = 154$; 29% female). Exploratory factor analysis revealed a two-factor structure representing perceived ability to self-manage health and perceived ability to engage with a health professional to manage health. Data are currently being analysed for convergent validity with preventive

health behaviours including physical activity, diet and screening. Results including confirmatory factor analyses will be presented. Future use of the CHAI in clinical practice and theory-based population interventions will be discussed. Implications for information provision and self-management interventions aimed at increasing level of health activation will be drawn out with reference to screening and support practices internationally.

P-241 | Psychometric properties of the Turkish version of fear of cancer recurrence inventory

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According to recent screening studies 51,6% of cancer patients have survived in Turkey and fear of cancer recurrence is one of the most commonly reported problems among cancer patients in survivorship period (Gültekin ve Boztaş, 2014). In order to give insight into the scope, severity and the frequency of the problem and also to provide measurement tool regarding to this issue for Turkish literature, it was aimed to adaptate commonly used tool of Fear of Cancer Recurrence Inventory (FCRI) with this study (Simard & Savard, 2009).

In this study, once the required permissions from the authors of the scale were taken, the translation and back translation processes were completed, and then data were collected from cancer survivors. They were asked to complete the translated version of FCRI along with Impact of Events Scale (IES), Patient Health Questionnaire (PHQ-SADS).

Final sample of the study composed of 217 mixed type of cancer survivors. An overall Cronbach's alpha of .94 and item total correlations ranging from .41 to .74. Exploratory factorial analysis and varimax rotation results revealed that 7-factor original scale decreased to 4-factor structure. As a result of the assessment of concurrent validity, except the avoidance subscale of IES, strong correlations (.39 to .70; all $p < .01$) were found between FCRI factors and the total score and subscales of other measures as in the original scale.

Findings with respect to reliability and validity for FCRI adaptation study show that the scale is acceptable for the Turkish population.

P-242 | Psychometric characteristics of the Mini-MAC scale used online for breast cancer patients

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Psychological assessment is important. Internet is a space to provide with support to cancer patients. In our breast cancer (BC) web we have a space to assess patients. We want to ascertain if Mini-MAC scale, used widely to assess Coping strategy is reliable by internet. We analysed our results by the α -Cronbach to measure reliability and did a factorial analysis to see if we obtain the usual scales of this questionnaire.

we have a sample of 294 BC patients whose MiniMAC scale is completed. After analysing the five subscales of the test we obtained a good reliability with the following α -Cronbach results: Hopelessness-Helplessness: 0.78; Fighting Spirit: 0.77; Cognitive avoidance: 0.79; Fatalism: 0.81; Anxious preoccupation: 0.79. Regarding the factorial analysis we obtained 7 factors but the weight in variance is mostly found in the first one (30,54%). Analysing the items that are more significant in the first factor it has 12 items that are significant that are a mixture between those from negative coping strategies such as anxious preoccupation, fatalism and helplessness-hopelessness. We think that this is an interspecific factor as a general negative feeling towards illness.

Is important to assess patients via internet. Even reliability is good we are not sure about the coping strategies we are assessing. Further research is needed.

P-243 | Qualitative vs. quantitative methods as a psychotherapeutic tool in cancer research

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Psychosocial support is becoming a prevailing and increasingly important issue in Slovak medical care. Many organizations provide support for cancer patients and in Slovak Myeloma Society we provide psychosocial support based on personal individual and group meetings and evaluation of our work via questionnaires.

Multiple myeloma patients are diagnosed with potentially chronic oncological disease which continuously affects their lives. While working with patients, in addition to the questionnaires we identified in-depth interviews as possible sources of ideas and courage to ask for support. We emphasize the importance of dialogue between patient and psychosocial care provider and highlight the necessity to use both qualitative and quantitative methods of research for more consistent results.

We are presenting particular cases of patients who completed WHOQOL – BREF, Pearlin Mastery Scale and Hospital anxiety and depression scale and took part in in-depth interviews regarding the way their disease influences their lives. We also bring our personal experiences with administrating quantitative methods personally and verbally in order to possibly become better psychotherapeutic tools for patients.

Our overriding aim is not to cause any more harm to our patients. With ethics being a widely discussed topic in cancer research, we would like to show that we can do consistent research with cancer patients. We emphasize that it is possible to use various research methods with

our patients being aware of the particularities of those methods and most of all, we can use the research methods as therapeutic tools to simultaneously help the patients.

P-244 | Fear of cancer progression, measured with the Fear of Progression Questionnaire FoP-Q-12

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Fear of cancer progression (FoP) or cancer recurrence is a severe problem in many patients suffering from cancer. The objective of this study was to examine age and gender differences of FoP, to test psychometric properties of the questionnaire FoP-Q-12, and to explore prognostic factors of FoP.

A sample of 2,059 cancer patients who had participated in a cancer rehabilitation program was examined 6 months after discharge from a German rehabilitation clinic. In addition to the Fear of Progression questionnaire FoP-Q-12, the patients filled in the Hospital Anxiety and Depression Scale (anxiety subscale), the Generalized Anxiety Disorder Questionnaire GAD-2, and answered questions concerning their cancer disease.

A percentage of 16.7% scored above the FoP-Q-12 cutoff score. Females showed higher FoP levels than males, and older patients had slightly lower levels of FoP. There were substantial and significant correlations between FoP-Q-12 and HADS anxiety ($r = 0.71$) as well as GAD-2 anxiety ($r = 0.57$). Reliability of the FoP-Q-12 (Cronbach's alpha = 0.90) was good. Confirmatory factorial analysis only partially supported the one-dimensional model, while exploratory factorial analysis supported the one-dimensional structure of the FoP-Q-12. The highest FoP mean scores were found for the cancer sites ovary ($M = 29.5$) and thyroid gland ($M = 28.8$), while the lowest scores were found for testis ($M = 21.8$), and prostate ($M = 21.7$). FoP was strongly correlated with the lack of being confident in having received the most advanced possible cancer treatment ($r = -0.40$).

The FoP-Q-12 is a valid and reliable instrument for measuring fear of progression in cancer patients.

eHealth Interventions

P-245 | Techniques for improving communication and emotional content in text-only online therapeutic communications: A systematic review

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Online typed exchanges are used by professionals to provide emotional support to cancer patients. The objective of this review was to assess the empirical evidence regarding the impact of impact of text-based tools on communication and psychological outcomes.

An electronic and manual search of databases for 1990-2016. Data extraction and coding were completed by two reviewers. Publications were excluded if they did not describe original research or did not empirically test the effect of one or more non-verbal communication techniques (e.g., smilies, emoticons, emotional bracketing, voice accentuation, trailers (ellipsis) and pseudowords) as part of online, web-based or typed communication on communication-related variables including message interpretation, social presence, the nature of the interaction (e.g., therapeutic alliance), consumer perceptions of the interaction (e.g., participant satisfaction), or psychological outcomes.

Of the 4617 publications identified, four met the eligibility criteria. All four studies addressed the effect of smilies or emoticons on participant responses, message interpretation or social presence. Smilies and emoticons were able to convey a limited amount of emotion. No studies addressed other techniques for conveying emotion in written communication. No studies addressed the effects of any techniques on the nature of the interaction (e.g., therapeutic alliance), consumer perceptions of the interaction (e.g., participant satisfaction) or psychological outcomes (depression, anxiety or distress).

There is a need for greater empirical attention to the effects of the various proposed techniques for conveying emotion in online or typed communications in order to inform health service providers regarding best-practice online communication skills.

P-246 | Quantifying intervention engagement in a trial of online versus telephone information and support for new lung cancer patients

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Lung cancer patients commonly experience poorer prognosis and more severe physical effects and psychosocial distress than patients with other major cancers. The Cancer Council NSW Cancer Information and Support service provides an easily accessible and ongoing source of tailored support for cancer patients. Despite the growing accessibility of online interactive support services, many cancer patients still do not engage with these services. As part of a randomised controlled trial exploring the relative effectiveness of telephone versus online support, participants' engagement with the two forms of the service was examined.

To identify the proportion of participants in each study arm who interacted with service staff.

288 newly diagnosed lung cancer patients were recruited from 31 cancer services and randomly allocated to receive telephone support, online support or a booklet from Cancer Council NSW. Following randomisation, participants were sent a letter notifying them of their allocation. A trained oncology nurse consultant attempted to conduct one or more outbound phone call/s with telephone arm participants. For online arm participants, a reminder email and phone calls were conducted to encourage service engagement. Data extracted from Cancer Council databases were used to assess engagement with the telephone and online arms. The proportion of participants who engaged with the telephone or online chat service and degree of engagement were reported.

Levels of engagement with online support are relatively low. Further study data will be used to identify the patient factors affecting engagement with telephone and online support services.

P-248 | Development and pilot testing of an online, low health literacy, fertility preservation decision aid for younger women with breast cancer

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About 50% of women lack the skills and capacity to access, understand and use health information effectively and current available information is not suitable for low health-literacy groups. Of particular concern are young women with breast cancer who are facing potential infertility as a consequence of treatment. To be able to utilise fertility preservation, they need access to high quality and accessible information in order to make informed decisions. Current decision support in fertility preservation is not appropriate for low health literacy groups. Thus, there is an urgent need to develop tools that can be accessed by patients equitably.

To develop to assess usability and acceptability of an online interactive low health-literacy decision aid for younger women with breast cancer considering their fertility options.

Women with a diagnosis of early breast cancer seen at the Royal Melbourne and Royal Women's Hospitals, Melbourne between 6 months and 5 years prior were invited to participate. Health literacy was screened prior to participation. Participants completed questionnaires before and after reviewing a decision aid.

This presentation will report on the 37 women were invited to participate.

Decision support for younger women with breast cancer facing treatment-induced infertility is important. There are many challenges in developing effective information materials for people with low health-literacy, but online decision aids have the potential to be an innovative and equitable solution.

P-249 | E-health use and non-use among “disadvantaged” mothers in Australia: Implications for cancer care

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This research investigated use and non-use of internet-based healthcare (e-health) by low income mothers in South Australia. Consumers are increasingly encouraged to use e-health. However, disadvantaged groups often have both lower internet use and poorer health.

Data were collected via five focus groups with mothers from the targeted population. Participants were aged 19-45 and lived in metropolitan and rural areas serviced by Australia's National Broadband Network. Internet and face-to-face health service use was explored, including internet-based self-help forums and e-health records. Discussions were recorded, transcribed and analysed with reference to the “Social Determinants & ICT for Health” framework (Newman & Lupiañez, 2013).

Mothers varied in their desire to access, and reported frequency of using, e-health interventions. Online activities included sourcing information for ill-health prevention; treatment-related care; health crises support, and GP-appointment bookings. Although the internet provided support for some issues, for others (e.g., pregnancy care) mothers preferred in-person contact. Participants displayed little understanding or awareness of formal e-health systems or e-health records. Most went online on their mobile phone via their home WiFi. For some, this limited their capacity to interact online.

Mothers from disadvantaged backgrounds vary in their willingness to access online information and supports designed to improve the health of themselves and their families. They define health in broad terms and generally use the internet to connect with informal supports. Implications for the provision of e-health cancer support and prevention interventions will be discussed.

P-250 | Usability testing of an online self-management program for cancer survivors through a focus group interview

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Our research team developed a website in order to provide an online self-management program to cancer survivors after taking primary treatment. The object of the website is improvement of psychosocial adjustment and QOL, and it consists of three parts: (1) knowledge strategies: it gives information regarding cancer related problems and adaptation tasks and provides a workbook to tackle those tasks; (2) private assignments based on the “expressive writing”: It provides an opportunity of emotional disclosure through the act of writing; (3) a bulletin board: it offers a platform to exchange information. The purpose of this pilot test was assessing usability of the website. Four cancer survivors who belong to support groups used the website. And they attended a focus group interview with another cancer survivor and 2 nursing researchers. Participants, who used the website, were first asked questions in terms of user performance, interface, plenitude of contents, and functionality of the program. Next, all participants discussed the feasibility of the web-based self-management interventions.

Based on opinion from users of the website, some depictions on the page in the knowledge strategies were modified friendly for survivors. And the work function in the page to do private assignments was enhanced for users to be able to recall anytime their own writing. Through the discussion, it was judged that the website can be an accessible resource for Japanese cancer survivors and the online self-management program can give occasions to bring to mind the memory of their cancer experience and to think of it.

P-251 | Effects of a website presenting patients' experiences of living with colorectal cancer on attitudes towards patient narratives

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Patients frequently seek narrative information on others' illness experiences when confronting potentially life-threatening conditions like cancer. Little is known, however, on the effects of providing such patient narratives online. In a randomized controlled trial we therefore analysed potential effects of a module of the German website krankheitserfahrungen.de that provides patient narratives on living with colorectal cancer. The present analysis investigates potential effects of the intervention on patients' attitudes towards patient narratives.

212 colorectal cancer patients (mean age 54 years, 59% female) were randomly assigned to either an intervention group that had immediate access to the colorectal cancer module for 2 weeks or to a waiting list control group receiving access to the module after completion of the study 6 weeks after randomization. Attitudes towards patient narratives were measured at 2 and 6 weeks with a list of 20 self-constructed items. Data analysis used 2 (intervention vs. control) \times 2 (time of measurement) repeated measures analyses of variance (RM-ANOVAs).

RM-ANOVAs showed no significant group differences with respect to attitudes towards patient narratives at 2 and 6 weeks. Also, changes across time were rarely significant. Inspecting mean item ratings showed that patients valued narratives most with respect to helping them feeling being normal in their reactions towards cancer and not being alone in this regard.

Having access to and using a website that presents colorectal cancer patient narratives does not affect patients' respective attitudes. However, such narratives appear to help patients understand personal concerns arising from their condition.

P-252 | Internet-based therapy for bereaved persons after loss due to hematological cancer

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The experience of loss due to cancer has a major impact as cancer-bereaved show higher rates of depression compared to nonbereaved. Furthermore, cancer as cause of death predicts the development of complicated grief (CG). However, family members often report unmet supportive care needs which continue beyond the death of the patient. Internet-based interventions can provide easily available and accessible support but most guided internet-based programs are addressed to cancer patients and not relatives. Our study aims at adapting and evaluating an internet-based therapy for bereaved persons after the loss of a significant other to hematological cancer. The 5-week intervention applies the paradigm of structured writing and consists of three phases: (1) self-confrontation, (2) cognitive restructuring, and (3) social sharing. Patients complete a total of ten writing tasks and receive weekly individual feedback from a therapist. The intervention is hypothesized to positively impact grief-related symptoms and general mental health in bereaved relatives of cancer patients. The therapy is currently evaluated in a randomized controlled trial with a wait-list control group who receives the treatment with a delay of 5 weeks. A total of 128 participants from Germany, Switzerland and Austria is intended. Participants have to be bereaved for at least 6 months and suffer from CG. Exclusion

criteria are current psychotherapy, severe depression, suicidality, dissociative tendency, psychosis, posttraumatic stress disorder, and substance abuse and dependence. The intervention will be detailed and preliminary findings will be provided.

P-253 | Mindfulness and skill based distress reduction in oncology: The acceptance testing of the web-based Make It Training

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In rural area cancer-affected patients still do not receive a psycho-oncological care which addresses specific needs. On the results of a representative cross-sectional needs assessment (N = 733), we developed a manual for a psycho-oncological web-based intervention (Make It Training- Mindfulness and skill based distress reduction in oncology). The intervention is based on mindfulness and conveys psychoeducational elements and cognitive behavioural skills with the themes: acceptance, resources, stress management and self-efficacy. The interactive web-based intervention with eight sessions has integrated different media like tutorial videos, audio examples and individual exercises to enhance the knowledge about the specific themes. Every session takes about 20-25 minutes and the whole training can be completed at a personal pc, tablet or smartphones within 4 months. For the acceptance testing an exemplary session were accomplished on tablets by 35 women with breast cancer at the University Hospital Tuebingen. Following this, an evaluation questionnaire was completed and a semi structure interview was conducted with the patients. The acceptance of the Make It Training was high. In dealing with disease-related burden the training was seen as helpful and most respondents (55%) wished a further attendance.

Prospectively, effective strategies for coping with the disease-related burden and demand could be conveying through the training. It is an innovative programme which can be accomplished in the domestic area and therefore, it can enhance the current ambulatory psycho-oncological care.

Contemporary, a randomized controlled study with 118 patients will be conducted for reviewing the efficacy and satisfaction of the web-based Make It Training.

Psychological Interventions

P-254 | Blue-blocking glasses as additive treatment for delirium in Oncology: A randomized - control trial

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Blue-blocking glasses as additive treatment for delirium in oncology: a randomized-control trial.

Objectives: 1) non-systematic literature review of delirium in cancer patients; 2) evaluation of the use of blue-blocking glasses (BB) as a possible add-on strategy in delirium treatment.

Methods: 1) A non-systematic literature review of delirium in oncology patients using medical search engines GoogleScholar®, Medscape® and PubMed® 2) presentation of a Randomised Control Trial using BB as an add-on treatment for delirium in post-surgical cancer patients, aiming to reduce the number of days with delirium. Symptoms will be assessed daily by clinical and psychometric (CAM, DRS-98) evaluation. The study will be conducted in Portuguese Cancer Institute Lisbon inpatient wards and will include patients older than 18 years, who have had surgery in the previous 7 days.

Delirium increases morbidity and mortality and is considered a significant factor of distress for cancer patients, families and clinical staff.

One of the hallmarks of delirium is the disruption of the sleep-wake cycle that is controlled by zeitgebers and orexin-histamine-melatonin system among others. The increase of endogenous melatonin reduces the sleep-wake cycle disruption.

BB glasses have been used successfully in patients with bipolar disorder and in sleep disorders by.

Inspired by novel and successful interventions using melatonin and ramelteon (a melatonin receptors agonist) our hypothesis is: is the use of BB intervention beneficial for confused patients reducing the number of days with delirium?

We are in the initial phase of the study and expecting to have results soon.

P-256 | Training attentional control to reduce emotional vulnerability in breast cancer

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Breast cancer diagnosis has been shown to severely impact on the emotional vulnerability to psychological disorders such as anxiety and depression, profoundly impairing the quality of life in survivors. Hinging on recent research showing that training attentional control can play an instrumental role in reducing emotional vulnerability in a number of vulnerable populations, we discuss new research that examines whether improving working memory function could impact on levels of emotional vulnerability in female survivors of breast cancer. Participants took part in a course of adaptive dual n-back cognitive training for either 15 (Study 1) or 12 (Study 2) days. Transfer effects to affective symptomatology were assessed using self-report measurements of emotional vulnerability as well as cancer-related distress symptomatology including fear of recurrence. In Study 1, results indicated that engagement-induced cognitive improvement as a result of training led to reductions in cancer-related distress symptomatology and emotional vulnerability. In Study 2, we extended these findings by showing that adaptive n-back training relative to active control training decreased cancer related distress symptomatology as well as anxiety and depressive related symptomatology and rumination. Transfer-related benefits of training on emotional vulnerability were maintained at month follow up in both studies. Collectively, our results are amongst the first to suggest that improving cognitive function can reduce anxiety and depressive vulnerability in breast cancer survivorship. These findings have profound implications for designing interventions that target cognitive control in vulnerable populations who've suffered from cancer.

P-257 | The take ACTION program for cancer patients: A group-based approach to promoting behavioral activation and acceptance of painful experiences

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Take ACTION is a manualized intervention based on *Behavioral Activation* and *Acceptance and Commitment Therapy*, both originated from the third wave of cognitive behavioural therapy (CBT). This program involves five weekly group sessions (and two additional booster sessions at 1-3 months) delivered by two therapists. It has been designed by our team to be implemented among cancer patients with all cancer types at any time in their cancer care trajectory. Take ACTION is aimed at helping cancer patients to reengage in their life by performing committed actions (*values-based*) while fostering acceptance of painful experiences (emotions, thoughts, and sensations). It targets the negative avoidance cycle that is likely to develop when people experience distressful emotions in the context of stress, life changes, and losses, as their coping resources may be overloaded. We piloted the Take ACTION program among 26 cancer patients at the CHU de Québec (Canada) over four groups (mean age 62 yrs.). Preliminary findings suggest that, compared to pre-intervention, participants at post-test

report significantly higher activation rates ($d = 0.48$; *Behavioral Activation for Depression Scale-Short Form*), greater acceptance of painful experiences ($d = 0.45$; *Acceptance and Action Questionnaire*), while being less anxious and depressed ($d = 0.41$; *Hospital Anxiety and Depression Scale*). These pilot data support Take ACTION as a promising brief, group-based approach for helping cancer patients to cope with the global experience of cancer (instead of a specific symptom) while preventing naturally painful emotional experiences from deteriorating into psychological disorders.

P-258 | Effects of a psychoeducational program for active coping to disease in breast cancer survivors: A pilot randomized trial

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The numbers of breast cancer survivors have increased around the world. They continue to face a variety of psychosocial challenges. Psychoeducational interventions might enhance psychological resources for active coping. The purpose of this study was to test the effect of a psychoeducational program on active coping in Cuban breast cancer survivors.

This is a three group, pre- and post-tests pilot randomized controlled trial conducted at primary care settings. Patients aged between 50 and 70 years old, after 5 and 10 years of survivorship, were recruited and randomly assigned to either intervention or control group, 10 in each group. The intervention group received a psychoeducational program over an eight-week period (educational sessions, booklets, reflexive-experiential techniques, autobiographical memories, cognitive restructuring, problem solving, relaxation and visualization). Primary outcome was measured by Ways of Coping. Other measures were PANAS, Psychological Interview and CAESCAM. All patients were assessed at three time points: before the intervention, immediately after intervention and 3 months post intervention. Intention to treat analysis was performed.

60 patients were recruited between January and July, 2016. Significant ($p < .01$) improvements were found in self-care, perceived control, coping strategies and emotional well-being at the three defined time points for the intervention group compared to the control group. The intervention group had an important improvement of active coping. Qualitative findings demonstrated the viability of this intervention for the patients and support its application.

Results indicate the effectiveness of the proposed Psychoeducational program for active coping to disease in Cuban breast cancer survivors.

P-260 | Patient competencies of cancer patients participating in a randomized controlled trial to evaluate a website providing patient narratives on living with colorectal cancer

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In Germany, the construct of Patient Competence (PC) has received increasing attention in the context of shared medical decision making and growing demands of patient autonomy. However, major issues of validly measuring PC remain to be resolved. Therefore, we analysed the construct validity of a previously developed questionnaire measure of PC in a sample of colorectal cancer patients participating in a randomized controlled trial that evaluated a website providing patient narratives on living with colorectal cancer.

212 patients with colorectal cancer (mean age 54 years, 59% female) participated and completed the measure of PC at baseline prior to randomization comprising 57 items that combine into 8 subscales. In addition, patients completed measures of coping self-efficacy, perceived social support and depression. These baseline data did not differ significantly between intervention and control subjects and were thus analysed together by means of factor analyses, Pearson correlations and t-tests.

Factor analyses show that four of the eight original dimensions of the PC measure replicate in the present sample: information-seeking, interacting with physicians, self-regulation, and managing distressing emotions. Managing distressing emotions correlates significantly positively with coping self-efficacy and negatively with depression. Self-regulation correlates highest with social support. Compared to a previous study, participants score higher on information-seeking.

The factor analyses lend further support to a multidimensional approach to conceptualising and measuring PC. The observed pattern of correlations tends to support the concurrent validity of single scales of the measure. Nevertheless, further refinement of the PC measure used is called for.

P-261 | Training students in couple therapy to address and treat marital distress in psychosocial oncology

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Couples facing cancer present with specific needs and require targeted interventions that are unique to marital therapy. This oral presentation will highlight specific interventions in couple therapy taught to students during a 1 year internship program. The audience will be presented in how to conduct a comprehensive assessment in identifying the needs of couples including the benefits of the use of a multi generational genogram, spousal communication styles, mood assessment and dyadic coping. Students are taught that sound interventions are driven by a thorough assessment. Hence, the oral presentation will identify how to apply theory driven interventions which promote greater coping in couples facing cancer at different stages of the illness (i.e., diagnosis, pre and post treatment, survivorship and end of life).

One factor that is often forgotten in the equation is that considering the stage of the patient's disease is not enough. One needs to take into account where the couple is at in their life cycle. Marital therapy gives special attention to the interaction between the two which affect the couple's day to day relationship including communication of needs, sense of selves, parental roles, sexuality and intimacy and role reversal. Students are also taught how to use their personal experiences with conducting therapy in helping couples achieve their goals and improve their coping skills.

P-263 | Reinforcement of mental health in an interaction group of cancer patients

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This study aimed to increase the coping, to ease adaptation to disease, and to reinforce the mental health in patients with cancer.

An interaction group was formed with cancer patients, and 12 patients attended this group for 12 weeks (50-60 sessions), and remaining 8 patients attended for shorter durations (2-10 sessions). Interaction group was based on a semi-structured design, and a total of 60 sessions, each for 2 hours a week, were conducted to deliver psychological interventions. Psychological interventions included various techniques like ice-breaking, role playing, role taking, imagination, psychodrama, and other interaction activities. Each session was recorded with an audio recording device and then fully transcribed. Electronic records were analyzed with nVivo10 software using qualitative assessment methods.

Qualitative analyses revealed that main topics related with coping with cancer were feeling pathetic and isolated, adverse effects of treatment and loss of freedom, uncertainty, worry, coping with bereavement and fear of death, pain, inhibition, anger, relationships with close proximity, incomprehension of others, denial, future plans, and hope.

These themes that produced by the interaction of cancer patients are critical to design specific reinforcement interventions for their mental and psychological well-being. Since these topics are determined by own experiences of cancer patient and not by standardized evaluation scales or questionnaires, they are also valuable for evaluating the exact determinants of psychological problems in these patients.

Keywords: cancer patientspsycho-oncologypsychodramareinforcement

P-264 | CORPOREA-MENTE: A tango-therapy intervention for cancer patients

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"CORPOREA-MENTE" an experimental course of psycho-therapy using Tango as a tool: its peculiar characteristics and its unique

approach towards dancing, projected to help oncological patients regain a better awareness of their emotions and body.

Eight weekly meetings were proposed to 12 patients, selected on the basis of personal motivation and the opportunity of insertion in a therapy group, 11 women and 1 man, to work and regain the dimension of personal, relational and body spheres.

Each encounter began with exercises of Bioenergetic Analysis (A. Lowen), as to favour a good admission towards the dimension of the group and also to make contact with their body, through experiences capable of touching identified topics: a renewed contact with the body; trust; relationship; unconditioned acceptancy. Each encounter ended with relaxation and an extra moment dedicated for the elaboration of session experiences,

It was decided not to use standard instruments to collect the elements of research found. In fact the experiment was valued through questionnaires: the first on expectations and the state of mind of the participants and a second where it was asked to describe and value the experience. The comparison between the two questionnaires showed a major difficulty and fear shared by almost all the participants in meeting others. Passing this "bridge" has permitted them to discover that they capable of opening themselves to deeper relationships. The group resulted important for all and the Tango in this played a very important role towards the gain of individual and mutual trust.

P-265 | Evaluation of the effectiveness of peer-support groups in a complex treatment of women with breast cancer

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Anxiety and depression in women diagnosed with breast cancer are often considered to be a part of breast cancer related symptoms. Difficulties in experiencing and expressing feelings related to breast cancer may lead to development of maladaptive coping strategies.

To identify and study efficacy of peer-support group participation in developing adaptive coping strategies among breast cancer patients.

True experimental study included intervention and control groups. Intervention group completed questionnaires before and 2 months after participation in the peer-support group. Control group completed questionnaires one time. The peer-support group was targeted at developing more adaptive coping strategies and decreasing depression and anxiety.

Conduction of peer-support groups had a statistically significant effect on the increase of accepting responsibility and planful problem solving copings as well as decrease in seeking social support coping in the intervention group. The level of depression and anxiety did not have statistically significant changes. Statistically significant difference of overall Quality of life and physical symptoms was observed during the second assessment of the intervention group.

The study identified high prevalence of depression and anxiety among women with breast cancer undergoing complex treatment. Although peer-support group itself does not ensure development of adaptive

coping strategies, yet it has a positive effect on women's expression of emotions and feelings.

Keywords.

breast cancerdepressionanxietycoping

P-266 | The evaluation of the effectiveness of the use of experiential approach with food for couple enrichment among Chinese cancer patients and their spouses

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Diet conflict and carer's high distress are empirical psychosocial impacts between cancer patients and carers (Baider & Ne-Dour, 2009; Reid, McKenna & Fitzsimons, 2009). Additionally, Chinese couples seldom express intrinsic feelings and thoughts that might hamper their relationship (Shek & Lai, 1996; Shon & Ja 1982). Therefore, a four-session structural psychotherapeutic couple enrichment group using experiential activities with the theme of food was conducted for cancer couples in 2016. This study aimed to evaluate the effectiveness of the group in promoting couple relationship.

6 cancer couples were invited to complete the Family Assessment Device-General Functioning (FAD-GF) to measure family functioning and the Target Problem Rating (TPR) to measure couples' distress level on diet conflict 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 and post-test data. Qualitative measures were also collected through the focus group with the couples.

Although the result of FAD-GF did not show a significant difference, the TPR showed a significant decrease in marital distress on diet ($M = 2.58, p < .01$). From the focus group, respondents reported that they were more open and ready to express love to their spouse. The couple relationship was enhanced.

Building a platform for the couples to share concerns about diet could be a useful means to improve their relationship. However, a control group should be included in future studies to increase internal validity.

P-267 | Influence of scents secreted via aroma interface on emotions and side effects during chemotherapy in breast cancer patients

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More than 30 years ago, researchers demonstrated a correlation between the occurrence and severity of side effects reported by

patients receiving chemotherapy. The impact of these variables on the quality of life was also discussed. Since then different kinds of interactions aimed at reducing the number and severity of side effects during chemotherapy have been examined.

We have used principles of classical conditioning to reduce chemotherapy side effects pairing chemotherapy sessions with scent secreted via aroma interface.

Methods: The number and severity of side effects, the severity of anxiety and psychological distress were assessed during the first, second and third course of chemotherapy in a group of 29 newly diagnosed patients suffering from breast cancer. Patients were randomly assigned to one of these groups: experimental ($n = 14$) and control ($n = 15$). In the experimental group the patients were also exposed to scent.

Only psychological distress and the severity of anxiety decreased significantly over time. The severity of these factors was the lowest in the second measurement. Contrary to expectations, the number and the severity of side effects have not diminished.

The data presented come from pilot studies. The situation which is new for the patients can influence the level of distress and anxiety in the first stage of treatment. In present studies there was no reduction in the number and/or severity of side effects, this can be associated with the small sample size.

P-268 | Clown intervention on neuroimmunoendocrine trajectories in pediatric osteosarcoma inpatients

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Psychological processes may regulate the immune response and patient well-being can significantly affect recovery and response to cancer treatment. In this study, we investigated whether changes in the trajectories of biomarkers including cortisol, α -amylase, cytokines, and matrix metalloproteinase-9 are associated with psychological stress and fatigue levels in pediatric osteosarcoma inpatients following clown intervention.

A pretest-posttest quasi-experimental study was conducted with six pediatric osteosarcoma patients. Eight saliva samples were collected at baseline (pre-intervention) and after clown intervention: (+1 h, +4 h, +9 h, and +13 h post-awakening). Salivary cortisol, alpha-amylase, cytokines, and MMP-9 concentrations were determined using high sensitivity enzyme-linked immunosorbent assay (ELISA) kits. Sociodemographic and clinical data were recorded and the Child Stress

Scale (ESI™) and PedsQL™ Multidimensional Fatigue Scale were administered and compared between baseline and after the intervention and the association of stress and fatigue scores and biomarker trajectories was investigated. Non-parametric statistics were used.

Clown intervention reduced IL-1 β and salivary cortisol levels in pediatric osteosarcoma patients. Additionally, the area under the curve (AUC) of IL-1 β correlated positively with the AUCs of cortisol and α -amylase at post-intervention. Conversely, levels of IL-6, TNF- α , IL-12p70, IL-10, TGF- β , and MMP-9 were not significantly affected following clown intervention.

Our results suggest that clown intervention is a viable alternative for reducing psychological stress and cancer-related fatigue in pediatric osteosarcoma inpatients.

Keywords.

Psychological stress Cancer-related fatigue Biomarkers Pediatric inpatients Clown intervention Osteosarcoma

P-269 | Psycho-oncological intervention for partners of patients with hemato-oncological disease—A pilot study

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Suffering from cancer confronts also the patient's partner with a variety of psychosocial challenges. To date, psycho-oncological interventions specifically for partners of hemato-oncological patients are scarce.

The study aims to develop a psycho-oncological group-intervention for partners of patients with hemato-oncological diseases at two oncological centers. Aim of the intervention is (1) a significant reduction of mental strain in the partners and patients and (2) an enhancement in dyadic coping. A pilot testing will be carried out to test applicability of the intervention.

The psycho-educative group intervention for partners is modularly structured. It will consist of five thematic sessions and will be conducted by psychotherapists. Participants and patients will undergo a written survey before and after the intervention. In addition, every single session will be evaluated by the participants. The variables of interest will be assessed with the PHQ and the Dyadic Coping Inventory.

This is one of the first studies that develop and evaluate a psycho-oncological intervention specifically for partners of patients with hemato-oncological diseases. The project is going to start in 5/2017. First results will be presented at the IPOS.

The study was supported by a grant from the Deutsche Jose Carreras Leukämie-Stiftung 5/2017-4/2018 (grant no. DJCLS 23R/2016).

P-270 | The application of emotional focused therapy towards intercultural marriage couple with husband diagnosed of advanced cancer: A study of two cases

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The intercultural marriage between local resident and marriage-based immigrant in Eastern Taiwan has received considerable debates. When the husband suffers from the initial cancer treatment to the latter palliative care, the interaction between them leads to many problems, including psychological, emotional and attachment aspects. The study aimed to apply the Emotional Focused Therapy to intervene and improve the relationship between the couples.

We report two dyads of husband and immigrant wife over a 6 months period between June 2015 and January 2016. One wife is from Vietnam, and the other is from China. Both husbands diagnosed with advanced cancer were facing problematic emotional states during the entire therapy, including 14 therapy sections (10 individual and 4 couple therapies).

Ten individual sections allowed each couple to express primary emotion to their partners. The couple section improved negative interaction cycle and secured their attachment relationship to offer better company. The overall sections promoted a closer relationship and fostered a closer attachment, which led to the acceptance of each other's experience and the discussion of death and after life with easy and comfort.

It is important to realize that during advanced cancer, the issues involved more than the disease itself, but it also encompassed complicated interaction between the couples' relationship. Through the Emotional Focused Therapy over a long-term period, we were able to reshape the attachment bond, mitigate problematic emotional stress, and assist the partners to support each other during the most difficult period of life.

P-271 | Acceptance and commitment therapy/training (ACT) intervention processes and work-related wellbeing in nursing staff

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Oncology nurses are at high risk of work-related stress, burnout and compassion fatigue. It is therefore important for evidence-based interventions to be made available to this population in order to build resilience and self-management skills. This is crucial in the efforts to minimise both absenteeism and nurse turnover rates, and in providing an excellent standard of care to patients.

This study aims to explore which components of Acceptance and Commitment Therapy/Training (ACT) predict work-related wellbeing. The

purpose of this analysis is to identify which components may be especially pertinent for inclusion in a future ACT-based intervention for this population.

Nurses from various specialties (including oncology) are being recruited from four NHS sites in the North-West and East-Midlands of England, UK. Data will be collected using an online self-report survey at a single time-point. Questionnaires assess all ACT intervention components (mindfulness, acceptance, cognitive defusion, self-as-context, commitment to values-based living), as well as stress, burnout, and compassion fatigue and compassion satisfaction.

Recruitment for this study launched in early 2017. It is anticipated that data will be collected by June 2017 (target sample: $n = 103$). Statistical analyses will provide empirical evidence for the applicability of ACT for this population in the context of managing stress, burnout, and compassion fatigue.

Using a data-driven approach to intervention development, this study aims to explore which components of ACT are especially pertinent in addressing work-related stress in oncology nurses. This will enable the development of an effective, targeted and brief ACT intervention.

P-272 | Stress coping skill training for patients with head and neck cancer: Interim report of a randomized controlled trial

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Patients with head and neck cancer (HNC) have a small repertoire of stress coping strategies, despite suffering from many stressful events such as dysfunction of breathing, swallowing, or vocalizing. The aim of this study was to compare HNC patients' mental health state between stress coping skill training (SCT) group and usual care (UC) group.

The study had a randomized controlled design for the SCT group compared to the UC group. Out of 44 depressed patients, 26 were recruited for this study, and the 11 that consented were randomly assigned to two groups. The contents of SCT were: (a) psychoeducation of stress coping, (b) goal setting, (c) self-monitoring, (d) confirming the efficacy of alternative behavior, and (e) supportive counseling. The primary outcome post-intervention was psychological distress (total score of the Hospital Anxiety and Depression scale [HADs]), along with scores of the Functional Assessment of Cancer Therapy (FACT) and Brief Coping Inventory (COPE).

A *t*-test found no significant differences in total HADs score between the two groups post-intervention (10.5 ± 4.3 , 17.0 ± 11.0 , $p = .21$). There were no differences in depression and anxiety score ($p = .26$; $p = .20$); however, the FACT emotional function score was higher in

SCT than in US ($p = .01$), and COPE behavioral disengagement score was lower in SCT than UC ($p = .02$).

These results show that SCT may be an effective intervention for depressed HNC patients. We should continue such randomized controlled trials and examine the effect of SCT programs.

Clinical Case & Studies/Patient Experience

P-274 | Health and Creativity

Rita Luz

FPUL, Portugal

After being diagnosed with a non-Hodgkin lymphoma, stage IVB, I've been through chemotherapy and long periods of hospitalisation. After many toxicity reactions, I refused to keep up with the additional cycles in order to maintain remission and to do a bone marrow transplant, which, according to doctors, was indispensable for effective remission and healing. I decided to focus on psychological and emotional issues and apply my knowledge from Psychology degree and my own believes on my own process.

I named my personal project CurAção, which includes the words Cura, Ação and Coração: Healing, Action and Heart. The actions included writing in order to maintain focus on healing and engaging in some collabor-actions based in love, creativity and health.

My hypothesis is that there's a relation between health and creativity, being creativity a state in which you are aligned with your beliefs, you stay true to yourself and you choose love over fear. I believe intuition is the core business but also that this is not a linear path and you have to consider human complexity and contradictions. I would look at a patient as a person with many layers: physical, emotional, mental and spiritual; different selves: individual, relational, social and universal (1, 2, 3 and back to 1); both masculine and feminine energies (vertical and circular dimensions); in relation with nature cycles (night and day, the four elements, opposite or dual energies between earth and sky). Healing would be a complex process of balancing all these variables.

P-275 | Dealing with cancer—Does gender differ?

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"Real men do not cry," "talking about fear and sorrows are only for women"—do these and similar prejudices still exist today? Men and women handle life challenges differently. They differ in ways of perceiving challenges, in communication, in social relationships, and in dealing with major challenges, like cancer disease. Despite medical

progress cancer is still a life threatening disease and shakes the whole life fundament of a person.

When we as therapists care for cancer patients in the medical field, we would benefit from acknowledging and talking about gender issues and gender differences concerning how male and female patients cope with their cancer disease—what it means to them, how they deal with it in their daily life, how it influences their personal life and relationships. Interviews with male and female cancer patients show a clear tendency towards gender differences in coping with cancer.

The results do not support any stereotypes of male and female behaviour or social structures—but it mirrors the real life of human beings! And yes, real men do cry!

P-276 | Call me! (Ring mig!)

Christina Sanson

Independent, Sweden

Lillemor is 86 years old. She lives at the 7th floor of a housing service. There is a wonderful view on Stockholm's isle she loves most and, through it, Lillemor can rewind her life, travel back to the time, after the cancer sentence she has just received...

"Ring me! (Ring mig!)" is a book written to raise awareness about cancer in the elderly.

Important qualitative data have been collected from several case studies to emphasize the needs, the quality of life, the health assessment, as well the multidimensional and multidisciplinary approach in order to understand the suffering due to a complex interaction among biological, psychological, social, cultural and economic components, in the old age. There is not a common mode of growing old, as the reactions to the various life events—and not least to cancer—are not disjoint from the underlying meanings, readjustments, processing and review of a whole personal path. When marked by isolation, institutionalization and death, cancer is experienced as intrinsic and the mind-body becomes the memory and theater of a "dry" diagnosis.

Neoplastic diseases are a major cause of illness and death for the older person, stigmatized by a widespread mentality which still weighs too many prejudices, little research and too many drugs. The elderly also heal. We just need to discover who they (we) are, continuing to fulfill dreams, coping to change and learning new things, staying young and active, always moving mind, and protecting own time and space.

P-277 | Becoming mothers after an oncological diagnosis: An observational longitudinal study about psychological aspects and influence on maternal attachment.

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Pregnancy is crucial for the construction of the mother-infant relationship, which is of great importance for the child's development. Maternal exposure to stressful life events during pregnancy may be linked to adverse outcomes in children. Although several authors consider cancer a 'critical life event' and have underlined the importance of psychological factors during pregnancy, studies that investigated motherhood after an oncological diagnosis are still scarce.

The main aim of this study was to investigate psychological aspects in a clinical sample composed of pregnant women with previous or current cancer diagnosis and of their partners. We would like to investigate prenatal attachment and representations, quality of life, in terms of psychological and emotional functioning, perceived social support, trauma-related response and resilience processes.

A first assessment will be conducted during the last trimester of pregnancy and a second 3 months after delivery to a sample of 40 patients. Both parents will be asked to complete the following questionnaires: Prenatal Attachment Inventory, Maternal Antenatal Attachment Scale (only mothers), Baby Care Questionnaire, World Health Organization Quality of Life, Multidimensional Scale of Perceived Social Support, Profile of Mood States, Impact of Event Scale-Revised, Centrality of Events Scale, Parenting Stress Index and the. Finally, a semi-structured interview will be conducted to investigate maternal representations of the child in depth.

Exploring the impact of the cancer event on the construction of mother-child relationship would be of great applicative relevance to identify individuals at risk which could benefit from perinatal and post-natal support.

ESGO

ESGO-01 | Psycho-oncology in oncofertility: Fertility and quality of life in cancer patients

A. Hasenburg; J. Weis; R. Schwab; V. Kesic; V. Bjelic-Radisic; N. Ottevanger; E. van Dorst; E. Greimel; S. Mijalkovic

Due to improving survival rates the subject of fertility and quality of life of young cancer patients is becoming increasingly important. The majority of patients with a cancer diagnosis in fertile age wish to have own children. However, there are concerns not be able to raise children or that children might be affected by cancer or treatment. Estimated 1/3 of oncologists don't talk with patients about fertility or fertility preserving measures and less than 1/2 eminent oncologists refer their patients to fertility specialists although 95% claim to talk with patients about fertility. However guidelines recommend the referral to specialists

für detailed communication of fertility issues with the patients immediately after diagnosis providing information about fertility preserving measures. Patients need careful assessment of the wish for an own biological child, the emotional, cognitive and physical state of the patient and the partner, of the provided support and the different possible scenarios and coping strategies.

Counseling on the basis of a valid questionnaire will offer support for couples confronted with cancer and fertility issues. Therefore a valid stand-alone questionnaire that covers all fertility related QoL issues including the individual patients' need for information and counselling in both men and women will be developed in the frame of EORTC and ESGO. The questionnaire is designed either for measuring outcome of information and treatment of fertility protecting measures in clinical trials or for evaluating patient care needs in daily practice. The module will cover issues of fertility in all cancer types and in all medical treatment settings.

ESGO-02 | Counseling clinics—Addressing the psychosocial needs of young patients affected with cancer: Case presentations

Vesna Kesic; Snezana Mijalkovic; Vesna Kostic

Department of Obstetrics and Gynecology Clinical Center of, Serbia

Increased survival rates of women diagnosed with cancer, together with delayed childbearing, make the preservation of fertility in the treatment of cancer an important health issue. Cancer-related infertility has a huge impact on emotional wellbeing, psychosexual dynamics, quality of life and financial status. Patients of reproductive age consider the risk of infertility one of the most difficult components of their illness and treatment.

Information on all somatic and psychological aspects of Cancer and Fertility may assist in significantly preventing or alleviating many of the psychological problems of affected women and their partners. The Multidisciplinary Team at the Counseling Center for Psycho-Oncology addresses these issues in young women suffering from cancer providing them with psychoeducation and support regarding these issues. Effective communication and psychotherapy leads to improved psychological adjustment, self-development, compliance with treatment and satisfaction with care.

The Multidisciplinary model of the Counseling Center for Psycho-Oncology has been proven effective in the practice at this center which has been working successfully for several years in the Department of Obstetrics and Gynecology at the Clinical Center of Serbia. Several cases will be presented from both the somatic and psychological perspective that confirm the importance of the holistic approach and collaboration between different disciplines in treating and supporting young women suffering from Cancer.

ESGO-03 | Supporting fertility decision-making: the role of decision aids in oncofertility.

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on behalf of the aLLIANCE and Australian Fertility Decision Aid Study Collaborative Groups, and the Fertility Preservation Taskforce

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Infertility is a common consequence of cancer treatment and is a key concern for many survivors. Fortunately, fertility preservation is an option that can help to ameliorate distress around potential infertility – however, the decision to undergo fertility preservation is complex and often needs to be made quickly at a vulnerable time. Thus, to ensure that patients are making informed and good-quality choices decision-support is needed. Decision aids (DAs) are examples of effective decision support and are well suited to this scenario. METHODS: This presentation will present data about the development and evaluation of oncofertility DAs. Specifically, the prospective evaluation of a DA (compared with usual care) in 120 young Australian women newly diagnosed with early breast cancer over 12 months (Study A), and the initial pre/post evaluations of DAs for parents of pediatric cancer patients ($n = 15$, Study B) and for women with low health literacy with early breast cancer ($n = 20$, Study C). RESULTS: Study A: The DA improved knowledge (without increasing distress) and satisfaction and reduced decisional conflict and regret. Study B: Most parents reported that the amount of information was 'about right' and all were satisfied with the information. The DA improved fertility-related knowledge and most reported it would have been helpful, relevant, and would recommend it to others. Study C: Data is being collected and preliminary results presented. CONCLUSION: Decision aids are effective in assisting cancer patients in making good-quality fertility decisions. There is still a need for decision aids for other cancer groups and for vulnerable sub-populations.

ESGO-04 | Sexually transmitted infections, human papillomavirus, and prevention of cervical cancer

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Sexually transmitted infections (STI's) may lead to serious health and quality of life consequences for women. STI's such as chlamydia and gonorrhea can cause pelvic inflammatory disease (PID) and infertility. Human papillomavirus (HPV) is the most common sexually transmitted infection and nearly all sexually active individuals are infected at some point in their lives. Several strains of HPV are known to be the cause of precancerous and cancerous lesions (including cancer of the cervix, vulva, and vagina), which may also have fertility implications for young women. HPV vaccines have been shown to be effective in reducing the incidence of high-grade precancerous lesions, suggesting long term, significant reductions in these cancers.

We will present data on the effectiveness and public health impact of the HPV vaccine and advances in the efficacy of HPV DNA testing. From our own studies in Canada and other studies internationally, we will present survey data on the multivariate factors that affect HPV vaccine acceptance, hesitancy and uptake. Also, we will discuss the evolving importance of primary HPV testing.

Widespread uptake of the HPV vaccine where herd immunity targets have been reached has shown impact on reduction of pre-can-

cerous cervical lesions. Knowledge of HPV and the HPV vaccine continue to be low; perceived susceptibility, harms and safety are related to hesitancy; while influence of health care professionals and school-based free vaccination programs facilitate uptake. Both primary and secondary prevention approaches should lead to significant reductions in HPV transmission and its potential negative health consequences.

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