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PODIUM ABSTRACTS

RESEARCH

DETERIORATION IN PATIENTS UNDERGOING HEMATOPOIETIC CELL TRANSPLANTATION: DEVELOPMENT AND IMPLEMENTATION OF THE DASH MODEL

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Early Warning Scores (EWS) are widely used in hospital settings to predict patient deterioration but are too sensitive and lack specificity for patients undergoing hematopoietic cell transplantation (HCT), which can lead to false alerts, alarm fatigue, lack of risk identification, and compromised patient outcomes. The purpose of this study was to develop an EWS for patients undergoing HCT and to implement the model into the clinical setting. A machine learning model – light gradient boosting model (lightGBM) –was used to develop an EWS model called DASH. Areas under the receiver operating characteristic curve (AUROC) and precision-recall curve (AUPRC) of the model were calculated and compared to those of the former EWS model (Modified-EWS or MEWS). Once the DASH prototype was developed, three focus groups of nurses, advanced practitioners, physicians, and leaders were conducted to explore barriers and opportunities for successful model implementation and to develop a standardized protocol to escalate care when patient deterioration is detected through DASH alerts. The DASH model prototype outperformed the current MEWS model; AUROC was 0.86 for DASH compared to 0.71 with MEWS; AUPRC was 0.15 for DASH compared to 0.09 with MEWS. The strongest predictors of deterioration were low white blood cell count, lack of oxygenation support, high heart rate, high blood urea nitrogen, high respiratory rate, and high blood glucose. Focus group themes revealed alarm fatigue and ignoring MEWS alerts due to over-alerting the clinician. Opportunity for DASH implementation was to educate the entire healthcare team regarding the improved model performance to encourage appropriate response. Care escalation protocols were developed and included when to transfer the patient to a high-

er level of care. Machine learning offers opportunities to predict outcomes in patients with cancer and was used in this study to develop a superior model to detect deterioration in patients undergoing HCT. This early detection occurs before clinicians can intuitively or quantitatively distinguish change, which has great potential to improve patient outcomes. This is the first model developed to predict deterioration in patients undergoing HCT. Additionally, while ML models are emerging in cancer care, none recommend implementation strategies. This study engaged frontline clinicians to garner qualitative perspectives about model implementation to explore strategies and barriers to successful implementation.

ANALYSIS OF THE ASSOCIATION OF GUT MICROBIOTA VARIATION AND GASTROINTESTINAL SYMPTOMS IN WOMEN TREATED FOR BREAST CANCER

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Breast cancer, the most frequently diagnosed cancer in women worldwide, is accompanied by well-documented disease and treatment specific symptoms, including the gastrointestinal symptoms of diarrhea and constipation. The human gut microbiome exhibits high inter-individual variability. The purpose of this study, aligned with the ONS research priorities, is to explore the association of variation in the gut microbiota and gastrointestinal symptoms in women treated for breast cancer. In this cross-sectional study, participants (n=27) with early-stage breast cancer, previously enrolled in a larger, prospective, longitudinal study provided a stool sample and completed self-reported symptoms using the PROMIS®29 v2.0 and PROMIS®-GI questionnaires. Gut microbiota taxonomic profiles were generated using 16S rRNA gene sequences. Inter-sample distances (beta diversity) were examined using PERMANOVA. Alpha (within sample) diversity was measured by the Tail statistic and abundance-based methods used additive-log ratio (ALR) transformations of relative abundances. Linear models were constructed using ALR abundances, inter-sample distances or the Tail statistic as either predictors (multiple regression) or responses (multivariate regression) while controlling for appropriate covariates (age, Body Mass Index (BMI), breast cancer clinical subtype) with questionnaire

responses. Women (average age= 62.3 years ±11.2 SD) provided samples between one to five years after surgery. Participants reported moderate symptom burdens for constipation (M=1.704) and diarrhea (M=1.769). PERMANOVA identified self-reported diarrhea (coeff=0.073, p= 0.061) and breast cancer subtype (estrogen receptor (ER) status, coeff=0.0679, p= 0.0832) as predictive variables of microbiota composition. This result was consistent when using the Tail statistic (as the response) where associations with self-reported diarrhea (coeff = -0.081591; p = 0.0505) and ER status (coeff= 0.219, p=0.056) were identified. Univariate examinations of taxa abundances identified negative associations of constipation with Monoglobus (coeff = -1.12) and Lachnospira (coeff = -1.41) at p<0.01. Statistical analyses support multiple alterations in the gut microbial composition and diversity, in association with GI symptoms and breast cancer status. The Gram positive Firmicutes, Monoglobus and Lachnospira, were lower in abundance in individuals with constipation. Both taxa are associated with metabolism of dietary plant polysaccharides including initiating degradation of resistant polysaccharides such as pectin suggesting important dietary-microbiota links in GI symptom management. Our study also demonstrated the feasibility of stool self-collection for microbiome studies. This study will inform the direction of future intervention studies to determine best practices for symptom management in women treated for breast cancer.

TRAJECTORIES OF SYMPTOM SEVERITY IN PATIENTS RECEIVING TREATMENT FOR HEAD AND NECK CANCER

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Patients receiving treatment for Head/Neck Cancer (HNC) experience many symptoms; however, the longitudinal symptom experiences of patients receiving treatment for HNC have not been well described. This secondary analysis aimed to identify the trajectories of groups of patients with similar symptom severity experiences in individuals with HNC undergoing radiation using group-based trajectory modeling (GBTM). This study used a prospective, repeated measures design involving patients with squamous cell HNC, recruited in the UPMC HNC Survivorship Clinic. Participants were enrolled prior to radiation through 3-months post-treatment. Symptoms were measured twice a week using the MD Anderson Symptom Inventory Head and Neck Module (MDASI-HN). Symptom scores were averaged weekly. GBTM was used to identify the groups of patients with similar symptom severity trajectories using two subscales of the MDASI-HN. We defined low symptom severity as <5, and moderate to severe as ≥5, per previous work with the MDASI. Patients (N= 176) were on average 62±17years old, white (85.7%), and male (74.0%), with tumors of the oropharynx (46.7%), oral cavity (47.1%), and larynx/hypopharynx (19.3%), and stages I-II (47.2%) and III-IVc (52.8%) disease. Using GBTM, three-group models emerged for each MDASI-HN subscale. For the MDASI Core symptom severity, the model identified a: low stable group (42%), a low increasing group (38%), and a moderate symptom severity group (20%). A different model emerged for the HN module symptom severity, with a low stable symptom severity group (34.5%), a low linear increasing to moderate group (45%) and a low non-linear increasing to moderate group (20.5%). Our analysis demonstrated that the two subscales from the MDASI-HN (core and HN-specific) generated different groups of symptom severity trajectory profiles. These novel findings warrant additional examination. Each subscale covers a wide range of symptoms which may be mechanistically unrelated. As these subscores do not indicate which specific symptoms may be driving symptom severity, future work should include a more granular examination at the individual symptoms in each subscale to better understand the longitudinal experiences of patients with HNC undergoing treatment. Fewer people in the HN-specific subscale have low stable symptom severity, and the symptoms escalate quickly. Our work lays the foundation for future work that can include an investigation of predictive factors associated with group membership to better predict patients at high risk for symptom severity.

INTERACTIVE WELLNESS: ASSESSING THE EFFECTS OF SOMATOSENSORY-INTERACTIVE EXERCISE AND SOCIAL ENGAGEMENT ON FATIGUE IN BREAST CANCER SURVIVORS: A PILOT STUDY

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Cancer-related fatigue (CRF) is a prevalent and disruptive symptom experienced by breast cancer patients during and after treatment. While physical activity (PA) has been shown to alleviate CRF, adherence to PA regimens remains a significant challenge. This study aims to enhance PA adherence by introducing a gamified, home-based, online group exercise program, targeting the alleviation of breast cancer-related side effects such as fatigue, anxiety, and depression during the rehabilitation phase. In this 2-arm, 8-week feasibility trial, 38 participants were randomized into either a structured, somatosensory interactive app-based intervention group (IG) or an independent choice, online group-based control group (CG). Sociodemographic and clinical information were collected at baseline. Measures of fatigue, anxiety, and depression were assessed using the Chinese versions of the Revised Piper Cancer Fatigue Scale (RPF-S), Self-Rating Anxiety Scale (SAS), and Self-Rating Depression Scale (SDS) at baseline, 4 weeks, and 8 weeks post-intervention. Body fat mass and skeletal muscle mass were measured using an Inbody770 scanner at baseline and after 8 weeks. Participants in both groups reported reduced fatigue with high adherence rates exceeding 89% throughout the session. However, no significant decreases were observed in anxiety and depression levels, as well as body composition after 8 weeks. The study demonstrates that both structured, somatosensory interactive PA and peer-supported, independently chosen PA can achieve high adherence and effectively relieve CRF among breast cancer survivors. These findings provide valuable insights into potential strategies for improving PA adherence and consequently reducing the side effects of breast cancer treatment. The study is presented as a well-structured, randomized controlled trial with clear delineation of intervention methods, comprehensive data collection, and robust analysis. The innovative aspect of this study lies in its use of a gamified, somatosensory interactive app, and the exploration of peer support mechanisms in PA adherence, contributing novel approaches to address CRF in breast cancer rehabilitation.

FEASIBILITY OF A NURSE-COORDINATED INTERVENTION TO REDUCE SELF-MANAGEMENT BURDEN IN PATIENTS WITH CANCER EXPERIENCING MULTIPLE CO-OCCURRING SYMPTOMS: A PILOT RANDOMIZED TRIAL

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People with cancer experience multiple co-occurring symptoms (i.e., symptom clusters) during active treatment, yet guidelines address single symptoms. Consequently, patients may receive instructions for several symptom management strategies (one or more per symptom), leading to self-management burden. Few interventions address co-occurring symptoms in a less burdensome way. Our team designed a nurse-coordinated approach to cancer symptom cluster management in which nurses use a matrix of guideline-based symptom self-management strategies in response to patients' descriptions of co-occurring symptoms, selecting strategies that could be effective for more than one symptom. Purpose: This study's purpose was to evaluate feasibility of the nurse-coordinated approach to cancer symptom cluster management, including recruitment, retention, and successful treatment plan coordination. Methods: We conducted a pilot randomized trial, recruiting a convenience sample of adults receiving chemotherapy for breast, lung, gastrointestinal or gynecologic cancers. Participants completed weekly web-based symptom cluster assessments over two chemotherapy cycles, self-reporting groups of co-occurring symptoms, their perceived causality, duration, and symptom relationships. Participants were randomly assigned to receive nurse-coordinated symptom cluster self-management instructions (intervention group) or usual care during the second chemotherapy cycle. Nurse interventionists coordinated treatment plans based on participants' symptom cluster self-reports following a standard sequence of steps (Table 1). Descriptive statistics summarized feasibility including participant recruitment and retention rates, and successful nurse-coordination of treatment plans. Successful coordination was defined as identifying a treatment plan with fewer self-management strategies than the number of reported symptoms. Results: Forty-eight patients screened eligible and N=41 (85%) enrolled; of those, n=34 (83%) completed the study. Intervention group participants (n=18) made a total of 58 weekly symptom cluster self-reports; 54 (93%) resulted in successful nurse-coordination of a treatment plan with fewer self-management strategies than symptoms reported (on average, 1 management strategy for 3 clustered symptoms). Challenges included

difficulty determining multi-symptom etiology, symptoms with few or no guideline-based self-management strategies, and lack of clarity in prioritizing strategies with differing levels of evidence by symptom. Discussion: Findings suggest that study procedures are feasible and can be used in a larger-scale trial to evaluate efficacy of the nurse-coordinated approach to cancer symptom cluster management on patient-reported outcomes of symptom control and perceived self-management burden. More research is necessary to address the paucity of evidence-based recommendations for multi-symptom management in oncology nursing practice and the ability to access and implement self-management strategies among disadvantaged groups.

UNDERSTANDING INFORMATION NEEDS AND CONCERNS OF FAMILY CAREGIVERS AT THE END-OF-LIFE: A DESCRIPTIVE ANALYSIS OF INQUIRIES TO THE NATIONAL CANCER INSTITUTE'S CANCER INFORMATION SERVICE

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The National Cancer Institute's Cancer Information Service (CIS) is a long-standing resource that provides free and confidential information regarding cancer care across the continuum to diverse stakeholders including patients, family caregivers, and health professionals. The purpose was to explore family caregiver concerns and information needs at the end of life (EOL) as captured by the CIS. We focused on EOL and family caregivers as this phase presents distinct challenges known to cause significant distress for caregivers. CIS encounters are coded by information specialists to capture core elements related to the interaction, such as type of client, cancer continuum phase, and key subject(s) of inquiry. For this descriptive analysis, we investigated caregiver-initiated EOL inquiries received by the CIS between 2018 – 2023. 2209 inquiries from patients, caregivers or health professionals were coded as EOL during the 5-year study period; of these, almost 90% were initiated by caregivers (n=1948; 88.2%). Among all caregiver initiated EOL inquiries, the primary cancers of concern were lung (n=244; 12.5%); colorectal (n=153; 7.9%);

pancreas (n=131; 6.7%) and breast (n=130; 6.7%). Over half (n=1096, 56.3%) of the interactions were conducted via telephone and 11.5% (n=224) in Spanish. Primary topics of caregiver inquiry included: finding healthcare services and community resources (n=458; 23.5%); questions regarding clinical trials (n=388; 20.0%); seeking information/resources about hospice and palliative care (n=383; 19.7%); coping (n=241; 12.4%); and financial concerns (n=132; 6.8%). Fewer caregiver initiated inquiries focused on prognosis (n=58; 3.0%), cancer-related symptoms (n=52; 2.7%), and treatment side effects (n=37; 1.9%). Findings reveal the prominent unmet needs of caregivers of cancer patients at EOL, particularly related to managing care and finding appropriate healthcare services. It is noteworthy these concerns were identified more frequently than inquiries related to prognosis, symptoms, or side effects. Results underscore the essential role family caregivers play in locating resources and organizing care for patients with cancer and the expanding responsibilities caregivers assume at EOL. Results also highlight the critical need for health systems and communities to incorporate routine caregiver needs assessments into their standard of care; strengthen provider-caregiver relationships; and offer practical, tailored guidance to family caregivers caring for patients with cancer at the EOL. This analysis offers important insights that can inform the design and delivery of interventions and programming to better support patients with cancer and their family caregivers at the EOL.

FAMILY RESILIENCE IN ADULT ONCOLOGY: A SYSTEMATIC REVIEW

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The purpose was to synthesize the state of science on family resilience in the context of the adult cancer population and their caregivers (i.e., family member, caregiver) through a systematic review. Family resilience has received little attention in adult oncology, despite being grounded in well-established theory and evidence. Research on childhood cancer and mental health demonstrates the important role family processes play in individual and family well-being.

However, there is a need to clarify what relationships exist between family resilience and mental health outcomes for adult patients and their caregivers. A comprehensive literature search was performed in July of 2023 in five databases including PubMed, Cumulative Index to Nursing and Allied Health Literature, PsycInfo, Sociological Abstracts, and Cochrane Library. Keywords used were resilience and cancer. Eligibility criteria included articles that: 1) were in English, 2) measured family resilience, and 3) adult oncology population. An iterative process was used for data extraction followed by a narrative synthesis. A total of 4,906 articles were screened with 13 articles (11 studies) meeting the inclusion criteria. Of the 11 studies, 10 were cross-sectional, and one was longitudinal. Breast cancer was researched in six studies while five included other or mixed cancer types. Three studies measured family resilience from patient-caregiver dyads, five from caregivers, and three from patients only. Patient-perceived family resilience was positively related to caregiver reported family resilience (k=3 studies, r=0.24–0.58). A higher level of family resilience was associated with lower 1) caregiver burden (k=4, r=-0.22– -0.31); 2) dyad post-traumatic stress symptoms (k=1,rpatient= -0.24, rcaregiver= -0.20–-0.27), perceived stress (k=1, rpatient=-0.32; k=1, r caregiver =-0.35), and psychological distress (k=1, rpatient = -0.59; k=1,rcaregiver = -0.39); 3) patient reported symptom burden (k=2, r=-0.17– -0.26) and negative affect (k=1, r=-0.24– -0.42). In addition, family resilience was positively related to 1) dyad individual resilience (k=4, rpatient= 0.25–0.59; k=2, rcaregiver= 0.11–0.57) and quality of life (k=1, rpatient= 0.37; k=1, rcaregiver= 0.67) and 2) patient positive affect (k=1, r=0.41–0.60) and post-traumatic growth (k=1, r=0.35). Current evidence suggests that family resilience positively influences cancer patients and their caregivers' mental well-being. However, with most prior studies being cross-sectional, investigations with a longitudinal design are needed to further understand the causal relationship between family resilience and mental well-being for this population.

FEASIBILITY AND USABILITY OF A MOBILE HEALTH APPLICATION (MHA) FOR CHRONIC GRAFT-VERSUS-HOST DISEASE SYMPTOM (CGVHD) TRACKING IN ALLOGENEIC STEM CELL TRANSPLANT (SCT) PATIENTS: AN INTERIM REPORT

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Allogeneic SCT is a potentially curative treatment for some malignancies. However, approximately 50% of SCT recipients develop cGVHD, which decreases quality of life and threatens survival. Patient symptom report is critical to clinician assessment, diagnosis, and treatment of cGVHD. cGVHD symptom onset is unpredictable, making spaced routine follow-up and subjective symptom recall insufficient for the early detection of cGVHD. Although patients monitor for cGVHD at home, the actual duration of symptoms before report and assessment is difficult to know. A cGVHD mHA to track symptoms would be helpful to SCT patients, but none currently exists. Therefore, the purpose of this study was to determine if a select mHA was feasible and usable for symptom tracking by adult SCT patients. We designed a feasibility/usability study and partnered with a company to modify an existing mHA for study purposes. We recruited from our center's population of adult SCT patients using convenience oversampling. Consented/enrolled subjects were onboarded to the mHA and received instructions regarding app-based surveys and 30 days of symptom tracking. Demographic data were extracted from the medical record, and feasibility/usability data were downloaded from the mHA company. Evaluation: At the interim analysis, 17 predominately male (52.9%) subjects aged 28-71 years (mean 54.5) completed 30 days of symptom tracking. Most received reduced-intensity conditioning (54.7%) and peripheral blood stem cells (94.1%) from haploidentical or unrelated donors (76.5%) to treat leukemia/marrow disorders (94.1%). Many subjects (70%) reported having some form of GVHD before study participation. Most (64%) subjects used the mHA at least once a week and 89% had high usability scores. Findings and Implications: To date, subjects were of diverse age with a moderate/high risk of cGVHD. Study-defined mHA feasibility and usability thresholds were met. We anticipate that the trend toward feasibility/usability of the modified mHA in this specific patient population will continue based on these findings and the ease of mHA use by the general population. Using a select mHA for cGVHD symptom tracking and as a repository for symptom type, onset, and severity may facilitate timely patient symptom report and could provide objective data for clinician assessments. Early reporting, assessment, diagnosis, and treatment may

result in less severe cGVHD. The findings of this study will guide future intervention studies.

FAMILY-RELATED FACTORS INFLUENCING RESILIENCE OF KOREAN ADOLESCENTS AND YOUNG ADULTS WITH CHILDHOOD CANCER

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During the cancer experience, resilience is considered an essential component to the successful recovery of Adolescents and young adults (AYAs) with childhood cancer who might be more vulnerable to cancer-related distress. Factors affecting resilience have been studied in various ways. In particular, the important role of the family in acquiring and maintaining resilience characteristics has been widely accepted. However, family-related factors for the resilience of AYAs with cancer have received insufficient attention in Korea. This study aimed to identify family-related variables, such as parent-child communication, family strengths, and family support, that might influence the resilience of Korean AYAs with cancer. In this cross-sectional, correlational design study, 141 Korean AYAs with cancer aged 11-26 years were recruited for online and offline questionnaires between June 2019 and January 2021. The family-related variables (Parent-adolescent communication, Family Strength, and Family support) were examined as suggested by the Resilience in Illness Model (RIM). Data were analyzed using a t-test, analysis of variance (ANOVA), Pearson's correlation analysis, and hierarchical regression. Resilience showed a positive correlation with all variables including parent-child communication, family strengths, and family support. However, hierarchal regression analysis revealed that only the higher levels of family strength (β = .202, p=.039) and stronger family support (β = .456, p<.001) predicted the higher levels of resilience of Korean AYAs after controlling for participants' sex and treatment status. The explanatory power reached 40.3% (F=19.533, p<.001). The study findings supported the contributions of family strength and family support to the Korean AYAs' resilience. A future longitudinal design study is warranted to confirm the family strength and family support as the predictors while considering other relevant variables. Once confirmed, the development of a family-centered program that can actively encourage family members' participation in supporting AYAs by reflecting family dynamics will be essential.

POSTER ABSTRACTS

INDUSTRY-SUPPORTED

I18
AMBULATORY ONCOLOGY CLINIC RESTRUCTURING TO ENHANCE NURSING PROFESSIONAL DEVELOPMENT AND QUALITY IMPROVEMENT ENGAGEMENT

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The literature review shows significant evidence that nurse engagement in quality improvement is critical in improving healthcare outcomes. The oncology clinic consists of twelve multidisciplinary teams of an academic hospital's cancer center with a mission of providing world-class multidisciplinary care and a common goal to provide the highest quality care. The nurse's roles are multifaceted, challenging, and crucial in supporting high-quality care to meet rapidly growing healthcare demands. Developing and implementing quality improvement nurse-led projects in a setting where staffing is based on patient volume is challenging. While nurses were providing comprehensive care, quality improvement engagement was low due to barriers such as nurse buy-in, time constraints, and lack of incentives and training. Nurse leaders collaborating with nurses overcame these barriers and improved quality engagement. The purpose was to eliminate known barriers to nurse engagement in quality improvement and create a positive work culture for nurses to identify and bridge practice gaps by engaging in quality improvement projects and raising professional practice standards. Institutional changes included an improved salary structure, incentives for professional advancements, and a new clinical ladder to promote and build a strong nursing workforce. The unit restructuring included changing RNs from eight to ten-hour shifts, incorporating LPNs, and adding a nurse specialist for cancer services to lead, direct,

support, and engage nurses in quality projects to improve unit and patient outcomes. Critical to the success in these new processes has been the involvement of oncology nursing leadership restructuring nursing staff to engage in quality improvement processes while supporting and encouraging professional practice. With the new design and direction from nursing leadership, nurses could boost their clinical talents, share innovative ideas, and actively participate in unit-based projects to improve knowledge, safe practice, patient-centered care, and quality outcomes. The nurse-initiated projects included starting a nursing journal club and several quality improvement projects such as developing guidelines for the biopsy specimen collection, improved clinical trials phlebotomy and workflow process, and nursing interventions to improve safety for patients receiving intravesical chemotherapy. Implementing the new structure has motivated nurses, improved job satisfaction, performance and passion, boosted team morale, made them feel appreciated and recognized for their efforts, and fostered a better work-life balance and enthusiasm toward professional growth, leading to better patient care and outcomes.

I19

EFFICACY AND ADVERSE EVENTS AFTER CILTACABTAGENE AUTOLEUCEL TREATMENT IN THE CARTITUDE-4 AS-TREATED POPULATION CONSISTING OF PATIENTS WITH LENALIDOMIDE-REFRACTORY MULTIPLE MYELOMA WHO RECEIVED 1-3 PRIOR LINES OF THERAPY

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In the phase 3 CARTITUDE-4 (NCT04181827) study, patients with lenalidomide-refractory multiple myeloma (MM) were randomized to treatment with the B-cell maturation antigen–targeting chimeric antigen receptor-T cell (CAR-T) therapy ciltacabtagene autoleucel (cilta-cel; intention-to-treat [ITT] population) or standard of care (SOC). The cilta-cel group had significantly longer progression-free survival (PFS) (hazard ratio, 0.26; P<0.0001) and higher response rates than the SOC group. The purpose was to report efficacy and safety in patients who received cilta-cel in the "as-treated population." Patients with 1 to 3 prior lines of therapy (LOT), including a proteasome inhibitor and an immunomodulatory agent, were randomized to the cilta-cel arm. While the ITT population included all patients who underwent apheresis, the as-treated population included only patients who received cilta-cel as study treatment. After bridging therapy (BT) and lymphodepletion, a single dose of cilta-cel was infused. Disease progression was assessed using IMWG criteria. Cytokine release syndrome (CRS) and immune effector cell–associated neurotoxicity (ICANS) were graded per ASTCT criteria and adverse events (AEs) per NCI-CTCAE criteria. Of 208 patients randomized to the cilta-cel arm, 176 received cilta-cel as study treatment. Baseline characteristics were similar between the ITT and as-treated populations. In the as-treated population, BT controlled disease burden, with 22% of patients receiving 1 BT cycle, 59% 2 cycles, and 18% 3 cycles. After a 16-month median follow-up, the 12-month PFS rate from infusion was 85% (12-month overall survival rate, 92%), with an overall response rate of 99% (175/176; 86% ≥ complete response; Table). In these patients, 76% (134/176; 1% grade 3) experienced CRS, which was mostly low grade. The CAR-T–associated neurotoxicity rate was 21% (36/176; 3% grade 3/4). Only 5% of patients had grade 1/2 ICANS (8/176). Other neurotoxicities (17%, 30/176; 2% grade 3/4) included cranial nerve palsy (CNP; 9%, 16/176; 1% grade 3/4), peripheral neuropathy (3%, 5/176; 1% grade 3/4), and movement/neurocognitive (MNT) treatment-emergent AEs (1%, 1/176; 0 grade 3/4). By clinical cutoff, CRS and ICANS resolved in all patients, CNP and peripheral neuropathy resolved in all but 2 patients each, and the MNT case had not resolved. In the as-treated population of patients with lenalidomide-refractory MM after 1 to 3 LOT, cilta-cel resulted in high response and 12-month PFS rates. These results highlight efficacy and safety outcomes in patients who receive cilta-cel, which may help optimize patient care.

I20

THE EFFECT OF PRIOR DOCETAXEL TREATMENT IN PATIENTS WITH METASTATIC CASTRATION-SENSITIVE PROSTATE CANCER RECEIVING APALUTAMIDE PLUS ANDROGEN DEPRIVATION THERAPY (TITAN STUDY)

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Addition of the androgen receptor signaling inhibitor apalutamide (Apa) to androgen deprivation therapy (ADT) significantly improved overall survival (OS) and other clinical outcomes vs placebo in patients with metastatic castration-sensitive prostate cancer (mCSPC) in the randomized Phase 3 TITAN study. Here we present a post hoc analysis of TITAN which evaluated patient outcomes according to whether they had received docetaxel chemotherapy prior to Apa+ADT. In the TITAN study, patients received Apa or placebo in addition to ongoing ADT. Patients may have received docetaxel with ADT prior to randomization. The effect of prior docetaxel exposure on radiographic progression-free survival (rPFS) was assessed at the first interim analysis (median follow-up 23 months). The effect of prior docetaxel exposure on OS and time to prostate-specific antigen (PSA) progression was assessed at the final analysis (median follow-up 44 months). In addition, the impact of disease volume at baseline per adapted CHAARTED criteria was analyzed, as well as the effect of matching baseline characteristics. Of 525 patients who received Apa+ADT in TITAN, 58 (11%) had received docetaxel prior to randomization: 76% had high-volume disease, 62% had bone-only metastases, 16% had visceral metastases, and 59% had >10 bone lesions. OS, rPFS, and time to PSA progression with Apa+ADT were similar irrespective of whether patients had received prior docetaxel or not (Table 1). Similarly, no impact of prior docetaxel exposure was observed in the subset of patients with high-volume disease or in the subset with low-volume disease at baseline. Clinical outcomes after matching patient baseline characteristics (including PSA and time from initial diagnosis to randomization) were also similar regardless of prior docetaxel treatment. Prior docetaxel exposure did not impact the safety profile of Apa (Table 2). Prior treatment with docetaxel did not further improve the clinical benefits of Apa+ADT for patients with mCSPC in TITAN. Limitations of this post hoc analysis include the small number of patients (only 11% of TITAN patients had received prior docetaxel) and the lack of data on tumor volume. Furthermore, docetaxel was administered as a prior therapy, therefore data on disease characteristics prior to docetaxel initiation were not collected.

I21

INCIDENCE AND MANAGEMENT OF CRANIAL NERVE IMPAIRMENTS IN PATIENTS WITH MULTIPLE MYELOMA TREATED WITH CILT-ACABTAGENE AUTOLEUCEL IN CARTITUDE STUDIES

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Treatment with the chimeric antigen receptor (CAR)-T cell therapy ciltacabtagene autoleucel (cilta-cel) resulted in deep and durable responses in patients with relapsed/refractory multiple myeloma (MM) in CARTITUDE-1 and improved progression-free survival versus standard-of-care in patients with lenalidomide-refractory MM and 1 to 3 prior lines of therapy (hazard ratio, 0.26, P<0.0001) in CARTITUDE-4. Patients receiving CAR-T cell therapies have experienced neurotoxicities, including cranial neuropathies (CNPs); it is important for nurses to be familiar with presentation and management of these neurotoxicities. The purpose was to describe CNP incidence, presentation, and management in patients treated with cilta-cel in CARTITUDE studies. Patients in CARTITUDE-1, CARTITUDE-2 (cohorts A, B, and C), and CARTITUDE-4 (Figure) received an infusion of cilta-cel. The NCI-CTC Adverse Event reporting guidelines were used to grade CNP. Common diagnostic workup for patients presenting with CNP included cerebrospinal fluid (CSF) analysis and brain magnetic resonance imaging (MRI) per investigator discretion. CNPs were observed in 21 of 332 (6.3%) total patients treated with cilta-cel (Figure). Median (range) time to symptom onset was 22 days (17-101 days); 81% of cases occurred on day 22 ± 5. Patients experiencing CNPs were mostly male (81%). Most cases were grade 2, with 3 patients experiencing grade 3 CNP. All cases involved cranial nerve (CN) VII; 2 cases also involved CN V (both grade 3), and 1 also involved CN III (grade 3). Observed CNPs were bilateral (n=6) or unilateral (n=15; mostly left sided). Twelve patients experienced simultaneous neurologic symptoms or neurotoxicities. One patient experienced prior grade 2 immune effector cell–associated neurotoxicity syndrome (ICANS); no patients with

CNP had movement and neurocognitive toxicity (ie, parkinsonism). No evidence of infectious or malignant etiology was revealed by CSF analysis (n=14) or brain MRI (n=17). On MRI, 7 patients exhibited facial nerve enhancement, but no other significant findings. Treatment of CNP included corticosteroids (median duration, 13 days). In 19 of 21 patients, including grade 3 cases, CNP resolved (median duration, 66 days). After cilta-cel treatment in the CARTITUDE program, CNP was mostly low grade and resolved following a limited course of corticosteroid treatment in most patients. Incidence of CNP was not associated with prior grade ≥2 CRS or any-grade ICANS. Nurses should be familiar with CNP identification and treatment, including differential diagnosis to rule out etiology related to infection or myeloma disease progression.

I22
ANALYSIS OF THE ADEQUACY OF A CHEMOTHERAPY-INDUCED NAUSEA AND VOMITING PROTOCOL: EXPERIENCE IN A BRAZILIAN ONCOLOGY CENTER

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Chemotherapy-Induced Nausea and Vomiting (CINV) are the most common symptoms in cancer patients and can generate unforeseen costs that should be avoided, in addition to directly impacting the patient's experience in their treatment journey. The aim of this study is to evaluate the clinical and financial impact of adapting a CINV protocol to include oral Netupitant + Palonasetron (NEPA+PALO) based on international guidelines and cost-effectiveness studies. This is a retrospective study carried out in a Brazilian oncology outpatient clinic, located in the state of São Paulo, from January 2022 to November 2023. The main change was the incorporation of the use of NEPA+PALO into the high and medium emetogenic potential chemotherapy protocols. The evaluation covered the number of patients treated, the amount of NEPA+PALO used, the incidence of CINV potential, and the cost generated by changing the protocol. During the period analyzed, 27,560 patients were treated, of whom 632 were given NEPA+PALO associated with dexamethasone in highly and moderately emetogenic protocols, resulting in the use of 3,735 NEPA+PALO tablets. 460 patients had grade 1 CINV symptoms, 37 had grade 2 symptoms, 2 had grade 3 symptoms, and no patients had grade 4 symptoms. There was also no hospitalization in the entire accredited network related to an exacerbation of these symptoms that required intravenous hydration or further interventions. This adjustment generated savings of $107,844.86 over the period, as the cost of the previous scheme (intravenous Fosaprepitant + Granisetron) is $28.87 more expensive than the one proposed, demonstrating the feasibility and assertiveness of adjusting the CINV protocol for drugs with high and medium emetogenic potential. Furthermore, it can be inferred that this adjustment benefitted patients, since no hospitalizations were generated, thus facilitating adherence to treatment. The adaptation of the CINV protocol, based on international guidelines and cost-effectiveness studies, led to a significant reduction in costs and an increase in the quality of care, demonstrating that revisions of protocols based on the available evidence is a key resource for better value-based health management in oncology.

I23
NURSING CONSIDERATIONS FOR TALQUETAMAB DOSING IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA

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Talquetamab is the first approved T-cell redirecting bispecific antibody targeting the novel antigen, G protein-coupled receptor class C group 5 member D (GPRC5D), on myeloma cells. Data from the MonumenTAL-1 trial in patients with relapsed/refractory multiple myeloma (RRMM) showed overall response rates (ORRs) of >71%. GPRC5D-related adverse events (AEs), including dysgeusia and skin/nail toxicities, are novel off-tumor, on-target AEs that have been managed with supportive care or dose modifications. In the MonumenTAL-1 trial, an analysis showed that patients who switched to reduced or less frequent dosing after achieving partial response or better (≥PR) or to mitigate treatment-emergent AEs (TEAEs) maintained their responses. The purpose

was to support nurses in educating patients and managing their expectations with talquetamab treatment. The MonumenTAL-1 study included 2 prospective dose modification cohorts: (1) reduced dose cohort (talquetamab 0.8 mg/kg biweekly [Q2W] switched to 0.4 mg/kg Q2W), and (2) less frequent dosing cohort (talquetamab 0.8 mg/kg Q2W switched to 0.8 mg/kg monthly), resulting in reduced dose intensity for both cohorts. Switching required a ≥PR. In prospective dose modification cohorts (n=24; median follow-up, 13.2 months), 19 patients switched to reduced intensity dosing after achieving ≥PR (reduced dose, n=9; less frequent dosing, n=10). Dosing modification occurred at a median of 3.1 months (range, 2.3–4.2) after treatment start. The ORR was 79.2% (19/24), with 75% of patients achieving ≥VGPR, and median DOR was not reached. Estimated median PFS was 13.2 months (8.8–NE). Although AEs typically began within 90 days (prior to switch), fewer new-onset GPRC5D-related AEs occurred following switch. There was a trend toward more improved and resolved GPRC5D-related AEs in dosing-modified patients compared with patients who did not reduce dose. Responses in patients with reduced or less frequent dosing were comparable to MonumenTAL-1 (ORR, 71.7% at 0.8 mg/kg Q2W; median PFS, 14.2 months). As oncology nurses play a key role in talquetamab administration, TEAE monitoring, and patient education, there may be opportunities to counsel patients that, while >71% of patients responded to talquetamab, those with GPRC5D-related AEs were more likely to show an initial response within 90 days of treatment and dose modification did not affect efficacy. Thus, nurses may counsel patients that early signs of TEAEs may be managed with dose reduction while maintaining their treatment response.

I24

MANAGEMENT CONSIDERATIONS FOR DERMATOLOGIC TOXICITIES ASSOCIATED WITH TALQUETAMAB, A GPRC5D×CD3 BISPECIFIC ANTIBODY, IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA

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Talquetamab is an FDA-approved T-cell redirecting bispecific antibody targeting a novel antigen, G protein–coupled receptor class C group 5 member D (GPRC5D), on myeloma cells. The MonumenTAL-1 study of talquetamab in patients with relapsed/refractory multiple myeloma (RRMM) showed overall response rates of >71%. GPRC5D-related adverse events, including dermatologic toxicities, comprise a distinct group of on-target, off-tumor toxicities that require additional supportive care. The purpose was to describe the clinical experience with GPRC5D-related dermatologic toxicities in the MonumenTAL-1 trial and strategies for their management. MonumenTAL-1 (NCT03399799/NCT04634552) is an open-label, single-arm, phase 1/2 study of patients with RRMM evaluating the recommended phase 2 doses (RP2Ds) of subcutaneous talquetamab at 0.4 mg/kg weekly and 0.8 mg/kg every other week. In MonumenTAL-1, 339 patients received subcutaneous talquetamab at the RP2Ds, including a cohort of patients who received prior T-cell redirection therapies. Dermatologic toxicities included rash, non-rash–related skin (eg, skin exfoliation, dry skin, pruritus, and palmar-plantar erythrodysesthesia syndrome), and nail toxicities. Across treatment groups, rashes, non-rash–related skin, and nail toxicities occurred in 34.8%, 65.2%, and 55.5% of patients, respectively. All nail and most skin toxicities were low grade severity (rash, 3.5% grade 3; non-rash–related toxicities, 0.3% grade 3). Median time to onset of rash, non-rash–related skin, and nail toxicities was 20–27, 26–30, and 64–69 days, respectively, and median duration of each event was 15–28, 32–39, and 74–122 days, respectively. The resolution rate was 78.9% for rashes, 59.4% for non-rash–related skin, and 29.5% for nail toxicities. No patients discontinued treatment due to rash or nail toxicities, and 0.9% discontinued due to non-rash–related skin toxicities. Low rates of dermatologic AE-related discontinuation can be attributed to proper management. Nurses may counsel patients on keeping their skin clean and dry, using a heavy moisturizer throughout the day, and staying well hydrated. For nail toxicities, nurses may advise on avoiding activities that risk or exacerbate nail damage and wearing gloves or socks overnight. Patients may be monitored for secondary skin infections. Skin and nail toxicities may be managed with early use of corticosteroids and emollients, such as ammonium lactate cream applied immediately after bathing. Proper management, education, and supportive care addressing GPRC5D-related

skin and nail toxicities may help ensure that patients stay on treatment and receive optimal benefit from talquetamab.

I25

RURAL HEALTH CARE TRANSFORMATION: ENHANCING ONCOLOGY ACCESS TO CARE

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Oncology patients residing in rural areas face significant disparities in accessing healthcare due to the distance to specialized oncology providers and their scarcity in these regions. These disparities lead to delayed care, missed appointments, and worse outcomes compared to their urban counterparts. Preventable hospitalizations are notably higher in rural settings, with a significant rise in emergency department (ED) utilization over recent years. To address these challenges, rural communities have implemented a local at-home oncology program aimed at improving access to care, symptom management, and alleviating financial burdens for oncology patients. The objective of this quality improvement project is to increase referral rates to the oncology at-home program and enhance access to high-quality local healthcare services for rural oncology patients. We implemented a referral toolkit, consisting of a tailored presentation, a QR code linked to an informative website, and an eligible outpatient report (EOR). Prior to implementation, we collected basic demographic data from outpatient oncology staff using a pre-implementation questionnaire (PREIQ). Subsequently, a post-implementation questionnaire (POSTIQ) will assess the feasibility, satisfaction, and usability of the referral toolkit. Thirty-five clinical staff completed the PREIQ, with the majority being female (n=28), medical doctors (n=14), and having 0-5 years of practice experience (n=16). Access to care was the primary concern for most respondents (n=15). We conducted virtual presentations at three outpatient clinics and distributed printed informational cards with QR codes to these clinics. Clinic staff were instructed to give these cards to patients residing in counties covered by the program. Using an eighty-day look-back period for comparison, we observed that prior to implementing the referral toolkit, only two rural patients were referred to the program. After implementation, nine referrals were made, with three requested via email from EOR, and six as spontaneous referrals. Gastrointestinal cancers were the most commonly referred diagnosis. Oncologists placed eight referrals, and a nurse practitioner placed one. POSTIQ data collection is currently ongoing. Ensuring equitable and high-quality healthcare for oncology patients in rural communities is a matter of both equity and quality of life. The substantial increase in referrals to the program represents a significant step in addressing healthcare disparities, offering timely specialized care within local communities. This collaborative effort enhances the overall patient experience and contributes to the efficiency and quality of the healthcare system.

I26

CARTITUDE-2 LONG-TERM EFFICACY AND SAFETY OF CILTACABTAGENE AUTOLEUCEL FOR PATIENTS WITH MULTIPLE MYELOMA AND 1-3 PRIOR LINES OF THERAPY (COHORT A) AND WITH EARLY RELAPSE (COHORT B)

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Ciltacabtagene autoleucel (cilta-cel) is a B-cell maturation antigen (BCMA)-targeting chimeric antigen receptor-T cell (CAR-T) therapy approved for adults with relapsed/refractory multiple myeloma (MM) who received ≥4 prior lines of therapy (LOT). Previous data from CARTITUDE-2 (NCT04133636) cohorts A and B demonstrated the efficacy and safety of cilta-cel for patients with MM in earlier LOT; understanding the long-term efficacy and safety of cilta-cel is important for nurses. The purpose was to describe updated efficacy and safety data for CARTITUDE-2 cohorts A and B. All patients received a single cilta-cel infusion and were naive to CAR-T and/or anti-BCMA therapies. Cohort A included patients with lenalidomide-refractory MM who received 1 to 3 prior LOT. Cohort B included patients with MM with early relapse after initial therapy (≤12 months after start of prior LOT or autologous stem cell transplant). Minimal residual disease (MRD) negativity was the primary endpoint for both cohorts (10^{-5} threshold by next-generation sequencing or next-generation flow cytometry). Adverse events (AEs) were assessed using NCI-CTCAE v5.0 with cytokine release syndrome (CRS) and immune effector cell–associated

neurotoxicity syndrome (ICANS) graded per ASTCT criteria. After median follow-up (MFU) of 29.9 months for cohort A (n=20) and 27.9 months for cohort B (n=19), MRD negativity was achieved in 17 (100%) of evaluable patients in cohort A and 14 (93%) in cohort B. Overall response rates were 95% (complete response or better, [≥CR], 90%), and 100% (≥CR, 90%), respectively. Hematological AEs included neutropenia (cohort A, 95%; cohort B, 95%), lymphopenia (cohort A, 80%; cohort B, 47%), thrombocytopenia (cohort A, 80%; cohort B, 58%), anemia (cohort A, 75%; cohort B, 58%), and leukopenia (cohort A, 60%; cohort B, 32%) (Table). Neurotoxicities were reported in both cohort A (n=3) and B (n=5). Secondary primary malignancy (SPM) occurred in cohort A (n=1). In cohort B, 2 SPMs occurred and 1 patient experienced movement/neurocognitive treatment-emergent AEs. There were 5 total deaths in cohort A and 4 in cohort B. In this longer term follow-up, cilta-cel resulted in deep responses and a manageable safety profile in patients with lenalidomide-refractory MM in earlier LOT (cohort A) and with early relapse (cohort B). These data demonstrate long-term efficacy and safety of cilta-cel in patients with significant unmet need and are essential considerations for oncology nurses to manage patient care and safety throughout cilta-cel administration.

I27

NURSING EXPERIENCE MONITORING AND MANAGEMENT OF PATIENTS RECEIVING TARLATAMAB, A BISPECIFIC T-CELL ENGAGER (BITE®) IMMUNOTHERAPY, FOR SMALL CELL LUNG CANCER (SCLC)

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Tarlatamab is an investigational BiTE® immunotherapy targeting delta-like ligand 3 (DLL-3). Previously, a favorable benefit-to-risk profile was reported for tarlatamab (10 mg every 2 weeks) in patients with previously treated SCLC (NEJM 2023;389:2063). T-cell engagers, including tarlatamab, may trigger cytokine release syndrome (CRS) and immune effector cell-associated neurotoxicity syndrome (ICANS). Nurses can help identify and manage adverse events associated with immunotherapies like tarlatamab. The purpose was to highlight the indispensable role of nurses in monitoring and managing CRS and ICANS

in patients undergoing tarlatamab treatment. Here we report our experience with monitoring and educating patients about CRS and ICANS. Common CRS symptoms included fever (≥ 38°C), hypotension, and hypoxia. Mitigation strategies encompassed step-dosing, prophylactic glucocorticoids, and intravenous hydration. Comprehensive assessments involved clinical laboratory values, vital signs, and physical examinations. CRS management was largely grade-dependent. Most events resolved with supportive care utilizing acetaminophen, intravenous (IV) hydration, and/or glucocorticoids. Additional acute interventions may involve MRI imaging, and inpatient/ICU admissions. ICANS and associated neurologic event symptoms included confusion, impaired attention, tremor, motor findings, weakness, or a combination of these. Evaluation methods utilized immune-effector cell-associated encephalopathy (ICE) scores and neurological assessments. Site nursing teams actively monitored for CRS and ICANS, educated patients/caregivers on associated signs/symptoms, provided guidance for at-home monitoring, and addressed logistical needs (eg proximity to an emergency center, caregiver availability). Experiences with tools and patient focused educational materials including Wallet Card with timelines, specific instructions and team contact information were reviewed. Symptoms highlighted for patient and caregiver awareness include examples of difficulty breathing, headache, chest pain, palpitations, persistent nausea/vomiting, fever/chills, pain, and/or new onset neurologic symptoms. Nurses played a pivotal role in identifying, managing, and educating patients about CRS/ICANS contributing significantly to the favorable benefit/risk profile of tarlatamab in advanced SCLC patients.

I28

EFFECT OF CILTACABTAGENE AUTOLEUCEL VERSUS STANDARD-OF-CARE ON PATIENT-REPORTED OUTCOMES IN THE CARTITUDE-4 TRIAL OF PATIENTS WITH LENALIDOMIDE-REFRACTORY MULTIPLE MYELOMA AFTER 1-3 PRIOR LINES OF THERAPY

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Patient-reported outcomes (PROs) are an important measure of treatment impacts in patients with multiple myeloma (MM). CARTITUDE-4 compared the efficacy and safety of ciltacabtagene autoleucel (cilta-cel) versus standard of care (SOC) in patients with lenalidomide-refractory MM after 1 to 3 prior lines of therapy (LOT). Cilta-cel led to improvements in treatment response and progression-free survival over SOC (hazard ratio, 0.26; P<0.0001; median follow-up, 15.9 months). However, the impact of cilta-cel versus SOC on PROs has only recently been established. The purpose was to evaluate PROs in CARTITUDE-4 with cilta-cel versus SOC. Patients (N=419) with lenalidomide-refractory MM and prior treatment with 1 to 3 LOT, including a proteasome inhibitor and an immunomodulatory drug, received either cilta-cel (N=208) or SOC (N=211). Assessments of PROs, including the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 (EORTC QLQ-C30; 100-point scale), EuroQoL 5-Dimension 5-Level (EQ-5D-5L; 100-point scale), and MM Symptom and Impact Questionnaire (MySIm-Q; 5-point scale) were administered to all patients until disease progression. The EORTC QLQ-C30 assessed patient health-related quality of life (HRQoL) across 1 global health status scale, 5 functional scales (physical, role, emotional, cognitive, and social), and 3 symptom scales (pain, fatigue, and nausea/vomiting). The EQ-5D-5L included a visual analog scale rating "health today." The MySIm-Q assessed disease-specific outcomes across symptom and impact subscales and time to symptom worsening (clinically meaningful increase without subsequent reduction in MM symptoms). In the cilta-cel and SOC arms, 99 and 66 patients, respectively, completed baseline and 12-month PRO assessments. Cilta-cel was associated with clinically meaningful improvements from baseline (least squares mean change) in global health status (10.1 points), pain (-10.2 points), and the EQ-5D-5L visual analog scale (8.0 points), with improvements in fatigue (-9.1 points) and emotional functioning (9.5 points) nearing clinically meaningful thresholds (Figure). Treatment with SOC resulted in a trend toward worsening or lesser improvements from baseline across most outcomes. Median (95% confidence interval) time until symptom worsening was longer for those treated with cilta-cel (23.7 months [22.1-not estimable]) versus SOC (18.9 months [16.8-not estimable]; hazard ratio, 0.42). Treatment with cilta-cel resulted in clinically meaningful improvements in HRQoL and reduced symptom severity. These data demonstrate additional benefits of cilta-cel versus SOC and may aid in educating patients on the benefits of this treatment for MM, an important component of patient-centered care.

I29
REAL WORLD ASSESSMENT AND PROACTIVE SYMPTOM MANAGEMENT

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Patients receiving cancer treatment experience a high level of symptom burden.1,2 Access to real-time symptom management is essential to cancer care to decrease patient symptom burden, improve patient quality of life, and prevent care escalations.3–6 Patients require real-time individualized expert information and education during symptomatic episodes. Symptoms can escalate quickly, and real-time response is essential to improving symptom burden and avoiding patients seeking alternative care sites.6,7 Technologies such as digital patient engagement platforms that provide electronic patient-reported outcomes (EPRO), symptom reporting, automated coaching, and virtual care management can increase the timeliness of patient symptom reporting and access to clinician expertise.6. The Reimagine Care Virtual Care Center leveraged a combination of registered nurses and advanced practice providers (APP) to provide real-time symptom management to offer cancer care beyond the clinic and in partnership with oncology practices. On-demand access to nursing care occurred through AI-enabled digital technology platforms and phone-based triage for maximum patient engagement and access to symptom reporting and resolution. Patients undergoing chemotherapy and immunotherapy were provided on-demand access to Reimagine Care's digital or phone-based symptom reporting platform. Patients utilizing the digital platform received automated coaching with escalation to experienced oncology registered nurses for symptoms requiring additional evaluation. Phone-based triage was provided for patients who preferred phone evaluation and management. Registered nurses utilized symptom pathways to evaluate and escalate appropriate symptoms to a virtual Reimagine Care APP. The APP provided direct communication to the partner provider when indicated. Patients increasingly engaged with the digital platform over time; January 2023 phone engagement (n=182) digital engagement (n=17), December 2023 phone engagement (n=120) digital engagement (n=166). Categorization of primary reported symptom frequency included

pain (17%), nausea (10%), other (9%), diarrhea (9%), skin changes (8%), and fatigue (7%). Patients reported high satisfaction with the program. The Symptom Management at Home program provided rapid evaluation, escalation, and resolution of patient symptoms. Our program shows patients will increasingly utilize the digital platform over time to report their symptom concerns. Partnerships with oncology practices to provide symptom management can provide effective, timely care with high patient satisfaction.

I30
MANAGING INFECTION RISK IN RELAPSED/ REFRACTORY MULTIPLE MYELOMA: NURSING EXPERIENCE WITH TECLISTAMAB IN THE MAJESTEC-1 STUDY

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Teclistamab is the first approved B-cell maturation antigen (BCMA)×CD3 bispecific antibody with precision dosing for triple-class exposed relapsed/refractory multiple myeloma (RRMM). RRMM can cause immunosuppression, and BCMA-targeting therapies may contribute to additional infection risk due to B-cell depletion. In the MajesTEC-1 trial of teclistamab, less frequent dosing was explored for reducing infection risk. The purpose was to describe the effect of less frequent dosing on efficacy and infection rates. In MajesTEC-1, patients with a confirmed partial response or better after ≥4 cycles of treatment (phase 1) or a confirmed complete response or better for ≥6 months (phase 2) per IMWG 2016 criteria could switch to Q2W dosing. Patients could not have evidence of serious bacterial, viral, or fungal infections to initiate teclistamab treatment. Infection monitoring, prophylaxis, and management, including immunoglobulin G (IgG) replacement, were per institutional guidelines. At median follow-up of 23 months, 165 patients had received teclistamab and 104 responded. 63 responders switched to Q2W dosing with a median time to switch of 11.3 months (range, 3–30). Of responders who switched to Q2W dosing, 68.7% (95% CI, 53.6–79.7) remained in response for ≥2 years from the time of first response. In the overall study population, approximately 70% of patients had IgG <400

mg/dL, which occurred at a median of 1.2 months (overall, 46.1% received ≥1 dose of IgG replacement); 65.5% of patients had grade 3/4 neutropenia, and 54.5% received G-CSF. Infections occurred in 80.0% of patients (grade 3/4, 55.2%; infection-related death, 12.7%; COVID-related death, 10.9%). Fewer new-onset grade ≥3 infections occurred between 1–1.5 years in patients who switched to Q2W dosing vs those who remained on QW dosing (15.6% vs 33.3%). Most patients who switched to Q2W dosing remained in response and generally had lower rates of high-grade infections over time corresponding with the median time to switch to less frequent dosing. The increased use of intravenous immunoglobulin and improved infection management may also have improved infection profiles. Partnership between nurses, physicians, and patients is essential to facilitate prompt identification, monitoring, and management of infections, including appropriate use of vaccinations, antimicrobial prophylaxis, IgG replacement, and G-CSF. Additional details on nurses' clinical experience will be included in the presentation.

I31
SOCIAL DETERMINANTS OF HEALTH, DIET, AND SYMPTOM EXPERIENCES IN COLORECTAL CANCER SURVIVORS: A SCOPING REVIEW

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Colorectal cancer (CRC) remains the second most common cause of cancer death both nationally and worldwide. More individuals are living with long-term physical and psychological symptoms that span the CRC treatment trajectory, with notable inequities in symptom experiences among different groups of survivors based on social determinants of health (SDOH). In addition, diet is a modifiable behavioral determinant that can influence the symptoms experienced by CRC survivors (CRCS). However, limited studies have explored SDOH, and diet factors related to symptom experiences in CRCS. The purpose of this scoping review is to synthesize the findings from research exploring the influence of SDOH and diet on symptom experiences in CRCS. The JBI manual methodology for scoping review was followed. The

databases searched were Medline(PubMed), Embase(Elsevier), Cumulative Index to Nursing and Allied Health Literature(EBSCOhost), Web of Science(Clarivate), and APA PsycINFO(EBSCOhost). No date limits were applied. The final search resulted in 8,901 articles. To screen the studies, selection criteria were performed based on the PCC (Population, Concept, Context) framework. The population (P) was adult CRCS; the concept (C) was symptom experiences including both physical and psychological symptoms; the context (C) was SDOH (i.e., race, ethnicity, socioeconomic status (SES), religion, gender, education level, employment status, culture, location, access to the food, social support, healthcare system), and diet. The remaining papers were screened by two independent researchers. 30 studies were included in the final set and extracted. These included populations from various geographical location in [Europe(n=12), Asia(n = 10), United States(n = 6), and others(n = 2)]. Twenty studies were cross-sectional, and most of participants were recruited prospectively from hospital settings. Younger ages, females, unmarried status, low economic status, and high supportive care needs coincided with worse symptom experiences, and CRCS experience different symptoms depending on race/ethnicity. White Americans experienced more nausea, vomiting, constipation, and diarrhea than Black Americans. Diets with fat, spices, and meat had a negative effect on symptoms, and high consumption of fruits and vegetables positively affected symptom experiences (Table 1). There are significant associations between SDOH, diet, and symptoms experiences. However, heterogenous sample characteristics of participants, and no standardized measures for symptoms and diets limit generalizability. Further exploration into how SDOH and diet influence symptom burden for individuals with CRC is necessary to inform future tailored interventions to better support this population.

I32
MANAGEMENT OF ADVERSE EVENTS ASSOCIATED WITH CABOZANTINIB FOR THE TREATMENT OF ADVANCED RENAL CELL CARCINOMA, HEPATOCELLULAR CARCINOMA, OR RADIOIODINE-REFRACTORY DIFFERENTIATED THYROID CANCER

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Cabozantinib is an oral tyrosine kinase inhibitor (TKI) approved in the US for patients ≥18 years old with advanced renal cell carcinoma (RCC) or with advanced hepatocellular carcinoma (HCC) previously treated with sorafenib, and patients ≥12 years old with advanced differentiated thyroid cancer (DTC) who progressed following VEGFR-targeted therapy and are radioiodine refractory (RAIR) or ineligible. Approvals were based on four randomized controlled trials (RCTs) that demonstrated significant improvements in overall survival, progression-free survival, and/or objective response rate with cabozantinib versus standard of care or placebo; safety was predictable and manageable with dose modification (see cabozantinib product label). To improve tolerability, cabozantinib adverse events (AEs) require proactive management. We reviewed the cabozantinib product label and other relevant literature to provide AE management strategies for the oncology nurse. The four pivotal RCTs included METEOR (NCT01865747) and CABOSUN (NCT01835158) for RCC, CELESTIAL (NCT01908426) for HCC, and COSMIC-311 (NCT03690388) for RAIR-DTC. Across these RCTs, the most common AEs in patients receiving cabozantinib included diarrhea (51%-74%), fatigue (42%-56%), palmar-plantar erythrodysesthesia (PPE; 42%-46%), and hypertension (30%-39%). Strategies for managing these AEs included prophylaxis, supportive care, and dose modification. Dose holds were required by 70%-84% and reductions for 46%-62% of patients, while only 5%-21% discontinued cabozantinib due to AEs, supporting proactive management. Oncology nurses are critical throughout the AE management process. Prior to cabozantinib initiation, nurses may help identify potential treatment challenges by obtaining medical/medication histories and performing examinations to establish baseline clinical values. Nurses should also educate patients about common AEs and management strategies, the importance of routine communication about AEs, and the potential for dose modifications. Frequent office visits and laboratory tests are important for AE monitoring. Prophylaxis/supportive care can include dietary changes for diarrhea, exercise and proper nutrition for fatigue, skincare for PPE, and oral medications (eg, antidiarrheals,

antihypertensives, psychostimulants). When AEs are intolerable despite these measures, dose holds, and reductions are appropriate. Patients should be made aware that dose modifications help to individualize therapy, improving tolerability so that they can maintain treatment. abozantinib should be discontinued if AEs are intolerable at the lowest dose or for specific AEs noted in the label. Cabozantinib improves efficacy outcomes in patients with advanced RCC, HCC, and RAIR-DTC. Comprehensive and individualized AE management implemented by nurses can improve treatment tolerability and help patients remain on therapy.

I33

SAFETY OUTCOMES OF SUBCUTANEOUS NIVOLUMAB ACROSS PHASE 1/2 CHECK-MATE 8KX AND PHASE 3 CHECKMATE 67T STUDIES

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Although nivolumab has improved clinical outcomes in multiple tumor types, there remains an unmet need to decrease the burden of intravenous administration for patients, nurses, and healthcare facilities. Subcutaneous administration is typically preferred over intravenous administration by patients and healthcare systems. A subcutaneous formulation of nivolumab was investigated in the phase 1/2 dose-finding Check-Mate 8KX (NCT03656718) and phase 3 CheckMate 67T (NCT04810078) trials. We present the safety outcomes of CheckMate 8KX and CheckMate 67T. CheckMate 8KX was conducted in 5 parts and enrolled patients with advanced solid tumors who were eligible for nivolumab treatment and were immunotherapy-naïve. In parts A and B, patients received a single dose of 720 mg or 960 mg subcutaneous nivolumab ± the permeation-enhancing enzyme recombinant human hyaluronidase PH20 (rHuPH20). These patients then received intravenous nivolumab and could enroll in part C to receive 1200 mg subcutaneous nivolumab + rHuPH20 Q4W. In part D, patients received 1200 mg subcutaneous nivolumab + rHuPH20 Q4W. In part E, patients received 600 mg subcutaneous nivolumab + rHuPH20 Q2W. CheckMate 67T randomized patients (1:1) with advanced or metastatic clear cell renal cell carcinoma who were immunotherapy-naïve and had ≤ 2 prior treatments. Patients received subcutaneous

nivolumab 1200 mg + rHuPH20 Q4W or standard intravenous nivolumab 3 mg/kg Q2W until disease progression, unacceptable toxicity, withdrawal of consent, completion of 2 years' treatment, or death. In CheckMate 8KX (N=139), most treatment-related adverse events (TRAEs) with subcutaneous nivolumab were low-grade and manageable. No ≥ grade 3 injection-site TRAEs, or treatment-related deaths were reported. Most patients reported high satisfaction, limited pain, and acceptable or shorter than expected administration time with subcutaneous nivolumab. In CheckMate 67T, safety was consistent between subcutaneous (n=247) and intravenous nivolumab (n=245). Local site reactions occurred in 8.1% and 2.0% of patients treated with subcutaneous and intravenous nivolumab, respectively; these were low-grade, transient, and mostly required no intervention. Anti-nivolumab antibodies had no apparent impact on safety. Treatment-related death occurred in 3 and 1 patients treated with subcutaneous or intravenous nivolumab, respectively. The average subcutaneous administration time was ≤5 minutes. The efficacy of subcutaneous and intravenous nivolumab was similar. The safety profiles of subcutaneous nivolumab were consistent with that of intravenous nivolumab in both studies. Subcutaneous nivolumab may offer improved healthcare efficiency due to patient satisfaction and short administration time.

I34

PATIENT-REPORTED OUTCOMES IN PATIENTS WITH METASTATIC CASTRATION-RESISTANT PROSTATE CANCER AND BRCA1/2 MUTATIONS RECEIVING FIRST-LINE NIRAPARIB WITH ABIRATERONE ACETATE PLUS PREDNISONE (MAGNITUDE STUDY)

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In the Phase 3 MAGNITUDE study, addition of niraparib (NIRA) to first-line (1L) abiraterone acetate plus prednisone (AAP) versus placebo (PBO)+AAP significantly improved radiographic progression-free survival. NIRA+AAP combination therapy in patients with metastatic castration-resistant prostate cancer

(mCRPC) and a BRCA1/2 mutation was associated with favorable overall survival benefit and clinically relevant improvements in time to symptomatic progression and time to cytotoxic chemotherapy. Patient-reported outcomes (PROs) were a key outcome of the study. Here we present results of PROs from the BRCA1/2 cohort of the MAGNITUDE study at final analysis (median follow-up 37.3 months), including pain, health-related quality of life (HRQoL), and side effect bother. Eligible patients with mCRPC had Eastern Cooperative Oncology Group performance status ≤1 and a Brief Pain Inventory–Short Form (BPI-SF) worst pain score ≤3 (scale of 0–10). Patients were randomized 1:1 to receive NIRA+AAP or PBO+AAP. BPI-SF and Functional Assessment of Cancer Therapy–Prostate (FACT-P) were assessed on day 1 of specified cycles and through follow-up. Time to deterioration (TTD) in pain (BPI-SF worst, average, and pain interference, and FACT-P pain-related scale [PRS]) were compared between treatment arms using proportional hazards regression models. Repeated measures analysis was used to compare HRQoL changes from baseline (FACT-P total, scale of 0–156). FACT-P item GP5 was used to assess side effect bother in both arms. BPI-SF and FACT-P compliance was >85% in 225 patients. At baseline, pain scores were collected to allow for comparison over time, mean BPI-SF pain scores were 1.09 (SD, 1.57) in the NIRA+AAP arm and 1.35 (SD, 1.98) in the PBO+AAP arm, and mean FACT-P total scores were 116.33 (SD, 18.42) and 114.8 (SD, 18.9), respectively. Median TTD was numerically longer with NIRA+AAP vs PBO+AAP in BPI-SF worst pain, pain interference, average pain, and FACT-P PRS (Table). HRQoL was maintained on treatment and no clinically meaningful differences were observed over time or between treatment arms for the FACT-P total score. 87% of NIRA+AAP and 92% of PBO+AAP subjects rated FACT-P item GP5, which assessed the overall impact of treatment toxicity, as "not at all" or "a little bit" across treatment cycles. NIRA+AAP delayed pain worsening and patients experienced minimal bother from treatment-associated side effects. These data further support NIRA+AAP's benefit-risk profile for treatment of BRCA1/2-altered mCRPC.

I35
FINAL ANALYSIS OF PATIENTS WITH METASTATIC CASTRATION-RESISTANT PROSTATE CANCER AND HOMOLOGOUS RECOMBINATION REPAIR GENE ALTERATIONS RECEIVING FIRST-LINE NIRAPARIB WITH ABIRATERONE

ACETATE PLUS PREDNISONE (MAGNITUDE STUDY)

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Addition of niraparib (NIRA) to first-line (1L) abiraterone acetate plus prednisone (AAP) significantly improved radiographic progression-free survival in patients with metastatic castration-resistant prostate cancer (mCRPC) and a BRCA1/2 mutation in the MAGNITUDE study. MAGNITUDE represents the largest cohort of such patients included in a Phase 3 study. Here we present the final analysis of MAGNITUDE with a median follow-up of 35.9 months, representing 11.1 months of additional follow-up from the second interim analysis. The final analysis reports mature overall survival (OS) and updated time to symptomatic progression (TSP) and time to cytotoxic chemotherapy (TCC) results in 225 patients with a BRCA1/2 mutation. Updated safety data in 423 patients with a homologous recombination repair (HRR) gene mutation are also reported. Eligible patients with mCRPC, Eastern Cooperative Oncology Group performance status (ECOG PS) 0 or 1, brief pain inventory-short form (BPI-SF) worst pain score ≤3, and an HRR gene mutation were randomized 1:1 to receive NIRA+AAP or placebo (PBO)+AAP as 1L therapy. Secondary endpoints included OS, TSP, TCC, and safety. At the final analysis, OS favored NIRA+AAP in patients with mCRPC and a BRCA1/2 mutation with a 21% reduction in the risk of death vs PBO+AAP (Table 1). These results were achieved despite 70% of patients in the NIRA+AAP arm receiving subsequent life-prolonging therapy vs 86% in the PBO+AAP arm. Patients in the PBO+AAP arm had more favorable baseline characteristics vs the NIRA+AAP arm, including a lower ECOG PS, a lower incidence of bone metastases, and a lower incidence of visceral metastases. A prespecified multivariate analysis which adjusted for imbalances in key prognostic factors confirmed the OS benefit of NIRA+AAP vs PBO+AAP (HR=0.66; 95% CI: 0.46, 0.95). In addition, NIRA+AAP also demonstrated continued improvement in TSP and a clinically meaningful improvement in TCC vs

PBO+AAP, with benefit observed early during treatment. No new safety signals were observed with additional treatment exposure. Pulmonary embolism occurred in 4.7% of patients in the NIRA+AAP arm and 1.4% in the PBO+AAP arm. No cases of myelodysplastic syndrome or acute myeloid leukemia were observed in the NIRA+AAP arm. OS favored NIRA+AAP with continued improvements in TSP and TCC vs PBO+AAP. The positive benefit-risk profile supports 1L NIRA+AAP as a new standard of care for patients with mCRPC and a BRCA1/2 mutation.

I36
PRESENCE OF HOMOLOGOUS RECOMBINATION REPAIR GENE MUTATIONS AND OUTCOMES IN PATIENTS WITH METASTATIC CASTRATION-RESISTANT PROSTATE CANCER RECEIVING FIRST LINE TREATMENT (CAPTURE STUDY)

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Almost 30% of patients with metastatic castration-resistant prostate cancer (mCRPC) have a pathogenic mutation in a DNA damage repair gene. Germline BRCA2 mutations are associated with poor outcomes. The impact of mutations in other homologous recombination repair (HRR) genes on patient prognosis with standard therapies remains unclear but are linked to potential anticancer activity of novel targeted agents. Here we present an analysis of the prevalence of HRR gene mutations in patients with mCRPC and their outcomes following first-line (1L) treatment with novel hormonal therapy (NHT) or a taxane, including abiraterone acetate, enzalutamide, docetaxel and cabazitaxel. CAPTURE included patients from PROREPAIR-B (NCT03075735), PROSEN-ZA (NCT02922218), PROSTAC (NCT02362620), and PROSABI (NCT02787837). Next-generation sequencing (NGS) was used to analyze HRR genes in patients' DNA and split patients into subgroups: mutations in BRCA1/2, no mutations in BRCA1/2 (non-BRCA), and non-BRCA with mutations in other HRR genes. Both somatic and germline DNA was tested. Associations between HRR mutations and patient outcomes were assessed using inverse probability weighted Cox models which balanced baseline characteristics between subgroups. Mutations in ≥1 HRR gene were identified in 223 of 729 (30.6%) patients with mCRPC, including 96 patients (13.2%) who had a BRCA1/2 mutation. 60.4% of patients received 1L NHT and 39.6% received 1L taxane; 80.7% received at least second-line treatment. Patient baseline characteristics were similar between subgroups after adjustment (median age 72.2 years; 63.5% had Gleason >7; 53.1% had Eastern Cooperative Oncology Group performance status ≥1, and 13.3% presented with visceral metastases). Patients with a BRCA1/2 mutation displayed significantly poorer prognosis vs non-BRCA patients, including shorter radiographic progression-free survival (rPFS), shorter progression-free survival on next line therapy (PFS2), and shorter overall survival (OS) (Table 1). BRCA1/2 mutations were also associated with a significant decrease in PFS2 and OS vs mutations in other non-BRCA HRR genes. There were no significant differences in outcomes according to whether the BRCA1/2 mutation was germline or somatic, in the BRCA2 or the BRCA1 gene, or bi-allelic vs mono-allelic. Outcomes were similar with NHT vs taxane. Statistically, survival outcomes were worst for patients with germline or somatic BRCA1/2 alterations, intermediate for patients with non-BRCA HRR mutations and most favorable for patients without BRCA alterations. Early screening for mutations in HRR genes is crucial, particularly BRCA1/2, to initiate timely, targeted mCRPC treatment and improve patient outcomes.

I37
MANAGEMENT OF ADVERSE EVENTS ASSOCIATED WITH CABOZANTINIB PLUS NIVOLUMAB IN ADVANCED RENAL CELL CARCINOMA

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Tyrosine kinase inhibitor (TKI) plus immune checkpoint inhibitor (ICI) combinations have become important treatments for renal cell carcinoma (RCC). The TKI cabozantinib plus the ICI nivolumab is

approved for first-line treatment of advanced RCC based on improved overall survival, progression-free survival, and objective response rate versus sunitinib, and a manageable safety profile in the phase 3 CheckMate-9ER study (NCT03141177, see cabozantinib product label). Oncology nurses play a critical role in managing adverse events (AEs); thus, it is essential that nurses are aware of AEs with this regimen and their management. We reviewed the product label and other relevant literature to provide AE management strategies for oncology nurses caring for patients receiving cabozantinib+nivolumab, including management of overlapping AEs. Management of AEs with cabozantinib+nivolumab relies on identification of the causative agent, which can be complex given that immune-mediated AEs associated with nivolumab may overlap with cabozantinib AEs (gastrointestinal and dermatologic toxicities, hepatotoxicity, endocrinopathies). AEs observed with cabozantinib+nivolumab in CheckMate-9ER included diarrhea (64%), hepatotoxicity (44%), palmar-plantar erythrodysesthesia (40%), rash (36%), hypertension (36%), and hypothyroidism (34%). Frequent office visits and laboratory tests are an important part of AE monitoring. Strategies to manage AEs include prophylaxis, supportive care, dose holds and reductions for cabozantinib, dose holds for nivolumab with immunosuppressive therapy if indicated, and referral to a specialist. Symptomatic therapy is also appropriate for certain AEs, such as adrenal insufficiency. For AEs of unknown etiology, a dose hold of both agents is appropriate. Once the causative agent is identified, dose holds, dose reductions of cabozantinib, immunosuppressive therapy, or treatment discontinuations are appropriate. Nurses should educate patients about common AEs, develop a communication process with the healthcare team that addresses any potential barriers to care, monitor for signs and symptoms of AEs, implement prophylaxis and supportive care (eg, lotions for skin-related AEs, use of antihypertensives for hypertension, dietary changes for diarrhea), and help oversee dose modification and initiation of immunosuppressive therapy. Cabozantinib+nivolumab is an effective first-line treatment for advanced RCC. Oncology nurses are essential for comprehensive AE management, which helps to improve tolerability and allow patients to remain on therapy.

I38
MANAGEMENT CONSIDERATIONS FOR ORAL TOXICITIES ASSOCIATED WITH TALQUETAMAB, A GPRC5D×CD3 BISPECIFIC ANTIBODY,

IN PATIENTS WITH RELAPSED/REFRACTORY MULTIPLE MYELOMA

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Talquetamab is an FDA-approved T-cell redirecting bispecific antibody targeting G protein–coupled receptor family C group 5 member D (GPRC5D) on myeloma cells. Talquetamab has shown overall response rates of >71% in patients with relapsed/refractory multiple myeloma (RRMM) in the MonumenTAL-1 study. GPRC5D-related adverse events comprise a distinct group of on-target, off-tumor toxicities, including oral toxicities that require additional supportive care. The purpose was to describe GPRC5D-related oral toxicities and strategies for monitoring and management based on the MonumenTAL-1 trial experience. MonumenTAL-1 (NCT03399799/NCT04634552) is an open-label, single-arm, phase 1/2 study of patients with RRMM evaluating the recommended phase 2 doses of subcutaneous talquetamab at 0.4 mg/kg weekly and 0.8 mg/kg every other week. In MonumenTAL-1, 339 patients received subcutaneous talquetamab, including a cohort of patients who received prior T-cell redirection therapies. Oral toxicities included dysgeusia, dry mouth, and dysphagia, which occurred in 72.3%, 36.0%, and 24.2% of patients, respectively, across dosing groups. Most events were low grade (current dysgeusia scale has a maximum of grade 2), although assessment and grading are challenged by the available tools and lack of standardization. Median time to onset of dysgeusia, dry mouth, and dysphagia was 13–20, 19–26, and 21–29 days, respectively; 0.6% of patients discontinued due to dysgeusia and no patients discontinued due to dry mouth or dysphagia. Clinical trial experience with talquetamab has informed strategies for management, education, and supportive care for GPRC5D-related oral toxicities, keeping toxicity-related discontinuation rates low. Nurses should inform patients about potential impacts on their ability to experience food taste and texture, leading to changes in diet or food interest. Patients should be monitored for undesired weight loss, which may affect concurrent medications and nutritional status. Nurses may encourage patients to

experiment with foods of different textures and flavors and to stay well hydrated. Patients may be counseled on using oral sialagogues such as sugar free gum/candy and tart drinks, saliva substitutes for dry mouth, and anti-infection agents. Nurses may also provide patients with dietary strategies for weight management or access to further nutritional support. MonumenTAL-1 noted that reduced or less frequent dosing may be an effective management strategy that did not adversely impact treatment response. Incorporating these strategies into practice may help ensure that patients can stay on treatment to optimize therapeutic benefit.

I39

POST-PROGRESSION AND SAFETY OUTCOMES WITH FIRST-LINE (1L) AMIVANTAMAB PLUS LAZERTINIB VERSUS OSIMERTINIB IN PATIENTS WITH ADVANCED NON-SMALL CELL LUNG CANCER (NSCLC) WITH COMMON EGFR MUTATIONS: IMPLICATIONS FOR BEST MANAGEMENT PRACTICES

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Therapy options for patients with advanced NSCLC with common EGFR (cEGFR) mutations are limited, while mortality remains high. Therefore, there is a high unmet need for clinical trials that explore alternate therapies, like the MARIPOSA study that investigated amivantamab-lazertinib (Ami+Laz) versus osimertinib (Osi). Adverse events (AEs) due to cancer treatments are inevitable and can mar the patient experience. This can result in early treatment discontinuation and poor outcomes, thus making the role of nurses and HCPs in AE management crucial. The purpose was to evaluate safety outcomes post-progression on the MARIPOSA regimen and discuss the key role nurses play in educating patients on AE risk, proactive AE management, and the impact these measures can have in treatment adherence and outcomes. 1074 patients were randomized and outcomes were reported in the Ami+Laz (efficacy/safety, n=429/n=421) and Osi (efficacy/safety, n=429/n=428) arms. Post-progression outcomes included time to discontinuation (TTD), time to subsequent therapy (TTST), and safety. Nursing implications are based on the authors' clinical experience in the trial and beyond. After median follow-up of 22 months, 35% versus 47% of patients progressed on Ami+Laz and Osi arms, respectively (Table). Among patients who remained on treatment post-progression (53% vs 51%), Ami+Laz patients remained on treatment longer than those receiving Osi (23.6 vs 15.9 wks.). Both TTD and TTST were longer with Ami+Laz (26.2 months and NE, respectively) versus Osi (23.0 and 24.1 months). The most common AE occurred in the first 4 months of the Ami + Laz treatment and late onset was uncommon. Nurses play a crucial role throughout the patient journey via counseling patients and caregivers regarding therapy options, best practices to promote a better experience while on treatment, risk of progression, and next steps post-progression. Additionally, nurses can inform and educate patients regarding the likelihood of experiencing AEs such as IRRs and common dermatological AEs that are associated with targeted EGFR inhibition (rash and paronychia), and help manage/mitigate these AEs to support patients' during the therapy. Ami+Laz treatment demonstrated favorable post-progression outcomes, thus representing a viable 1L treatment option for patients with advanced NSCLC and cEGFR mutations. Incorporating nursing and HCP perspectives surrounding optimal AE management and patient experience, can impact adherence which is key for ensuring the best chances of survival and benefits from second line treatment, if progression occurs.

I40

COMPASSION FATIGUE PROGRAM FOR ONCOLOGY NURSES

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In the last decade the Cancer Center at the Loma Linda Medical Center has experienced increased turnover rate that contributed to chronic understaffing and hiring of nurses inexperienced in oncology to fill the positions. Nursing resilience and mindfulness are important qualities to possess when serving the vulnerable oncology population. Implementing a compassion fatigue program that focuses on resilience could contribute to nurse-work satisfaction and patient satisfaction. Compassion fatigue programs can potentially increase oncology patient satisfaction and continuity of care by retaining experienced and resilient oncology nurses to care for them. There are

currently tertiary programs that exist at Loma Linda University Medical Center to care for employees when counseling services are requested by the employee or they would like to participate in mental health activities, but this project focuses on a primary care approach for combating compassion fatigue. The purpose of the project is to see if resiliency training can help increase satisfaction of both cancer center infusion oncology nurses and the patients they care for. The intervention was a one-month resiliency training provided by a professional company called Mindarma. They specialize in resiliency training for professionals who have demanding jobs. The program was evaluated using four tools and a demographic data questionnaire. The Connors-Davidson Resilience Scale, Mindful Self-Care Scale- SHORT, National Research Corporation (NRC) picker on patient satisfaction, and CDC Training Effectiveness Questions were all used to evaluate the program. The overall reaction to the program was positive. The nurses were motivated to start and complete the program. Current data is pending. Official data will be available by the end of January 2024.

I41

IMPACT OF A RASH MANAGEMENT PROTOCOL ON INCIDENCE AND SEVERITY OF RASH WITH APALUTAMIDE PATIENTS WITH HIGH-RISK LOCALIZED PROSTATE CANCER (APA-RP STUDY)

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Apa-RP is a multicenter, open-label, single-arm, Phase 2 study of adjuvant apalutamide and androgen deprivation therapy (ADT) in treatment-naïve patients with high-risk, localized prostate cancer (PC) after radical prostatectomy. This study implemented a rash management guide to improve dermatologic adverse events (AEs). Here we present rash-related safety data from Apa-RP compared descriptively to two Phase 3 apalutamide registrational studies. Patients with high-risk localized prostate cancer who had undergone radical prostatectomy received apalutamide 240 mg once daily for 12 cycles (28 days) with either injectable ADT (n=96) or oral ADT, relugolix (n=12).

The rash management guide (Table 1) included proactive patient education and frequent outreach. All patients were counseled on appropriate skin care, including avoiding harsh soaps, maintaining adequate skin hydration, and monitoring for rash occurrence. The Rash Management Guide provided specific steps for each rash grade. Focused phone calls with patients were conducted by the site staff to ensure early identification and compliance with rash-related interventions. Rash occurrence was monitored regularly and skin-related AEs were graded by Common Terminology Criteria for Adverse Events (CTCAE) v5.0. These AEs were collated and descriptively compared to historical data from SPARTAN (non-metastatic castration-resistant PC; NCT01946204) and TITAN (metastatic castration-sensitive PC; NCT02489318) North American populations. Of 108 patients, 21.3% developed rash vs 28.3% in SPARTAN and 33.3% in TITAN (Table 2). Among those who developed rash in Apa-RP, 60.9%, 26.1%, and 13.0% had Grades 1, 2, and 3 rash, respectively, vs 40.0%, 37.5%, and 22.5% in SPARTAN and 28.6%, 38.1%, and 33.3% in TITAN. Median time to rash onset was 79.0 days vs 97.5 days and 84.0 days, respectively. Median time to rash resolution was 45.5 days vs 60.0 days and 142.0 days, respectively. 43.5% of patients received topical corticosteroid vs 26.3% vs 52.4%, respectively. 21.7% of patients received oral antihistamine vs 27.5% vs 9.5%, respectively. The Apa-RP rash management guide demonstrates a proactive and patient-empowered approach to monitoring and managing patients on apalutamide who develop skin rash. With increased vigilance from the care team and appropriate patient education, it may be possible to reduce the incidence and severity of skin rash. In addition to early identification, early intervention with high-potency topical corticosteroid creams and oral antihistamines has the potential to reduce the median time to resolution of rash.

RESEARCH

THE IMPLEMENTATION OF TEAM NURSING

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The Cancer Center has had difficulty with recruiting

and retaining physicians and because of this, the large patient volume has been spread over a much smaller group of physicians. To facilitate better continuity of care for our patients and to better support our physician teams, five day/week nursing care was requested to ensure that the highest level of care is delivered to this vulnerable population. Prior to this initiative, team nurses were only available to assist with physician tasks on two or three days a week, leading to delays in care. Team based care would allow: a better workflow, each team member to work to the top of their license and within their full scope to ensure excellent quality care. This change would also allow the decompression of triage nurses. With team nursing, the physicians would become less burdened with administrative tasks and would be able to concentrate on the patient care responsibilities for which their training and license is required. Our nursing staff would feel more fulfilled and involved in their team and able to play a vital role in their patient's care. Our patients would receive more concise and timely responses to their requests and concerns, thus, increasing their overall satisfaction. We requested additional RN positions to implement team nursing at the Cancer Center. Responsibilities for similar roles within each care team were clearly defined and standardized after multiple meetings with each team. The new responsibilities better reflected their license level and scope. Previously, the team nurses were unable to participate in team-prep consistently to help ensure that patients have what they need prior to their appointments to make appointments productive and to provide a more seamless workflow. Qualitative feedback illustrated that team nursing was helpful for team prep and In-Basket management. Nursing team felt they were taking better care of their patients and became a more valued team member and collaborator with the physician. Further feedback is in support of expanding the team model to other roles such as Medical Office Assistants with 5 day/week coverage.

CLOSING GAPS FOR NOVICE NURSES: A SIMULATION-BASED APPROACH

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In 2022 as the Covid-19 pandemic was ending, it was apparent to unit leadership that new graduate nurses were coming out of nursing school having very limited patient interaction. New graduate nurses at the end of 12-week orientation were still struggling with critical thinking skills and overall nursing skills. New graduate nurses still required more assistance in dealing with higher acuity patients, time management skills, and understanding key points in the care delivery of bone marrow transplant patients. In the summer of 2023, our bone marrow transplant unit hired 14 new graduate registered nurses. To prepare the new nurses to succeed on a specialty unit, an education program was created to help develop their critical thinking skills and provide them with the opportunity to practice nursing skills. With the use of simulation technology, the nurses were exposed to various aspects of the bone marrow transplant process, oncologic emergencies, and care of the oncology patient/caregiver. An initial education assessment was conducted to gauge the new graduate nurses' current knowledge of bone marrow transplant. This assessment gave insight to what education needed to be focused on more in-depth during the orientation phase. From that assessment, the nurses attended every other week classes over a period of 12 weeks with the BMT staff educator to further those identified educational needs. Lessons were taught through a variety of mixed methods including lecture with a corresponding simulation, videos, guest speakers, and skills labs. Topics included an overview of blood cancers, stem cell transplantation, chemotherapy regimens, oncologic emergencies, and chimeric antigen receptor therapy (CAR-T). At the end of the 12-week period, a final assessment was conducted using the same questions from the pre-assessment to measure the nurses increase in understanding. The results of this project will set the standard for educating nurses that are new to this specialty. Furthermore, this project also supplied evidence that the use of simulation-based education increased the nurses' understanding and retention of new information and will continue to be utilized for any new graduate nurses hired to our program.

TRENDS IN NURSES' CONFIDENCE FOLLOWING PARTICIPATION IN A VIRTUAL ONCOLOGY NURSING CERTIFICATION COURSE

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Nursing specialty certification has been linked to improved patient outcomes and staff retention. Courses that include content review and test-taking strategies are a learning strategy to increase nursing certification. An increase in review course development has emerged as updated Commission on Cancer guidelines require oncology certification or attainment of continuing education credits. There is a lack of literature on the impact of review courses on test-takers' confidence in specialty nursing exams. Using their extensive oncology nurse educator backgrounds, the authors developed a one-day, accredited, virtual oncology certified nurse (OCN®) review course. A brief 10-question survey was developed and included questions about confidence in caring for oncology patients and in test-taking strategies. Each item had a 5-point Likert scale, with a minimum score of 10 (greatest confidence) and maximum score of 50 (lowest confidence). The aim of this prospective pre/post survey study was to examine differences in nursing confidence before and after participation in an OCN® review course. Following IRB approval, course registrants were invited to participate in a voluntary pre-survey of confidence. After course completion, those who completed the pre-survey (n=211) were invited to complete the post-survey. A total of 76 participants completed both surveys. Participants were mostly female (93.4%), ages 31-40 (31.6%), worked as infusion nurses (28.9%), and had over 10 years of oncology experience (36.8%) and between 0-3 years of experience in their current position (51.3%). The mean score (±SD) for the pre-survey was 28.00 (±7.92); that for the post-survey was 21.34 (±6.79). This statistically significant (Wilcoxon Signed Rank Test, p<0.001) decrease in score of 6.66 ±5.86 was significantly correlated with an increase in confidence following the course. Additional analyses revealed statistically significant direct correlations between the number of years in current position and post-survey score (Spearman's rho p=0.040), and between the number of years in oncology and both pre- and post-survey scores (p=0.002); i.e., as years increased, so did confidence levels. A virtual review course appears to significantly improve the confidence of nurses preparing for the OCN® exam. These findings support the use of virtual education modalities to allow for broader availability of expert-led courses to nurses across the country.

EMONCO: IMPLEMENTATION OF A NEW

TRIAGE PROTOCOL FOR CANCER PATIENTS IN EMERGENCY

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The triage process is carried out by nurses trained for this activity as they have knowledge of signs and symptoms and an overview of the resources needed to care for patients in urgent and emergency situations. However, to date, we have not found a specific scale in the literature validated for triage cancer patients in emergency room. The development of a specific protocol for this population seeks to make the journey of cancer patients in the emergency room safer. The development of the protocol was carried out in three stages: 1) description of the instrument and patient assessment parameters, based on relevant literature, clinical observation and results of previously developed research; 2) judge committee stage and pilot test; 3) application to 250 patients, concomitantly with the Emergency Severity Index, the Manchester Triage System, the Karnofsky Performance Status and the Sequential Organ Failure Assessment for validation. After developing the first version of the protocol, in stage 2, three rounds were carried out until all judges agreed and the CVI obtained was 1.0. Among the 250 patients included in the second stage, the majority were female, with locally advanced/relapsed disease and undergoing chemotherapy, 40% with KPS between 60-70%. EMOnco was completed in an average (standard deviation) of 2.24 (± 2.9) minutes. Patients with lower performance status (KPS ≤70%) had greater severity in the score assigned by EMOnco, obtaining a correlation of 0.420 (p<0.001). The implementation of a specific triage provided an assessment of necessary parameters for cancer patients, considering current treatment, use of catheters and common oncological complications and, through validations carried out, it is a valid and clinically useful scale. Its translation and application to populations in other countries could bring benefits to the care of cancer patients around the world. The design of a specific and validated Scale that considers oncological parameters during an assessment in the emergency room, provides greater accuracy and reliability for this assessment, reducing risks to the patient and increasing the safety of the healthcare professional.

EXPLORING THE ASSOCIATION BETWEEN THE CEP72 RS924607 GENOTYPE AND CHEMOTHERAPY-INDUCED PERIPHERAL NEUROPATHY IN YOUNG ADULTS RECEIVING VINCRISTINE OR PACLITAXEL

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Genomic biomarkers of chemotherapy-induced peripheral neuropathy (CIPN) (i.e., numbness, tingling, pain in the hands or feet) may be useful in identifying young adults who are at a higher risk of CIPN and may benefit from chemotherapy dose reduction. Prior research has demonstrated that single nucleotide polymorphisms within the promoter region of Centrosomal Protein 72 (CEP72) (gene that encodes proteins essential for microtubule formation) may attenuate CIPN severity among adults receiving vincristine. However, less is known regarding the association between CEP72 genotype and patient-reported CIPN severity among young adults. The purpose of this analysis was to determine the association between the CEP72 rs924607 genotype and CIPN severity in young adults. We hypothesized that young adults with the high risk CEP72 genotype (TT at rs924607) would report worse CIPN in comparison to young adults with the CC/CT CEP72 genotype as chemotherapy dose increased. Young adults (18–39 years) beginning cancer treatment with vincristine or paclitaxel completed the QLQ-CIPN20 sensory and motor subscales (higher scores=worse CIPN severity) prior to beginning paclitaxel or vincristine (T1), after receiving ~350 mg/m2 paclitaxel or ~3-5 mg vincristine (T2), and after receiving 700 mg/m2 paclitaxel or 7 mg vincristine, respectively (T3). QLQ-CIPN20 sensory and motor subscale scores were compared from T1 and T3 between participants with the TT vs. CC/CT CEP72 genotype using linear mixed effects models. Participants (N=50) were an average of 35 years old, White (78%), female (88%), and diagnosed with breast cancer (78%) or lymphoma (18%). Participants with the CC/CT CEP72 genotype (n=40) experienced greater sensory and motor QLQ-CIPN20 subscale scores than participants with the TT CEP72 genotype (n=10) over time. Similar trends were observed for participants receiving paclitaxel (n=39). In contrast, participants receiving vincristine with the TT CEP72 genotype (n=3) experienced worse sensory and motor CIPN severity from T1 to T3 in comparison to participants with the CC/CT CEP72 genotype (n=8) (p=0.17). Using patient-reported measures, results revealed that young adults receiving vincristine, but not paclitaxel, with the TT rs924607 CEP72 genotype experienced greater sensory and/or motor CIPN than young adults with the CC/CT CEP72 genotype during neurotoxic chemotherapy. Beyond additional studies to validate CEP72 genotype as a predictor of vincristine-induced peripheral neuropathy, future studies should include the evaluation of genomic biomarkers for CIPN caused by distinct neurotoxic agents that have differing modes of action.

ANALYSIS OF THE APPLICATION VALUE OF NURSING INTERVENTION BASED ON SNYDER'S HOPE THEORY IN PATIENTS WITH POSTOPERATIVE RADIOTHERAPY FOR NON-SMALL CELL LUNG CANCER

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The purpose was to explore the effect of nursing intervention based on Snyder's hope theory on patients with non-small cell lung cancer (NSCLC) treated with radiotherapy. Patients with NSCLC who received thoracoscopic surgery in our hospital from January 2021 to January 2023 were selected as the research subjects, and divided into control group and experimental group using the random number table method, with 45 cases in each group. The control group was given routine radiotherapy care, while the experimental group was given nursing intervention guided by Snyder's hope theory on the basis of the control group, and the treatment was continued for 3 months. The Self-perceived burden Scale (SPBS), Herth Hope Index (HHI), Connor-Davidson Resilience Scale (CD-RISC) and Function Assessment of Cancer Therapy-Lung (FACT-L) scores were used to evaluate the differences in self-perceived burden, hope level, mental resilience and quality of life between the two groups before and after intervention treatment, as well as investigating the differences in patient satisfaction during nursing treatment. Results: After 3 months of intervention, the scores of emotional factors, economic factors and physical factors in SPBS of experimental group were all lower than those of control group (p 0.05); the scores of positive attitude, behavioral attitude and intimate relationship dimensions in HHI were all higher than those in the control group (p 0.05); the scores of

tenacity, strength, optimism and total score of CD-RISC were higher than those of control group (p 0.05); the scores of functional status, family status and emotional status in FACT-L were higher than those in the control group (p < 0.05); the nursing satisfaction of experimental group was 93.33% (42/45), which was higher than that of control group 77.78% (35/45), the difference was statistically significant (p < 0.05). Conclusion: The application of Snyder's hope theory intervention in NSCLC radiotherapy can effectively reduce the patient's self-perceived burden, improve the level of hope, enhance the level of psychological resilience, improve the quality of life, and enhance nursing satisfaction, which is worthy of clinical promotion.

SYMPTOM CLUSTERS IN PATIENTS WITH MULTIPLE MYELOMA RECEIVING CHEMOTHERAPY AND ITS IMPACT ON QUALITY OF LIFE

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Comprehensively assess symptom clusters, defined as two or more related symptoms that occur concurrently, over the entire cancer trajectory offers an opportunity for symptom management and better outcomes. The present study aimed to investigate the symptom clusters in multiple myeloma patients undergoing chemotherapy, and its association with health-related quality of life. A total of 99 multiple myeloma patients receiving chemotherapy were recruited at ? hospital during January 2023 and October 2023. Patients' symptoms and quality of life were assessed with the Chinese version of the Memorial Symptom Assessment Scale and Quality of Life Questionnaire-core 30, respectively. Symptom clusters were identified using principal component analysis, and its associations with quality of life was evaluated with multiple linear regression. Five symptom clusters were identified, including gastrointestinal, somatic pain, emotional, and neurosurgical symptom clusters in multiple myeloma receiving chemotherapy. Pearson correlation analysis showed that the severity of these symptom clusters were all negatively associated with quality of life, among which the somatic pain cluster was the strongest. Healthcare practitioners should pay attention to these symptom clusters, which may be targeted for interventions to improve quality of life in multiple myeloma patients receiving chemotherapy.

NURSE-LED COMBINED RELAXATION INTERVENTION FOR REDUCING PSYCHOLOGICAL SYMPTOMS IN WOMEN WITH FEMALE

CANCER RECEIVING CHEMOTHERAPY: A RANDOMISED CONTROLLED TRIAL

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Women receiving chemotherapy for breast and gynaecological cancer experience significant psychological stress. Research indicates that nurse-led music intervention or progressive muscle relaxation are effective strategies for managing psychological symptoms. However, there is a limited exploration of the combined use of these interventions. This trial sought to determine the effectiveness of music intervention combined with progressive music relaxation (MCP) on anxiety, depression, stress, and quality of life for this patient population. A two-arm, assessor-blinded, randomised wait-list controlled trial was adopted among 76 participants in an oncology hospital in Vietnam. The intervention was developed based on the Transactional Model of Stress and Coping, focusing on emotion-focused coping strategies to address stress-related issues. The intervention group received a 60-minute session of individual-based training about MCP and self-practiced MCP once daily at home for three weeks. The wait-list control group received the same intervention upon completion of the outcome assessment at week 6. All data were collected at baseline (T0), post-intervention (3rd week, T1), and follow-up (6th week, T2). An intention-to-treat analysis was adopted, and the generalised estimating equation model was used to compare the difference in each outcome across different time points. The results revealed statistically significant Group*Time interaction effects in symptoms of anxiety at T1 (β=-6.01, 95% CI: -10.16 to -1.86, p < 0.01) and T2 (β=-5.84, 95% CI: -10.18 to -1.50, p = 0.01); depression at T2 (β=-5.89, (95% CI: -10.89 to -0.90, p=0.02) and stress at T1 (β=-4.30, 95% CI: -8.28 to -0.32, p= 0.03). Compared to the wait-list control group, the intervention

group demonstrated a greater improvement in quality of life at T1 (β=7.59, 95% CI: 1.34, 13.83, p=0.02) and T2 (β=9.95, 95% CI: 2.55 to 17.35, p<0.01). This is the first theory-driven trial evaluating the effects of MCP on women with breast and gynaecological cancers receiving chemotherapy. This study has generated empirical evidence to support the beneficial effects of MCP on anxiety, depression, stress, and quality of life. It indicated a promising home-based MCP approach to manage the psychological burden on women with breast and gynaecological cancer receiving chemotherapy. Oncology nurses can apply this intervention to address psychological symptoms and improve the quality of life for their patients.

ORGANIZATIONAL SUPPORT, SOCIAL SUPPORT, AND NURSING ENVIRONMENT AS A PREDICTOR FACTORS ON ONCOLOGY NURSING JOB BURNOUT

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Oncology nursing is one specialty that has been significantly affected by numerous psychosocial and work stressors, which contributes to anxiety, and high intent to leave the oncology department. These prolonged stressors facing oncology nurses may cause physical, emotional, and psychological distress and burnout and may result in depression. However, a recent study examines oncology nurses' burnout and its relationship with organizational, social, and environmental influencing factors was lacking in nursing literature. This study aimed to examine the organizational support, social support, and the organizational environment as a predict oncology nurse's burnout. This study was a quantitative approach through correlational-predictive design. The study was conducted in the Central region of Saudi Arabia. The study sample was a non-probability convenience sampling with a sample size of (127) registered nurses who provide care for oncology patients. An online self-administered survey has been distributed to the participants. The data were analyzed through descriptive statistics for the sample's characteristics and the entire variables distribution properties. Pearson's correlation was utilized, followed by regression modeling. The study revealed that all oncology nurses in this study were at risk for burnout, approximately ranging from low level, moderate level, and high level of burnout. There was a significant negative correlation between burnout and collegial social support and organizational environment. As nurses perceived higher levels of support from colleagues, burnout levels decreased.

but not influenced by nurses' age, nationality, years of experience, marital status, or education level. Finally, collegial social support and organizational environment were strong moderators of burnout. This study confirmed that oncology nurses suffer from varied levels of burnout with a significant association between specific demographic characteristics. Considering the positive impact of social support of nursing colleagues or the negative effects of environmental conditions, early detection and management are recommended to evade undesirable outcomes for oncology nurses, organizations, and patients.

PREVENTION OF VAGINAL STENOSIS AFTER RADIOTHERAPY IN THE TREATMENT OF GYNECOLOGIC CANCER: TRACKING ACCEPTANCE AND ADHERENCE

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The treatment of cervical and endometrial cancer impacts women's quality of life. Radiotherapy is a treatment modality used in gynecological cancers with adverse effects causing several toxics in women's lives. The most documented adverse event is vaginal stenosis, which is defined as narrowing of the vaginal canal, with reduction in depth and diameter, tissue atrophy due to denudation of the epithelium with consequent tissue hypoxia. To prevent or reduce vaginal problems during the period of fibrosis formation after EBRT+BT is generally recommended to use vaginal dilators for a period of time during and after completion of treatment. Thus, prevention initiatives are used to control stenosis, among the most mentioned, performing vaginal dilation with the aid of a dilator. In June 2022, a protocol for the prevention and treatment of vaginal stenosis was established to offer women with gynecological cancer a way to prevent this side effect of treatment. To date, compliance with the protocol, as well as the factors that make women adhere to it or not, are unknown. Our objective was to determine accessibility and adherence to the vaginal stenosis prevention protocol and identification of limitations reported by patients in its implementation. This is a cross-sectional study. The period from June 2022 to June 2023 was delimited for the inclusion of patients who started radiotherapy in this time interval (1 year from the start of the stenosis prevention project). 13 women were included in a pilot project to better determine questions about the barriers and facilities

found in practicing the prevention protocol. Analysis is ongoing to determine commonalities and values in relation to our subject across all patients. The discussions also provide nurses and the entire team information about facilitating or limiting factors for adherence to preventive practices and provide a possibility for improvements in easy educational interventions focused on caring for these women.

FEVERING AND INFECTION AMONG NEUTROPENIC ADULTS WITH LEUKEMIA AND LYMPHOMA: A RETROSPECTIVE CHART REVIEW

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Neutropenia is often a secondary diagnosis in immunocompromised cancer patients that can lead to increased susceptibility to infections and mortality. Despite this heightened risk, there is a lack of contemporary research focused on temperature thresholds and fever prevention interventions for the older adult oncology population and their ability to fever. The National Comprehensive Cancer Network offers guidelines for collecting blood cultures in patients with cancer; however, these are intended for adults who do not share the same risk factors for infections. This study aims to determine if the current recommendations for collecting blood cultures on high-risk neutropenic cancer patients matches their ability to fever. We hypothesized that traditional thresholds for classifying a fever (38 degrees Celsius) would not be significantly associated with infection outcomes identified via blood culture tests in hospitalized adults with leukemia and lymphoma. A retrospective chart review was conducted on all eligible charts within three hospitals in the northwestern United States from December 2018 to November 2021. Inclusion criteria included hospitalized adults 18-89 years old diagnosed with acute leukemia or non-Hodgkin lymphoma who developed neutropenia during admission. Data extracted from the electronic health records included age, biological sex, absolute neutrophil count (ANC), temperature before blood culture collection, and subsequent blood culture results. The dataset will be evaluated for missing data, outliers, and relevant assumptions for descriptive and inferential analyses. Data cleanup and analysis are in progress. A total of 159 blood culture collection episodes will be examined. Descriptive statistics will determine the age and biological sex distribution in the sample, the volume of positive and negative blood culture results, and associated temperature prior to blood culture collec-

tion. Further analysis will explore fever status and its relationship with infection outcomes. This study will test the hypothesis that traditional fever thresholds are not adequate for the population and help determine if other metrics should be explored for reliable infection surveillance. We anticipate results will reinforce the importance of clinical judgment and provider autonomy.

TREATMENT OUTCOME DETERMINANTS IN THE EMERGENCY MANAGEMENT OF CANCER PATIENTS WITH FEBRILE NEUTROPENIA

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Febrile neutropenia (FN) is a common side effect of cancer treatment and is associated with significant morbidity and mortality. Patients with FN have a higher risk of developing life-threatening sepsis and septic shock unless prompt treatment initiates. The aim was to explore ED treatment outcome determinants among cancer patients with FN. A retrospective analysis of health records of adult cancer patients admitted from ED with FN. 431 patients were admitted from ED with FN. Two-thirds were assigned to the lower triage urgency, resulting in a significant ED delay. Under triaging these patients was the main significant predictor of several clinically relevant outcomes, including time to initial physician assessment (95% CI [36, 62], p = .001), time to antibiotics (95% CI [27, 109], p = .001), and time to decide on admission (95% CI [3, 102], p = .045). The absence of fever at the time of triage assessment contributed significantly to under-triage prediction. An important determinant of treatment outcome was the presence of fever (>=38) at the time of triage because it contributed significantly to the prediction of triage decision accuracy. The presence of fever at triage significantly predicted the accuracy of the triage decision and was a critical player in determining treatment outcomes within the ED. The presence of fever at triage is essential but can exclude the other one-third of afebrile neutropenic patients with higher 30-day in-hospital mortality rates. The triage guidelines would give similar priority to afebrile patients if they reported having a fever at home. Standardization of practice is needed, and triage nurses are mandated to follow the objective scales and algorithm of the updated triage guidelines. Hospitals must safeguard the application of these guidelines, conduct quality audits, provide feedback on individual performance, and implement a transparent accountability system.

PATIENTS WITH HAEMATOLOGICAL MALIGNANCY UNDERGOING CHEMOTHERAPY: A DESCRIPTIVE STUDY OF SYMPTOMATIC EXPERIENCES AND SELF-MANAGEMENT STRATEGIES

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Aims were to explore how patients with haematological malignancies experience symptoms and manage daily life during chemotherapy treatment. Of the available therapeutic measures, chemotherapy is one of the most effective for improving survival rates in these patients; however, it elicits different symptomatic responses that impose heavy physiological and psychological burdens. Therefore, better understanding of symptom experiences and coping strategies from the patient perspective is urgently needed to best inform healthcare delivery. The design was a descriptive qualitative study. Fourteen patients with haematologic malignancies who received chemotherapy at a Chinese tertiary hospital were selected using purposeful sampling. Data were collected via semi-structured interviews and one-on-one patient sessions. Three themes were generated: (1) strategies for coping with symptomatic change; (2) symbiosis with multiple symptoms; and (3) benefit from symptom management. Patients with haematological malignancies undergoing chemotherapy require diverse pathways to be provided with specific and detailed information about the treatment process, symptom management, and strategies to cope with inadequate nursing staff resources. Healthcare providers should take care to identify the stage of each patient's symptoms and develop tiered care interventions for coping with symptoms and managing daily life. These professionals play a key role in supporting and guiding the management of stepped symptoms in patients with haematological tumours. Reporting adhered to the COREQ guidelines. Patients with haematological malignancies undergoing chemotherapy need diverse pathways to provide them with more specific and detailed information about the treatment process, symptom management, and coping strategies to cope with inadequate nursing staff resources in order to better manage their daily lives. Healthcare professionals play a key role in supporting and guiding the stepped symptom management of patients with hematologic tumors.

THE CURRENT SITUATION AND INFLUENCING FACTORS OF BENEFIT FINDING IN PATIENTS WITH THYROID NEOPLASMS ——BASED ON QUANTILE REGRESSION

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The purpose was to analyze the current situation and influencing factors of benefit finding in patients with thyroid neoplasms. With the rise of positive psychology, the concept of benefit finding gradually come into public's view. Thyroid neoplasms is one of the top ten high incidence cancers in China, however, there are few studies focusing on the benefit finding of Chinese patients with thyroid neoplasms at present. 334 patients with thyroid neoplasms who were hospitalized in a tertiary hospital in Shanghai for surgical treatment from October 2022 to December 2022 were conveniently sampled. The general information questionnaire, the Chinese Benefit Finding Scale, the Social Support Revalued Scale and the Medical Coping Mode Questionnaire were used for evaluation. Quantile regression analysis was used to explore the influencing factors of benefit finding. The total score of benefit finding in patients with thyroid neoplasms was 89.00 (75.00, 102.00). Quantile regression showed that the influencing factor on the 10th quantile of the benefit finding was avoidance ($\beta=2.841$); on the 25th quantile were confrontation ($\beta=1.348$), avoidance ($\beta=2.023$), acceptance ($\beta=-2.304$); on the 50th quantile were the total score of social support ($\beta=0.440$), confrontation ($\beta=1.626$), avoidance ($\beta=1.130$), acceptance ($\beta=-1.657$) and no past medical history ($\beta=-4.601$); on the 75th quantile were the total score of social support ($\beta=0.469$), confrontation ($\beta=1.349$), avoidance ($\beta=0.828$), acceptance ($\beta=-1.524$) and no past medical history ($\beta=-4.320$); on the 90th quantile were the total score of social support ($\beta=0.262$), confrontation ($\beta=0.809$), and acceptance ($\beta=-0.874$) ($P<0.05$). There existed a high level of benefit finding on average in the patients with thyroid neoplasms. Healthcare professionals can promote patients 'psychological health by providing personalized interventions from medical copy modes, past medical history and social support according to the different levels of benefit finding. We tested the status quo of the benefit finding in patients with thyroid neoplasms and had achieved many results, which filled up a research gap in China. We also utilized a rarely used statistical method, quantile regression, to specify the influencing factors, which exactly showed the difference of the influencing factors on different quantiles.

THE ASSOCIATIONS OF DNA METHYLATION OF BDNF AND RASA2 GENES WITH PROCESSING SPEED AND SELF-REPORTED COGNITIVE FUNCTION IN POSTMENOPAUSAL WOMEN WITH EARLY-STAGE BREAST CANCER PRESCRIBED ENDOCRINE THERAPY

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Up to 75% of women with early-stage breast cancer (ESBC) experience cancer-related cognitive decline (CRCD), which negatively impacts occupational functioning, self-confidence, and quality of life. The manifestations of CRCD vary widely in timing, severity, and affected cognitive domains. DNA methylation profiles to characterize the epigenetic mechanisms of the BDNF gene, involved in neural cell creation, protection, and regulation, and RASA2 gene, regulating cellular signaling in organs including brain, potentially explain the variability. Understanding the epigenetic mechanisms of cognitive function is clinically promising, however, little is known in this population. The purpose of this secondary analysis was to describe DNA methylation profiles of BDNF and RASA2 genes and their associations with objectively measured processing speed and perceived cognitive function in women with ESBC. This cross-sectional exploratory study used baseline data from The Exercise Program in Cancer and Cognition trial, examining whether exercise improves cognitive function in postmenopausal women with ESBC receiving endocrine therapy. We conducted multiple linear regression using M-values (overall/individual CpG-site), the extent of DNA methylation, with higher positive M-values meaning greater methylation, as predictors of processing speed, measured as a composite of Grooved Pegboard and Digit Vigilance Test scores, and perceived cognitive function, measured with the Patient Assessment of Own Functioning Inventory (PAOFI) total and subscale scores. Women's (n=102) average age was 62.7(SD=7.99); most were white (88.2%), with stage 1 disease (62.7%), and prescribed endocrine therapy (94.1%) but not chemotherapy (82.4%). Mean M-values were -2.59(SD=0.15) for the BDNF gene, and 0.12(SD=0.14) for the RASA2 gene, and neither were associated with processing speed or PAOFI scores. Cg21291635 in BDNF (b=0.234, p=0.010) and cg20247102 in RASA2 (b=0.223, p=0.013) were associated with processing speed, while cg20108357 in BDNF and cg00567892 in RASA2 were associated with PAOFI scores except language-and-communication. Our findings suggest that higher positive levels of DNA methylation of BDNF and RASA2 genes are associated with poorer processing speed and better self-reported cognitive function in postmenopausal women with ESBC, but the associated CpG sites may vary. Considering the roles of BDNF and RASA2 genes, our findings suggest their epigenetic profiles may have clinical relevance in predicting CRCD. This could lead to early identification of risk for CRCD and guide personalized CRCD care by targeting specific molecular pathways. A future longitudinal study with a larger sample is needed for validation of findings.

HEALTH-RELATED VALUES DURING CANCER: NEEDS ASSESSMENT FOR LEVERAGING THE NURSES ROLE IN PERSON-CENTERED CARE

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Palliative care is person-centered care of patients with serious illness and aims to allow for the alignment of personhood (who the patient is as a unique person) and health-related values (what is important/means most) to inform care. As trusted experts and patient advocates, nurses are foundational in the delivery of person-centered care and are well positioned to provide primary palliative care to all patients. However, the full potential of the nurse's role in supporting patients' personhood and values is not consistently realized. As such, we aim to introduce standardized values assessments as part of routine nursing care of hospitalized patients with gastrointestinal malignancies. We conducted needs assessment interviews with bedside nurses with the goal to inform customization and implementation of the standardized values assessment. Semi-structured, guide-based interviews were conducted with a purposive sample of 12 nurses

selected for heterogeneity in age and years of nursing experience. The interview guide included questions about current practices for evaluating patients' personhood and values, ways to incorporate values assessments into the daily workflow, and strategies to communicate results with other members of the primary oncology team. The interviews (audio-recorded with permission) were transcribed and analyzed by an interdisciplinary team using thematic content analysis. 12 bedside nurses, with a median age of 30 years (range 24-61) and 5 years of nursing experience (range 1-30), were interviewed (median 28 minutes, range 22-46). Qualitive analysis is ongoing. Most of the respondents described a desire to learn about their patient's personhood and values and identified these conversations as integral to providing nursing care, including their ability to educate and advocate for their patients, and as a contributing factor to avoid burnout. The nurses described barriers to assessing health-related values during a hospital admission, including time constraints given the number of required nursing tasks and a lack of a centralized place to document these conversations. The respondents also shared their hopes that the importance of these values discussions will be recognized by all members of the oncology team. We identified common themes among bedside nurses regarding the importance of assessing personhood and values and its impact on nursing care. Findings will inform modifications to the implementation plan for nurse-led inpatient values discussions to leverage the role of the bedside nursing in support person-centered care for all patients.

NURSE'S ATTITUDES, KNOWLEDGE, AND SKILLS IN CLINICAL TRIALS: A FOCUS ON EQUIPPING NURSES IN PHASE I TRIALS

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Phase I clinical trials represent the first studies conducted in humans. Nurses play a pivotal role in this phase including patient education, administration, and vigilant reporting of adverse events. This study assessed oncology nurses' knowledge, attitude, and skills (KAS) when administering Phase I drugs to identify any gaps in KAS and seek opportunities for improvement. This exploratory, cross-sectional survey was conducted at a National Cancer Institute-designed organization in the southwest US. The 23-item KAS survey was developed through a literature re-

view and expert nurse panel. Knowledge items were multiple choice, attitude Items were rated on 5-point Likert scale from "1 - strongly disagree" to "5 - strongly agree". Skills were indicated by a yes/no/unsure response. Descriptive statistics were used to calculate KAS scores. Pearson correlations evaluated relationships between age/experience and nursing attitudes. Sixty oncology nurses responded to the survey; mean age was 42 years of age (range 23-62). Nurses had on average 12 years of oncology nursing experience. The total nurse knowledge score was 83.6% (+18.41; range 25%-100%). Nurses scored highest in knowing the goal of a Phase I drug (96.4%), lowest in knowing which phase of experimental drug that they were administering (67.8%). Regarding attitudes, nurses scored lowest in confidence (2.73) and perceived safety (2.8). Feeling safe was highly correlated with years' experience oncology RN (r=.363; p=0.006). Being fearful was correlated with fewer years' experience as an RN (r=-.410; p=0.001) and oncology RN (r=-.419; p=0.001); younger nurses were also more fearful (r=-.337; p=0.011). Phase I drugs are first in human agents, and little is known about their safety and side effects. Better understanding nurses' KAS in the delivery of Phase I drugs will ensure nurses' and patients' safety are considered. Nurses' lowest attitudes scores (confidence and perceived safety) reinforce the need to provide better education and further explore feelings of inadequate safety. This is the first study to our knowledge that examined KAS in the administration of Phase I trials. The study innovation lies in its comprehensive exploration of KAS of oncology nurses with a specific focus on Phase I drug administration. Valuable insights into the KAS of oncology nurses concerning Phase I drug administration highlight areas for improvement and potential areas of focus for further training or education.

PALLIATIVE CARE STIGMA IN ONCOLOGY: AN INTEGRATED SYSTEMATIC LITERATURE REVIEW

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This systematic literature review investigates the presence and impact of stigma surrounding palliative care (PC) in the field of oncology, exploring how Oncology Healthcare Providers (OHCPs) may contribute to PC stigma that has been correlated with the

underutilization of PC services. Guided by Goffman's Theory of Stigma, a comprehensive search was conducted in four major databases using PRISMA guidelines. After screening of titles, abstracts and full-texts for eligibility, 32 articles were selected that focused on the perspectives of PC by OHCPs who treat adults with advanced cancer. Data synthesis involved categorizing evidence based on identified themes related to PC stigma. OHCPs contribute to PC stigma through their own assumptions, fear, and discomfort impacting communication, goals of care conversations, and timely referrals to PC. Adults with advanced cancer are further stigmatized by their avoidance, undesired differentness, and own negative association with the term 'palliative care' which decreases quality of life and communication with loved ones and OCHPs. PC is commonly perceived as end-of-life care and hospice erroneously. The stigma surrounding PC in oncology is exacerbated by the "War on Cancer," "fight to the end," and "don't give up" mentality, further linking PC to end-of-life care and resistance from oncology patients which may ultimately increase their suffering. A conceptual framework based on these principles surrounding Oncology PC stigma was created through synthesis of the 32 studies. This review establishes a pervasive societal stigma associated with PC in oncology, outlining six characteristic perspectives contributing to the stigma. This oncology PC stigma is evident globally, persisting over decades with minimal shifts in perceptions. Findings underscore the imperative for interventions addressing identified gaps to reducing PC stigma in oncology healthcare, emphasizing a need for further research in this crucial area. Oncology Nurses are essential OHCPs and this research was done by a seasoned Oncology Nurse. This review shows the need for all OHCPs to self-reflect on their own perspectives of PC and evaluate how possible stigma is perpetuated within healthcare itself, not just society. Oncology nurses will recognize how their PC views may be negatively portrayed to cancer patients unknowingly and see the impact it can have on patient outcomes to potentially influence overall OHCPs change in behaviors surrounding PC.

CORRELATION BETWEEN SOCIAL SUPPORT, SELF-EFFICACY, AND QUALITY OF LIFE OF CAREGIVERS OF PATIENTS WITH STROKE

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Self-efficacy and social support may moderate caregiver burden and quality of life. Therefore, this study investigated the status quo and influencing factors of social support, self-efficacy, and quality of life of caregivers of patients with stroke according to the stress-evaluation-coping model theory. In total, 317 patients with stroke from four third-class A hospitals and their caregivers were selected as participants. A structural equation model was used to analyze and investigate the relationships between caregiver burden, social support, self-efficacy, quality of life, and action pathways. The caregivers' quality of life in 317 stroke patients was negatively correlated with caregiver burden (r=-0.501, P < 0.01) and positively correlated with self-efficacy (r=0.451, P < 0.01) and social support (r=0.492, P < 0.01), which had multiple mediating effects on the influence of caregiver care burden on the quality of life. Self-efficacy and social support accounted for 29.76% and 14.29% of the effect, respectively. The study's cross-sectional design did not allow the examination of causal relationships between variables. Future longitudinal study designs may show trends in the influence of caregiving time. Additionally, we only included inpatients from four hospitals, which may limit the generalizability of the study. The caregiver care burden of patients with stroke was a significant negative predictor of quality of life; self-efficacy and social support were significant positive predictors of quality of life. The caregiver care burden of patients with stroke can affect the quality of life directly or indirectly via the partial mediating effect of social support and self-efficacy.

EVALUATING ICU NURSES' EDUCATION, PRACTICE, AND COMPETENCE IN PALLIATIVE AND END-OF-LIFE CARE IN SAUDI ARABIA: A CROSS-SECTIONAL STUDY

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In palliative and end-of-life (PEOL) care, especially within ICUs, nurses' unique skills are critical, yet their expertise remains under-explored, particularly in Saudi Arabia. The aim of this study is to evaluate the education, practice, and perceived competence of adult ICU nurses in Saudi Arabia regarding PEOL care, and to pinpoint key factors that influence this aspect of healthcare delivery. Utilizing a cross-sectional design, the study evaluated PEOL care education, practice, and competency of adult ICU nurses in Hail, Saudi Arabia, in 2023. Participants were recruited from five public hospitals and one specialized centre. Data were gathered using the PEOL Care Index, which measures various care dimensions on a Likert scale provided in both Arabic and English. IBM SPSS Statistics 29.0 was used for data analysis. 142 out of the

targeted 171 ICU nurses completed the survey, yielding a response rate of 83.04%. Although 81% of the nurses had experience caring for dying patients, only 30.3% had received in-service PEOL training. Those with this training demonstrated significantly higher scores in education, clinical practice, and perceived competence compared to their counterparts (p < .05). Mean scores across these areas were 69.67, 71.01, and 71.61, respectively. In-service training exhibited a positive correlation with these metrics (p < .05). Multiple regressions also revealed that in-service training, job satisfaction, and communication authority are strong influencers explaining 21.6% of the variation in clinical practice and 16.9% in perceived competence. The study highlights the proficiency of ICU nurses in PEOL care, emphasizing that in-service training, job satisfaction, and the authority to communicate effectively with patients and their families significantly improve clinical practice and nurses' competence in PEOL care. Which underscores the critical need for healthcare institutions to acknowledge and address these key factors to optimize patient care outcomes.

THE RETURN TO WORK EXPERIENCE OF NURSES AFTER CANCER TREATMENT: A DESCRIPTIVE QUALITATIVE STUDY

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The number of people who develop cancer during their working life ages is increasing. Returning to work for cancer survivors is an important manifestation of psychosocial rehabilitation. After returning to work as cancer survivors, nurses will increase their empathic responses to patients during the nursing process, strengthen their understanding of the needs of cancer survivors to return to work, and have the potential to become their role models. This study aims to describe the experience of nurses returning to work after cancer, and to provide a reference for the development of nursing interventions for cancer survivors returning to work. This descriptive qualitative study, involving a semi-structured in-depth interview of 10 nurses who returned to work in 5 tertiary hospitals in Shanghai from October to December 2023, based on purposive sampling and snowball sampling.Content analysis was used to analyze and refine themes. Four themes were

extracted. 1) confidence to return to work (sufficient professional knowledge, good self-efficacy, positive clinical role model and weak stigma) ; 2) intention to return to work (the characteristics of nursing profession, the need for promotion, and filling the economic gap) ; 3)external conditions for returning to work (policies support from the hospital, circle of friends with a medical background,family support) ; 4) act to return to work (the cover and regression of appearance changes caused by cancer, schedule and job transfer, help form colleagues in the unit). This study innovatively explores the return-to-work experience of of nurses after cancer treatment. Good professional knowledge and self-efficacy, as well as the support of environment and policy are important motivation sources to promote nurses with a cancer diagnosis to return to work after treatment. Therefore, the nursing staff should learn from the experience and strengthen symptom management, health education and psychological counseling for cancer survivors, also promote family and social support to help them return to work and adapt to society.

EVALUATING THE QUALITY OF PAIN MANAGEMENT SATISFACTION AMONG ONCOLOGY PATIENTS IN A HOSPITAL SETTING: PSYCHOMETRIC PROPERTIES OF THE ARABIC VERSION OF PAIN CARE QUALITY SURVEY

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The purpose of this mixed-methods psychometric study was to translate and adapt the Arabic Pain Care Quality (APainCQ) Survey to Arabic and to measure the quality of pain care provided to Arab patients. This study used an iterative, mixed-methods approach that employed cognitive interviews, expert content analysis, and factor analysis to develop the APainCQ Survey. The study was conducted at Dubai Hospital, Dubai Health Authority, United Arab Emirates. Arabic-speaking patients admitted to the oncology/hematology inpatient units with a minimum 24-hour stay were eligible for the study. The sample consisted of 155 patients. The iterative exploratory factor analysis process resulted in the sequential removal of three

items. The results of the significant Bartlett test (P < .001) of sphericity and Kaiser-Meyer-Olkin test of 0.93 for both the health care team scale and the nurse scale. The total variance explained was 76.17% for the health care team scale and 60.91% for the nurse scale, which explained 56.51% for factor 1 with 14 items and 4.40% for factor 2. Regarding internal consistency reliability, Cronbach's alpha and McDonald's omega for the health care team scale and nurse scale were high; both values were .95. Internal consistency reliability of pain assessment and pain management subscales of nurse scales were also high, with values of 0.96 and 0.79, respectively. Moreover, there was a moderate correlation (r 5 0.66; P < .001) between the two subscales in the nurse scale. This study provides evidence that the APainCQ is a reliable and valid measure of pain dimensions, including pain management and monitoring. This APainCQ scale can potentially expand research and clinical assessment in the Arab world.

TEA FOR THE SOUL: HEALING THE HEARTS OF ONCOLOGY NURSES

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Oncology nurses are unique in the required skill set required to effectively care for such a complex patient population. Patients diagnosed with various malignancies require intense chemotherapeutic treatment plans, may be enrolled in clinical trials, and many experience emotional turmoil with their diagnosis and prognosis. The impact of emotional exhaustion and compassion fatigue can be devastating to the nursing workforce resulting in decreased productivity, high turnover rate among staff, and increased usage of sick days. Additionally, patients residing in areas of increased levels of burnout were found to have unfavorable outcomes, lower patient satisfaction scores, and increased patient and family complaints. (Garcia et al., 2019). The purpose of this project was to engage an oncology nursing peer group to create interventions to address nursing turn over, burn out, and compassion fatigue. A nursing peer group called "Tea for the Soul" was created. The invitation to participate was sent to all oncology nurses. Participants ranged in years of nursing experience and leadership roles. Monthly meetings were established with guest speakers such as the Memorial Cancer Institute Chaplin and Wellness Coaches. The speakers were instrumen-

tal with navigating conversations and provide spiritual support as nurses shared their lived experience in a safe and supportive environment. A total of 27 survey responses were received from individuals on different oncology units. 63.7% of the respondents agreed or strongly agreed that "I find it difficult separating my personal life from my professional life". 100% of the respondents agreed or strongly agreed to "I have a sense of accomplishment leaving work". 81.9% of the respondents agreed or strongly agreed to "I have good peer support when I need to work through highly stressful experiences". 50% of the respondents agreed or strongly agreed to "I feel burnt out due to my professional life". A pre-intervention survey was not conducted prior to the interventions suggested from the Tea for the Soul peer group. The team has re-evaluated progress and will be using the Maslach Burnout Scale in the upcoming months to use a validated scale to assess burnout across the oncology nursing team. The data will then be used to identify areas of opportunities and build upon the existing interventions.

THE AP-POWER COURSE FOR ONCOLOGY APPS

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Advanced practice providers (APPs) including nurse practitioners and physician assistants without previous cancer care experience are entering oncology positions without additional training or education, leaving susceptibility to poor patient outcomes. Advanced Practice Providers Web Oncology Education Resources (AP - PoWER) is an online, 5-module, 35-hour course, developed by oncology NP faculty, funded by the National Cancer Institute and then disseminated nationally, at no cost, through an online portal. The course was structured as a serious game, with online characters representing a new APP and her mentor encountering common oncology clinical challenges. The mentor guides the new APP through the challenges. The course is to be completed in the first weeks of employment. Corresponding relevant clinical activities were expected to be performed with an onsite preceptor. Pre and post-knowledge and confidence tests were embedded into each module, (20 pre and 19 post) with Likert style (1-5) responses ranging from 1-Masters level to 5 – No knowledge or confidence for that skill. Higher scores represent higher levels of knowledge and confidence. Module and course evaluation were Likert style 1-5, with

higher scores more favorable, and open-ended responses encouraged. Descriptive and comparative statistical analyses were used. Content analysis for open-ended responses. From November 2018 through December 2022, 175 APPs (142 NPs and 33 Pas) representing 31 states enrolled with an on-site mentor. There were 163 females, n-12 males. Cumulative pre-knowledge mean score of 3.0 (SD.3, range 2.3 to 3.5). Post-knowledge scores improved significantly to a mean of 2.1(SD .12) (t12.6(df18), p=.000. Pre-course confidence scores cumulatively were similar at baseline mean 2.9 (SD.39) and post-improved to mean 2.2 (SD.13) (t14.2(df18)(p=.000). Course evaluation was positive with a mean of 3.86 (SD 0.5) overall. Open-ended evaluation responses were favorable, particularly related to the content presentation format. Patient communication skills for specific situations and presenting patients to colleagues were noted to be the most valued content.

Discussion – The AP-Power course meets an important national need to educate oncology APPs in preparation for oncology clinical practice. The course was well received and resulted in significant improvement in the APP oncology knowledge and confidence in practice. Continuing access to this content at no or low cost is critically important but remains a challenge.

ASSOCIATIONS BETWEEN SOCIAL ISOLATION AND LONELINESS AND SYMPTOM BURDEN AMONG HEAD AND NECK CANCER SURVIVORS

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Head and neck cancer (HNC) accounts for 4.5% of all cancer diagnoses and deaths globally. HNC survivors often experience increased levels of pain and fatigue, significant body image changes, and decreased social functioning, including reduced activity and motivation. Social isolation and loneliness—defined as the objective state of lacking social engagement and the subjective, unpleasant emotional state of feeling apart from the social world, respectively are particularly concerning sequelae of HNC, as they are not only predictive of depressive symptoms but also associated with increased oral carcinogenesis and worse physical and psychosocial health-related quality of life in HNC survivors. This study sought to understand the prevalence of social isolation, loneliness, and post-treatment symptom burden (sleep, pain, depression, anxiety, and fatigue) among HNC survivors, as well as the relationships between social isolation and loneliness and post-treatment symptom burden. This cross-sectional study was conducted in 2020. Tumor registry data from a single medical center in California were used to identify patients diagnosed with cancers of the pharynx, larynx, tonsils, salivary glands, and oral cavity between one and six years before the study. Participants completed a questionnaire that assessed social isolation using the PROMIS scale and loneliness using the UCLA Loneliness Scale. Outcomes were abnormal levels of pain, depression, anxiety, and fatigue using PROMIS measures and sleep disturbance as measured by the Insomnia Severity Index. Frequencies, descriptive statistics, and student t-tests were used to compare social isolation and loneliness by post-treatment symptom severity groups. Of 347 respondents, 72.6% were male, 81.6% were Non-Hispanic White, and 83.3% held government-sponsored insurance. Approximately half of the survivors reported trouble sleeping (n=163, 47%) and fatigue (n=175, 50%), while 39% reported pain (n=134), 31% had anxiety (n=107), and 24% had depressive symptoms. Increased levels of social isolation and loneliness were significantly associated with higher post-treatment symptom burden across all five symptoms with the most significant impact on depressive mood (M= 52.28, SD= 9.04; M=5.78, SD= 1.86). This study found that HNC survivors who were more socially isolated and lonely experienced more post-treatment fatigue, pain, anxiety, depression, and insomnia. Depression and anxiety were the most frequently reported symptoms by the most socially isolated and lonely survivors. Social isolation and loneliness should be regularly evaluated in HNC survivors to prevent chronic physical and mental health symptom burdens.

DIETARY STRUCTURE INFLUENCES BREAST CANCER-ASSOCIATED LYMPHEDEMA THROUGH THE MEDIATING EFFECT OF BMI

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Breast cancer-related lymphedema (BCRL) is a common complication after breast cancer surgery. Studies showed that BMI, meat and fried foods are risk factors for BCRL. However, there are no studies on the association between dietary structure and BCRL. This study intended to reveal the relationship and the mediating effect of BMI between dietary structure and BCRL. Ninety-six women who suffered BCRL after breast cancer surgery and ninety-six who didn't within 2 years were collected from September 2022 to August 2023. Daily meals were measured using a smart scale and recorded for 3 consecutive days with dietary logs. Patients were grouped according to BMI and dietary structure. Differences in dietary structure between BCRL groups and the mediating effect of BMI between dietary structure and BCRL were investigated using Pearson correlation, regression analysis and bootstrap analysis. The proportion of high BMI, high-fat diets and high-carbohydrate diets was higher in the BCRL group than in the no-BCRL group (x^2=23.549, p 0.01; x^2=5.416, p 0.05; x^2=18.847, p 0.01), the proportion of high-protein diets was lower in the BCRL group than in the no-BCRL group (x^2=17.958, p < 0.01). Logistic regression analysis showed that BMI (p =0.010, OR=3.309) and high-protein (p =0.035, OR=2.311) diet were positively associated with BCRL and that high-fat diet (p =0.020, OR=3.301) and high-carbohydrate diet (p=0.034, OR=2.625) were negatively associated with BCRL. The Bootstrap value for BMI between dietary structure and BCRL was (β =0.2092, p < 0.01). BMI, fat diet and carbohydrate diet were risk factors for BCRL and positively associated with the risk of developing BCRL. Protein diet was a protective factor for BCRL, with a negative association with the risk of BCRL development. BMI plays a mediating role between diets and BCRL. Daily meals were measured using a smart scale and recorded for 3 consecutive days with dietary logs.

AN EDUCATIONAL PROGRAM TO ADDRESS LEVELS OF MORAL DISTRESS IN INPATIENT ONCOLOGY NURSES

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Moral distress is a phenomenon when a morally or ethically correct decision is clear, but the corresponding action is challenging to undertake due to internal and external constraints. These stressful events cause uneasiness and frustration and can lead to burnout and avoidant behaviors. Research has demonstrated that inpatient oncology nurses may experience increased levels of moral distress without adequate training and education in recognizing moral distress. Controlled implementation of an evidence-based educational program in the oncology setting has not been studied. The quality improvement project's purpose was to implement an educational initiative on an inpatient oncology unit. The objectives were: (1) to educate clinical nurses about the concept of moral distress and how it relates to practice by exploring mechanisms to work through their own internal constraints; (2) to identify resources to assist with the mitigation of external constraints to achieve resolution. A comprehensive review of the literature of moral distress and evidence-based interventions was conducted and informed the development of the educational program. The project was guided by Nathaniel's Theory of Moral Reckoning in Nursing. This interdisciplinary program was a five-session educational series with didactic and interactive components. A hybrid format was used to offer in-person and remote access via Teams. Continuing education hours were also awarded for each session attended. Data was collected in a pretest/posttest format through REDCap through two surveys: (1) Ethics Self-Efficacy Assessment (adapted for Oncology Nurses); (2) Measure of Moral Distress – Healthcare Professionals (MMD-HP). Descriptive statistics were conducted and linear mixed effect modeling was utilized to estimate the mean change in scores and assess the significance of change. Twenty-three nurses participated. Composite scores for the Ethics Self-Efficacy Scale increased by an average 21.1 points (112.1 vs 136.4, p <0.010). Composite scores for the MMD-HP were clinically significant (136.4 vs 170.6, p=0.320). The integrative educational sessions proved effective in creating awareness and a safe space for staff to share experiences and find community and support. The interdisciplinary development and presentation of the program sessions spoke to the complexity and all-encompassing nature of moral distress in the healthcare system. Nurses reported new-found confidence in their voice and ethical decision-making. Time constraints and staffing requirements hindered attendance of sessions and therefore future programs must be supported by leadership and the hospital system to create lasting change.

A STUDY OF THE RELATIONSHIP BETWEEN SLEEP QUALITY, ADVERSE EFFECTS AND MENTAL HEALTH STATUS IN BREAST CANCER CHEMOTHERAPY PATIENTS

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The purpose was to explore the relationship between sleep quality and adverse effects and mental health status in patients with breast cancer undergoing chemotherapy. The study investigated 271 patients with breast cancer undergoing chemotherapy admitted to the internal medicine ward of Cancer Hospital of the Chinese Academy of Medical Sciences from January 2023 to October 2023 by using the General Information Questionnaire, Pittsburgh Sleep Quality Index, SCL-90 Mental Health Symptom Self-assessment Scale, and Symptom Measurement Scale for Breast Cancer Chemotherapy Patients. The incidence of adverse effects at all levels and overall adverse effects in the pre-chemotherapy sleep disorder group was significantly higher than that of the sleep regular group. The sleep quality of patients with mild adverse effects was significantly better than that of patients in the severe group after chemotherapy, and the differences were statistically significant (all P<0.05). Spearman correlation analysis showed that the degree of each adverse effect was negatively correlated with the sleep quality (r=-0.337, P=0.028). The total score of SCL-90 and each symptom factor of patients in post-chemotherapy sleep disorders were significantly higher than those with normal sleep, and the differences were statistically significant (all P<0.05). Spearman cor-

relation analysis showed that the quality of post-chemotherapy sleep was positively correlated with the SCL-90 score (r=0.548, P=0.027) The total SCL-90 score and various symptom factor scores of patients with severe adverse effects after chemotherapy were significantly higher than those in the mild group with statistical significance (all P<0.05), and the degree of each adverse effects was positively correlated with the SCL-90 score (r=0.624, P=0.035). Conclusion and implications: The patients with breast cancer undergoing chemotherapy generally have different levels of sleep disorders, which are closely related to the adverse effects of chemotherapy and mental health. Clinical doctors and nurses should pay attention to the sleep quality of patients, early prevention and intervention to further improve the survivors' quality of life.

IMPROVING PATIENTS' PERCEPTION AND EDUCATION OF THE ONCOLOGY NURSE PRACTITIONER ROLE

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The purpose of this Doctor of Nursing Practice (DNP) project was to evaluate howimplementing educational resources such as pamphlets and professional bios describing the role of the Nurse Practitioner (NP) would improve patient perceptions about the role of the NP. This quality improvement project evaluated participants using a pre-and post-questionnaire design. Twenty participants were given an educational brochure on the role of the NP and a mock NP professional bio after the initial questionnaire and asked to repeat the questionnaire. A paired t-test was conducted via SPSS to test the null hypothesis of the mean scores pre and post-education. A delta was calculated in the pre and post-questionnaire total mean score to determine the change in knowledge. Pre and post-questions were analyzed to identify the most significant delta and lowest delta from pre- and post-questionnaires to identify the most significant change in knowledge and where education gaps remain. 18 out of 20 participants were evaluable. The paired t-test indicated that the participants' scores after they received educational resources (M=90.11, SD =9.99) were significantly (p=<.001)higher than before education (M=82.7, SD=12.7, t17=4.56). Cost-effective educational resources and bios can help improve patients' understanding of the role of the NP. Patients

need to be educated on their care providers' various roles and responsibilities. The resources utilized for this project can be adopted in multiple healthcare settings where NPs and other healthcare providers practice.

FEASIBILITY OF A PATIENT-INFORMED, NEEDS NAVIGATION INTERVENTION TO ADDRESS HEALTH-RELATED SOCIAL NEEDS AMONG ADOLESCENTS AND YOUNG ADULTS WITH CANCER

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Adolescent and young adult (AYA: age 15-39 years) cancer survivors are at high risk for financial toxicity. Adverse social determinants of health are associated with an increased likelihood of financial toxicity, due in part to unmet health related social needs (HRSN: financial strain, food insecurity, housing instability, difficulty affording transportation or utilities, un/underinsurance). We hypothesize that by addressing unmet HRSN, the risk of financial toxicity for AYA cancer survivors will be lower. We evaluated the feasibility of AYA-NAV, our participant-informed, tailored AYA needs navigation intervention. Patients age 15-39 years receiving initial cancer treatment were identified from pediatric and medical oncology clinics. AYAs were eligible if they screened positive for high financial toxicity (Comprehensive Score of Financial Toxicity [COST] <22) or unmet HRSN (food, housing, transportation, utilities); caregivers were eligible to co-participate. AYAs who screened positive were offered participation in AYA-NAV. Participants received a money voucher and were centrally navigated to the Patient Advocate Foundation (PAF), our community partner. Case management and needs navigation were delivered by PAF over 6 months. The central study team conducted monthly check-ins with participants to identify any challenges and collect process measures (connection to PAF, needs addressed, engagement with intervention). We defined feasibility as the rate of enrollment, completion, and fidelity to the intervention components. We calculated changes in financial toxicity scores. Of 11 AYAs identified, 6 AYAs screened positive and continued with the intervention. All 6 eligible AYAs screened positive for

high financial toxicity; 50% endorsed housing instability, followed by transportation (33%), and utilities or food (17%). All eligible AYAs agreed to participate in the intervention; 57% were Hispanic AYAs and 21% were non-Hispanic Black AYAs. Of the initial 6 AYAs who received the intervention, 5 (83%) completed the study primary endpoint at 6 months. The overall mean COST score increased from 19.85 (SD: 6.62) at baseline to 27.5 (SD: 6.42) at 6 months. Only one AYA had a worsening in their COST score; this participant experienced a cancer progression that required change in treatment. Participant input at study data collection points informed refinements for AYA-NAV, including integration of digital needs navigation to supplement the PAF case management process. The refined model is currently being tested among 30 AYAs with cancer to establish additional feasibility and preliminary impact of intervention.

A BIBLIOMETRIC ANALYSIS OF SYSTEMATIC REVIEWS IN ONCOLOGY NURSING

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Systematic reviews represent an increasing number of studies published in the Health Sciences. Oncology nursing does not escape this reality. To our knowledge, bibliometric analysis and mapping have not yet been used to analyze the literature production of systematic reviews on oncology nursing. To explore the focal points of investigation, thematic trends, and the progression of systematic reviews within the context of oncology nursing, using bibliometric analysis. Bibliometric analyses. Data was extracted from the Web of Science Core Collection on September 21, 2023. Using descriptive bibliometrics, we studied the dynamics and trend patterns of systematic review production on oncology nursing and identified the most prolific authors, papers, institutions/affiliations, and countries/regions. Bibliometric mapping was used to visualize the content of published articles and determine the main research terms and themes published about oncology nursing systematic reviews. The data analysis and graphical presentation were

conducted using the Bibliometrix Package in R software and VOSviewer. The study encompassed 1,039 systematic reviews of oncology nursing. The study revealed a positive trend in literature production, with a significant increase in publications over the last 20 years. The United States of America took the lead in production volumes. Journal Advanced Nursing is the journal boasted the most published in this field. The three most used keywords were "systematic review", "cancer", and "nursing". The theme typology of research on a systematic review of oncology nursing was composed of care, quality of life, cancer, and nurse health. Over the last two decades, the yearly production of systematic reviews and meta-analyses in oncology nursing has increased. The publications mapped contribute to advances in oncology nursing research, but future studies are needed to evaluate the quality of these systematic reviews. This trend offers valuable insights for practitioners, facilitating a nuanced comprehension of prevailing research priorities and guiding future inquiries. This research provides valuable insights into the production of systematic reviews in oncology nursing, suggesting potential trends in the field.

SYMPTOM CLUSTERS' SEVERITY AND EFFECTS ON QUALITY OF LIFE OF HOSPITALIZED ONCOLOGY OLDER ADULTS IN LEBANON

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Lebanon, like many countries globally, is experiencing a dynamic demographic shift towards an increasing elderly population (Abdulrahim, 2015). This transition, marked by declining mortality and fertility rates, underscores the growing importance of addressing the unique healthcare needs of older adults, particularly those battling cancer (Shamseddine et al., 2014). In this context, there is an imperative to develop treatments that not only target the disease but also enhance the overall quality of life for these patients. This groundbreaking study aims to identify symptom clusters in hospitalized adult oncology patients in Lebanon and assess their association with functional status, quality of life, and other patient characteristics. Notably, this research represents the first-ever cluster analysis conducted in the Middle East within the context of oncology patient data. A total of seventy-four cancer patients participated in this observational, descriptive, cross-sectional, and correlational study. Symptom occurrence and severity were assessed using the Memorial Symptom As-

sessment Scale (MSAS), while the European Organization for Research and Treatment of Cancer- Quality of Life Questionnaire (EORTC-QLQ) measured the patients' quality of life. Symptom clusters were derived through Exploratory Factor Analyses (EFA) and validated using Confirmatory Factor Analysis (CFA). The study's findings shed light on prevalent symptom clusters in patients with various cancer types, categorized into psychological, general, gastrointestinal, and respiratory-related symptoms. Importantly, these clusters were found to have a negative impact on patients' quality of life. In conclusion, recognizing and understanding symptom clusters in cancer patients is vital for effective clinical practice. This study contributes valuable insights into the factors influencing these clusters and their subsequent impact on the quality of life of patients with advanced cancer. The identified symptom clusters emphasize the need for healthcare providers to develop comprehensive assessment tools and care plans, enabling more effective symptom management strategies to improve the overall quality of life for cancer patients. These findings have significant implications for enhancing oncology nursing practices in Lebanon and beyond.

THE USE OF PURE SILVER-PLATED WOUND DRESSINGS FOR THE MANAGEMENT OF RADIATION DERMATITIS IN HEAD AND NECK CANCER PATIENTS

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Acute radiation dermatitis (RD) affects over 90% of patients receiving radiotherapy for cancer, making it one of the most common side effects. Radiotherapy causes structural tissue damage to both the epidermis and dermis, increasing the risk for infection and delayed wound healing. Patients with head and neck cancer are at particularly high risk because of the higher radiation doses required for prevention or treatment. While RD is widely recognized as a significant clinical issue, there is currently no gold standard for treatment. The purpose of this study was to evaluate the use of pure silver-plated wound dressings for the management of RD in head and neck cancer patients receiving radiotherapy. Between 9/6/2023 and 10/30/2023, 7 patients undergoing definitive treatment for head and neck cancers, consisting of oropharyngeal, oral cavity, nasopharynx and laryngeal, were evaluated. Pure silver-plated wound dressings

were provided at the onset of therapy or once RD was observed and continued without interruption throughout the duration of radiotherapy. Patients were instructed to keep the dressings in place continuously, except for when bathing or during treatment. The pure silver-plated wound dressings were replaced weekly by the clinical team during on-treatment visits, and NCI CTCAE version 5.0 for adverse event reporting was used to quantify RD. This evaluation included 7 patients. 4 patients included in the initial evaluation did not experience RD. One patient discontinued the trial early due to fitment issues and developed grade 1 RD upon completion of radiotherapy. Another patient was hospitalized with sepsis, however, no RD was observed. Grade II RD was observed one patient around a laryngectomy site without RD in the bilateral neck. Patient reported not wearing the silver-plated wound dressing around the laryngectomy site. Grade II RD was documented in one patient despite compliance. In this limited sample of high-risk patients, the use of pure silver-plated wound dressings appeared to reduce the incidence of RD in patients receiving radiotherapy for the treatment of head and neck cancer. In the patient who experienced grade II RD despite compliance, there was note of significant weight loss during the course of his treatment, which likely effected dose distribution, thus leading to worse toxicity.

HIGHER LEVELS OF STRESS CONTRIBUTE TO A WORSE SYMPTOM PROFILE IN PATIENTS WITH CANCER DURING THE COVID-19 PANDEMIC

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Beyond the stress of a cancer diagnosis, stressors associated with a global pandemic (loneliness, social isolation, financial toxicity) may exacerbate patients' symptom experiences. No studies have examined these relationships using a comprehensive symptom inventory and measures of four different types of stress. The purpose was to identify distinct symptom profiles and evaluate for differences among the profiles in demographic and clinical characteristics and stress. Data were collected from 1144 patients from May 2020 and February 2021 via an online survey. Patients completed an online questionnaire that included: revised Memorial Symptom Assessment Scale (37 symptoms), Impact of Event Scale-Revised (COVID-19 and cancer-specific stress), Perceived Stress Scale (global stress), Social Isolation Scale, UCLA Loneliness Scale, and COmprehensive Score for Financial Toxicity. Using symptom occurrence rates, latent class analysis was done to identify distinct symptom profiles. Differences among the profiles were evaluated using parametric and non-parametric tests. Four distinct profiles were identified (i.e., Low (28.2%), Moderate Physical and Lower Psychological (22.7%), Moderate Physical and Higher Psychological (31.6%), and High (17.4%); Figure 1). Mean number of symptoms was 3.5 (+2.0) and 19.0 (+3.5) in Low and High classes, respectively. Compared to the Low class, patients in the High class were younger, more likely to be female, had a lower level of education, and a lower annual income. In addition, patients in the High class had a higher body mass index, a worse comorbidity profile, a lower functional status, and were more likely to be receiving active treatment. As the symptom profiles worsened, levels of global stress, COVID-19 and cancer-specific stress, loneliness, and financial toxicity increased in a dose response fashion (i.e., Low < Moderate Physical and Lower Psychological < Moderate Physical and Higher Psychological < High). Patients in the High class had stress scores suggestive of post-traumatic stress disorder, moderate to moderately high level of loneliness, and significant financial toxicity. Distinct symptom profiles identified in this study are consistent with a previous report of patients receiving chemotherapy. While recovery from the COVID-19 pandemic is occurring, these findings provide "baseline" data to use for comparative purposes. These findings provide strong support for an association between increasing symptom burden and higher levels of multiple types of stress. Clinicians need to perform comprehensive assessments of both symptom burden and stress to provide tailored interventions.

A SYSTEMATIC REVIEW OF GENOMIC EDUCATION FOR NURSES AND NURSING STUDENTS: SUFFICIENT TO PREPARE THE ONCOLOGY NURSING WORKFORCE?

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Although the importance of genomic education is well understood, the integration of genomics sciences content into nursing curricula and continuing

education is limited. This systematic review aimed to identify educational strategies utilized to deliver genomics content in undergraduate and graduate nursing programs and to practicing nurses. Genomic knowledge drives oncology patient care. Lack of genomic literacy results in poor peer communication, ineffective patient education, and clinical care errors resulting in harm and subjecting nurses to liability. Defining effective means to promote genomic education is critical to providing safe and effective oncology nursing care. CINAHL Plus, ERIC, Ovid MEDLINE, and Scopus electronic databases were searched from January 1, 2003 through July 6, 2023 using the search terms: nursing education, nursing students, genetic nursing, genetics, genomics, nursing masters, nursing doctoral, nursing baccalaureate, continuing education, and professional development. Bloom's three domains of competency-based education (cognitive, psychomotor, and affective) were used to guide the categorization of learning outcomes. Data was independently extracted from each eligible study. Educational outcomes were extracted including genomics cognitive knowledge and affective confidence. The researchers also extracted data regarding instruments used to measure the three domains of competency. A narrative approach was used to synthesize the data. This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines for reporting results. The initial search yielded 1,235 records. We excluded 424 duplicates and 769 review articles. The remaining 42 papers were independently reviewed; 12 studies met inclusion criteria. Quality assessment for bias was conducted independently; study quality ranged from fair to poor. No study used a complete psychometrically tested instrument to measure nurses genomic cognitive or affective knowledge; none measured the psychomotor domain of genomic knowledge. No best practice approach was identified for teaching nursing students or practicing nurses. The development of current, reliable, and valid instruments that can be completed in a pre-/post-test fashion is critical for the assessment of the effectiveness of an educational intervention. It is crucial that methods to measure the psychomotor domain of knowledge be developed. Continuing to use parts of instruments that may be dated, obsolete, or incomplete renders evaluation of interventions deficient. Developing effective strategies to implement genomic education into all levels of nursing curricula and clinical practice is a priority.

SYMPTOM CLUSTERS IN PATIENTS WITH CANCER DURING THE COVID-19 PANDEMIC

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An evaluation of symptom clusters provides information on stable groups of symptoms that are relatively independent from other clusters. No studies were identified that evaluated for symptom clusters in patients with cancer during the COVID-19 pandemic. The purpose was to describe the occurrence, severity, and distress of the five most common symptoms reported by patients during the COVID-19 pandemic and identify symptom clusters during the COVID-19 pandemic. Data were collected from 1144 patients from May 2020 and February 2021 via an online survey. Patients completed an online questionnaire that obtained information on demographic and clinical characteristics and a revised version of the Memorial Symptom Assessment Scale (MSAS) with 44 symptoms. Descriptive statistics were used to evaluate sample and symptom characteristics. Exploratory factor analysis (EFA) with goemin rotation was used to identify the symptom clusters using symptom occurrence ratings. Of the 1144 patients, 83.9% were female, 84.9% self-reported their race and ethnicity as white, 46.2% had an advanced degree, 67.5% were married/partnered, 43.7% were employed, and 43.9% were receiving active treatment. Sample's mean age was 62.3 (+11.3) years, time since diagnosis was 8.6 (+7.9) years and number of MSAS symptoms was 10.0 (+5.8). The five most common symptoms were: pain (63.7%), difficulty sleeping (58.4%), lack of energy (57.1%), worrying (50.7%), and joint pain (47.7%). The most severe symptoms were: difficulty sleeping, problems with sexual interest/activity, I don't look like myself, difficulty swallowing, and change in sense of smell. The most distressing symptoms were: difficulty sleeping, problems with sexual interest/activity, weight gain, I don't look like myself, and hair loss. Six symptom clusters were identified and named: psychological, respiratory, chemotherapy-related, pain, weight loss, and epithelial. As noted previously, the most common symptoms are not always the symptoms that are the most severe and/or distressing. While psychological, respiratory, and epithelial clusters were identified in previous studies, the pain cluster that included pain, joint pain, and muscle aches and pain is cluster that warrants additional evaluation. It is possible that the

symptoms of joint pain and muscle aches that were added to the revised MSAS contributed to the identification of this cluster.

COMMUNICATION SKILLS TRAINING FOR INTERDISCIPLINARY ONCOLOGY CLINICIANS: PRE-AND-POST COURSE OUTCOMES OF A TRAIN-THE-TRAINER PROGRAM

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The purpose of this abstract is to describe the outcomes from an Interprofessional Communication Curriculum (ICC) project funded through an NCI R25 grant and its three national train-the-trainer courses for interdisciplinary oncology clinicians (N=220). Communication is vital to providing exceptional cancer care. Communication skills training for all members of the interdisciplinary team is identified as a necessity to improving cancer patients' quality of life across all aspects of care. However, there are few communication training programs that address communication skills throughout the cancer trajectory and many clinicians continue to report a lack of confidence in having difficult conversations. Organized by the 8 domains of the National Consensus Project (NCP) Guidelines for Quality Palliative Care, ICC was developed to provide communication skills training for interdisciplinary dyads of oncology clinicians with a focus on providing communication training to others. Three 3-day train-the-trainer ICC courses have been held since 2020. Courses included lectures, skills-building exercises, vignette and role play demonstrations, and interactive discussions. Participants completed a pre-course survey identifying their effectiveness in communication across the 8 NCP domains (e.g., communication around physical, social, cultural, and psychological aspects of care). Evaluation of the course included immediate post-course evaluation. Post-course surveys at 12-months tracked training efforts and evaluated participants' communication effectiveness after course participation. Two-hundred twenty participants (113 nurses, 75 social workers, 32 chaplains) representing 29 states & DC (67% White, 14% Black or African American, 11% Asian, 3% Native Hawaiian and 5% more than one race) attended an ICC course. Pre-course survey results, on a scale of 1 to 5 (1=lowest), revealed communication effectiveness averages for the 8 domains ranged from 3.1-3.6. Immediate post-course evaluation revealed the course met participant's expectations (4.8). 12-month post-course survey results revealed participants communication effectiveness had increased since attending the course, with averages for the 8 domains ranging from 3.8-4.3. Domain 5: Spiritual Aspects of Care had the largest increase with a 3.1 average at pre-course and a 3.9 average at post-course. Post-course results revealed participants have provided an ICC training to 5,770 clinicians (3,594 nurses, 609 social workers, 400 chaplains, 550 physicians, and 617 others). ICC is an effective train-the-trainer program for improving communication skills in cancer settings. Results have demonstrated an increase in self-reported communication effectiveness. The final ICC course is scheduled for August 2024.

ADVANCED PRACTICE PROVIDERS IN ONCOLOGY WEB EDUCATION RESOURCE (AP-POWER)

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Advanced practice providers (APPs) including nurse practitioners and physician assistants without previous cancer care experience are entering oncology positions without additional training or education, leaving susceptibility for poor patient outcomes and clinician burnout. Advanced Practice Providers Web Oncology Education Resources (AP - PoWER) is an online, 5-module, 35-hour course, developed by oncology NP faculty, funded by the National Cancer Institute and then disseminated nationally, at no cost, through an online portal. The course was structured as a serious game, with online characters representing a new APP and her mentor encountering common oncology clinical challenges. Using course materials, the mentor guides the new APP through the challenges. The course is to be completed in the first weeks of employment. Corresponding relevant clinical activities were expected to be performed with an onsite preceptor. Pre and post-knowledge and confidence tests were embedded into each module, (20 pre and 19 post) with Likert style (1-5) responses ranging from

1-Masters level to 5 –No knowledge or confidence for that skill. Higher scores represented higher levels of knowledge and confidence. The module and course evaluations were Likert style 1-5, with higher scores more favorable, and open-ended responses encouraged. Descriptive and comparative statistical analyses were used. Content analysis for open-ended responses. From November 2018 through December 2022, 175 APPs (142 NPs and 33 Pas) representing 31 states enrolled with an on-site mentor. There were n=163 females, n=12 males. Cumulative pre-knowledge mean score of 3.0 (SD.3, range 2.3 to 3.5). Post-knowledge scores improved significantly to a mean of 2.1(SD .12) (t12.6(df18), p=.000. Pre-course confidence scores cumulatively were similar at baseline mean 2.9 (SD.39) and post-improved to mean 2.2 (SD.13) (t14.2(df18 (p=.000). Course evaluation was positive with a mean of 3.86 (SD 0.5) overall. Open-ended evaluation responses were favorable, particularly related to the content presentation format. Patient communication skills for specific situations and presenting patients to colleagues were noted to be the most valued content. The AP-Power course meets an important national need to educate oncology APPs in preparation for oncology clinical practice. The course was well received and resulted in significant improvement in the APP oncology knowledge and confidence in practice. Continuing access to this content at no or low cost is critically important, but remains a challenge.

EFFECT OF NURSE-LED INTERVENTIONS ON ELECTRONIC PATIENT-REPORTED OUTCOMES DURING CANCER TREATMENT:SYSTEMATIC REVIEW AND META-ANALYSIS

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Patient-Reported Outcomes (PROs) playing an important role in cancer care. It can provide to evaluate and reflect patients' symptoms and side effects. The integration of electronic PROs with mobile health applications, facilitated through cloud computing, enables the provision of evidence-based care immediately tailored to patients' conditions. However, there is currently a lack of systematic literature reviews investigating the effectiveness of electronic PROs interventions in cancer patients. This study aims to conduct a systematic literature review to evaluate PROs interventions and explore their effectiveness. A search was performed in five databases, including CINAHL, Cochrane Library, PubMed, Embase, and Medline, for literature published before August in 2023. Keywords included "electronic patient report

outcome interventions" and "cancer." After excluding duplicates and screening titles and abstracts, studies meeting the criteria were included. The systematic literature review revealed that electronic PROs interventions have been applied to patients receiving injectable chemotherapy, oral chemotherapy, targeted therapy, and those with advanced cancer. These interventions utilized diverse methods, including smartphones, tablets, and internet platforms, with intervention durations ranging from daily to up to 2 years. Electronic PROs interventions significantly improved symptom control among cancer patients, enhancing self-care behaviors, increasing self-efficacy, and promoting quality of life. Based on the evidence, it is recommended that healthcare providers implement electronic PROs interventions in cancer patients' treatment regimens. It is suggested that patients report their symptoms weekly, addressing 10-20 questions, and the follow-up period should be at least 3 months. The content of the interventions should encompass symptom control, self-management, and quality of life aspects. We will discuss the latest research findings and share practical case studies, enabling participants to gain a comprehensive understanding and practical knowledge in this field.

IDENTIFICATION OF FACTORS RELATED TO FALLS IN NEUTROPENIC HEMATOLOGIC MALIGNANCY PATIENTS UNDERGOING STEM CELL TRANSPLANT OR INDUCTION CHEMOTHERAPY: AN EXPLORATORY RETROSPECTIVE STUDY

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Falls are a serious adverse event in acute care settings with devastating effects, including unintended injury, prolonged hospitalization, additional unnecessary treatment, emotional suffering, and increased costs. Use of evidence-based fall risk assessments and mitigation strategies have been effective in reducing falls rates. Yet, hospitalized oncology patients continue to experience falls at higher than desirable rates compared to non-oncology patients. While several fall risk scales exist, they lack oncology-specific risk factors, and therefore may not accurately predict fall risk for oncology patients. As such, the purpose of this study was to identify oncology-specific fall risk factors. Fall

risk reduction in oncology is vital to preventing injury and negative consequences. Identification of oncology-specific fall risk factors will improve accuracy of falls risk assessments. This study utilized a retrospective correlational design comparing oncology patients who fell or did not fall during hospitalization. Patients admitted for stem cell transplant or induction chemotherapy between July 2016-March 2021were included in the analysis. Descriptive statistics were used to report demographic, clinical, treatment- and fall-related variables. Logistic regression was used to examine predictors of falls and odds ratios between patients who fell and did not fall. 1267 patients met inclusion criteria. Of those, 67(5.3%) fell. There were no statistically significant differences in demographic characteristics between groups. The following variables were statistically significantly correlated with a fall: Neutropenia for at least 75% of the hospitalization (p = <.0001); a MORSE score of 45 or higher (p= 0.0003); and a severity of illness score of "extreme" (p= 0.0053). Patients with a hemoglobin less than 8g/dL at baseline are 2.7 times more likely to fall compared to patients whose hemoglobin was greater than 8g/dL at baseline (p= 0.0029). Additionally, patients with a leukemia diagnosis were 6.2 times more likely to fall. This study yielded a new set of potential fall risk factors experienced by hospitalized oncology patients that can be used in practice to proactively identify fall risk and subsequently implement preventative measures in a more timely and effective manner. More research is needed to confirm these risk factors in larger oncology populations. Future work should focus on incorporation of these risk factors into existing falls risk tools, or the development and validation of an oncology-specific fall risk scale.

ELUCIDATING THE INFLUENCES OF SOCIAL DETERMINANTS OF HEALTH ON PERCEIVED OVERALL HEALTH AMONG AFRICAN AMERICAN/BLACK AND HISPANIC OVARIAN CANCER SURVIVORS USING THE NIH ALL OF US RESEARCH PROGRAM

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African American(AA)/Black and Hispanic women with ovarian cancer continue to experience disparities in survival and recurrence rates compared to White women. Yet, there are knowledge gaps in understanding self-perception of overall health and well-being among these groups. The purpose of this study is to evaluate the influences of social determinants of health (SDOH) on perceived health among AA/Black and Hispanic ovarian cancer survivors. AA/Black women are more likely to be diagnosed with advanced disease and more aggressive ovarian tumors. Even though Hispanic women are diagnosed at an earlier stage on average, they tend to be younger compared to White women, and inequitable access to health care services remains a challenge. While the root causes of ovarian cancer disparities are multidimensional, SDOH are considered key contributors. A cross-sectional study was conducted using overall health and SDOH survey data collected by the National Institutes of Health All of Us Research Program from May 2017 to September 2023. Inclusion criteria were: (1) malignant tumor of ovary; (2) age 18 years or older; (3) assigned female at birth; and (4) AA/Black, Hispanic, and White race and/or ethnicity. A total of 414 (33%) completed SDOH surveys: 29 (7%) AA /Black, 33 (8%) Hispanic, and 352 (85%) White. In the ordinal logistic regression models, for every unit increase (improvement) in the SDOH neighborhood characteristics score, the odds of having a poor perception of general health decreased by 0.94 times. For every unit increase (improvement) in the SDOH day-to-day discrimination score, the odds of having a poor perception of general health, general mental health, social satisfaction decreased by 0.92, 0.93 and 0.86 times respectively. For every unit increase (improvement) in the SDOH food and housing security score, the odds of having a poor perception of general health decreased by 0.49 times. Compared to White ovarian cancer survivors, AA /Black and Hispanic ovarian cancer survivors were significantly more likely to have a poor perception of general health, general mental health, and social satisfaction even when adjusting for these SDOH. Unfavorable SDOH conditions negatively influence the overall perception of health among ovarian cancer survivors. These findings signal an urgency for oncology nurses to partner together with local communities in designing innovative interventions to overcome cancer disparities and inform health policy.

CHECKING IN: THE ROLE OF REAL-TIME LOCATING SERVICE WEARABLE TECHNOLOGY AND NURSE LIAISONS IN REDUCING CAREGIVER ANXIETY WHILE PATIENTS ARE UNDERGOING AMBULATORY ONCOLOGY SURGERY

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Caregivers of patients with cancer are an integral part of the patient's care, particularly as they undergo and recover from surgery. Research of caregivers in the ambulatory surgery setting is scarce. Caregivers report poor prior experience with being a caregiver during the hospital stay, feeling anxious and inadequately informed and supported. At Memorial Sloan Kettering Cancer Center's Josie Robertson Surgery Center, our goal is to provide an unmatched experience for both patients and caregivers. At our center, about 9,000 patients undergo cancer surgery every year, and a majority of patients are accompanied by a caregiver. Unique for our center is the integral presence of Perioperative Nurse Liaisons who answer questions and provide support to patients and caregivers during the hospital stay. To improve the experience for caregivers, real-time locating systems are local tracking systems that identify the physical locations of people. This occurs in real time through the interaction of wearable locating tags and sensors placed throughout the environment. The objective of this research study is to explore the lived experience of caregivers of patients undergoing ambulatory cancer surgery. We will be conducting qualitative interviews with 20-25 caregivers and apply phenomenological methods to describe support needs and anxiety among caregivers and specifically understand the role of the Perioperative Nurse Liaison and Real-Time Locating Systems in this context. The outcomes of the current study will help identify characteristics of caregivers at risk for anxiety and enable development of tailored interventions and support for unmet needs.

DEVELOPMENT AND EVALUATION OF HEALTH AND SAFETY INFORMATION FOR VULNERABLE PATIENTS AFTER A FLOOD

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Patients with cancer, particularly those who are immunocompromised represent a vulnerable population post-flooding due to their reduced ability to fight infections. Additionally, those with cancer often have multiple scheduled appointments with healthcare providers. Following a flood, these appointments may be disrupted due to loss of transportation, impassable roadways, temporary relocation, and alternative housing. Research has found an association between treatment interruptions due to natural disasters and increased mortality. Following the historic July 2022 flooding in southeastern Kentucky, a resource gap was identified as tailored post-flood health and safety information for patients with cancer were scarce. The research team developed tailored post-flood patient education tip sheet covering nine topic areas including the importance of contacting their HCP, when to seek emergency care, considerations while staying in a shelter, checking medications, food and water, staying away from mold, recommendations for cleaning and sanitizing surfaces that came in contact with flood water, and ways to protect against infection. Two corresponding public service announcements (PSAs) that can be used on social media were developed. The purpose of this study was to examine the usability, usefulness and perceived impact of a patient education tip sheet and PSAs tailored to mee the specific post flood related concerns for those with cancer. This was an exploratory, descriptive pilot study which sought to recruit healthcare providers and those considered climate and health experts to evaluate the usability and usefulness of the tailored patient education tip sheet and public service announcements using a 4-point Likert scale. Participants (N = 5) found the tip sheet and PSAs to be both useful and usable. In addition, the Avoiding Infection PSA has been viewed on YouTube 80 times and the When to get help after a flood if you have a weak immune system has been viewed 54 times over the past 10 months. Suggested revisions (e.g., more information on mental health impacts; combine PSAs into one) were given and will be incorporated into the tip sheet and PSAs for future use. This study sought to fill a resource gap and assist healthcare providers in educating patients on considerations following a flood. Having resources like this tip sheet and PSAs readily available for use before and after a flood, may help to prevent infection and reduce treatment delays in our patient population.

EXPLORING THE ROLE OF A DEDICATED RESEARCH NURSE IN A NATIONAL CANCER INSTITUTE COMMUNITY ONCOLOGY

RESEARCH PROGRAM (NCORP) ALLIANCE STUDY

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National Clinical Trials Networks (NCTN), supported by the National Cancer Institute (NCI), require research nurse engagement as members of multidisciplinary teams that develop and administer multi-site cancer research trials. However, due to competing work obligations, the research nurse may be unable to provide multi-site study staff with detailed and timely responses to questions regarding trial design, study eligibility, adverse events, and data collection/management procedures; or initiate other quality management-related actions. Inattention to quality management by an overly committed research nurse may compromise research study fidelity and internal validity. The purpose of this qualitative sub-study was to describe the scope of a dedicated research nurse assigned to an NCI Community Oncology Research Program (NCORP) R01-funded NCTN clinical trial (NCT04137107) by exploring communication, educational, and support strategies using an adapted quality nurse caring model. The parent R01-funded study (A221805) was designed to incorporate a dedicated advanced practice oncology nurse to serve as the research nurse for the study. The current qualitative study retrospectively analyzed email communications between the research nurse and multi-site research staff who enrolled or intended to enroll patients on A221805. Emails were analyzed using thematic analysis to identify communication patterns. Initial codes were informed by a theoretical framework and validated by member-checking. Through iterative team meetings, emerging codes and themes were discussed, leading to the inductive refinement of a codebook. The dedicated research nurse provided simultaneous member-checking for qualitative credibility. Dedoose version 9.0.90 was used for analysis. Three themes emerged from the research nurse's email communication: educational, validating, and caring. Communication themes from site staff included questions, gratitude statements, and rapid, helpful, and/or thorough responses. Codes were connected to outcomes (e.g., research staff knowledge, patient safety, research fidelity) identified in the adapted Quality Caring Model. Qualitative research evidence suggests that a dedicated research nurse's communication across multiple NCTN sites may be critical to ensuring high-quality research outcomes. Further quantitative research is warranted to explore causal relationships.

ADHERENCE TO THE MEDITERRANEAN-DASH INTERVENTION FOR NEURODEGENERATIVE DELAY DIET ON COGNITIVE STATUS IN CANCER SURVIVORS

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Cancer-related cognitive impairment is an understudied long-term effect of cancer treatment, with no standard way to mitigate the impact on cancer survivors. Dietary patterns, like the Mediterranean-DASH Diet Intervention for Neurodegenerative Delay (MIND) diet may improve cognition in aging populations, warranting further evaluation in post-treatment cancer patients who suffer from cognitive dysfunction. Therefore the purpose of this study was to determine the relationship between adherence to the MIND diet and cognitive dysfunction in cancer survivors. This was a secondary cross-sectional analysis of adult cancer survivors who were at least six months post-primary treatment. Subjective cognition was assessed via the Functional Assessment of Cancer Therapy - Cognitive Function (FACT-Cog) questionnaire, with perceived cognitive impairment (PCI) used as the primary score. MIND diet scores were calculated from dietary intake via the Diet History Questionnaire III (DHQIII). T-tests and linear regression models examined the relationship between MIND diet score and cognition. Regression models were adjusted for age, body mass index (BMI), physical activity, total caloric intake, and number of cancer treatments. Of 24 participants, all were White females with an average age of 58.5 ± 13.7 years and BMI of 29 ± 7.1 kg/m2. Most participants were breast cancer survivors (63%) and 50% of all participants underwent at least three treatments, where surgery (79%), chemotherapy (67%),

and radiation (54%) were most common. The average MIND diet score was 6.3 ± 2.0 (range: 3.0-9.5) and mean PCI score was 21.67 ± 14.2 (range: 0-53), showing low to moderate MIND diet adherence and more cognitive impairment. There were no statistical differences in PCI between those with a low versus high MIND diet score (p = 0.29). MIND diet score was not a predictor of PCI status after adjustment (p = 0.39). Discussion and Implications: While subjective cognitive impairment was evident in the cohort, there was no significant relationship between the MIND diet score and cognitive status. Larger, more diverse studies are needed to observe the association between diet and cognition in cancer survivors. Interventional trials with additional quantitative assessments are warranted to investigate how diet can improve cognition in cancer survivors. The MIND diet has yet to be fully explored in cancer survivors, a population at risk for cognitive dysfunction.

THE ASSOCIATION BETWEEN MALNUTRITION SCREENING TOOL SCORES AND 30-DAY HOSPITAL ADMISSIONS IN THE OUTPATIENT ONCOLOGY SETTING

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Malnutrition is prevalent among cancer patients and can lead to poor patient outcomes, like higher hospital admission rates. The Malnutrition Screening Tool (MST), a validated tool in the outpatient oncology setting, has been associated with improved patient outcomes when used in conjunction with early nutrition interventions. This study aimed to evaluate the relationship between MST scores and 30-day hospital admissions. A retrospective chart review of oncology patients at a midwestern cancer center was conducted between February-May 2023. The primary outcome was 30-day hospital admissions from the time of MST evaluation at the initial outpatient oncology visit. Patients were grouped based on the MST risk score (<3 or ≥3), where those with a score ≥3 were deemed at high malnutrition risk. Secondary analyses examined differences in patient characteristics between groups. Fisher's exact test and independent t-tests were used.

Findings and Interpretation: Of 33 patients, the majority were White (76%) and male (61%), with a mean age of 60.4 ± 12.9 years, and BMI of 26.5 ± 6.7 kg/m2. Most patients had a diagnosis of gastrointestinal cancer (55%), stage IV (36.4%), with 58% receiving chemotherapy treatment. There was a high overall 30-day admission rate of 64% and high malnutrition risk prevalence of 37%. There was no statistically significant association between MST scores and 30-day hospital admissions, where in the MST <3 group, 58% of patients had a 30-day hospital admission, compared to 78% in the MST >3 group (p=0.43). Race was significantly different between MST groups, where 80% of those identifying as races other than White or Black were at high risk of malnutrition (p=0.03). Higher MST scores were not statistically associated with higher 30-day hospital admission rates, although the prevalence of admission among those with an MST >3 was 20% higher than those at low-malnutrition risk. Small sample size may limit these findings, warranting further evaluation in larger cohorts. Additionally, future research should investigate the impact of MST scores on 30-day hospital admissions across the cancer continuum, including during active treatment when the risk of developing malnutrition is highest. Screening for malnutrition risk in the outpatient setting may be important for early intervention to prevent poor outcomes, especially among at-risk groups.

PATIENT AND ORGANIZATIONAL LEADER PERSPECTIVES ON ENGAGEMENT IN A NURSE-LED, TECHNOLOGY-ENHANCED, ALGORITHM-MEDIATED (NURSE TEAM) CANCER SYMPTOM MANAGEMENT APPLICATION: A CROSS-SECTIONAL, DESCRIPTIVE STUDY

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Remote symptom management during chemotherapy is associated with better quality of life and fewer emergency department visits. Suboptimal

engagement in remote symptom management applications threatens their efficacy, yet the optimal strategies by which to engage patients and organizational leaders in these applications are unclear. The purpose of this study in progress is to (a) identify design features that promote patient and organizational leader engagement with a nurse-led, technology-enhanced, algorithm-mediated application (Nurse TEAM) to facilitate symptom self-reporting and evidence-based cancer symptom management; and (b) assess the usability and acceptability of Nurse TEAM. We are recruiting English- and Spanish-speaking patients with solid tumors undergoing chemotherapy and organizational leaders from two community-based ambulatory oncology clinics affiliated with our NCI-designated comprehensive cancer center. Participants complete individual cognitive interviews as they use a clickable prototype of Nurse TEAM. After each interview, participants self-report demographic characteristics, then complete the User Engagement Scale (UES), System Usability Scale (SUS), Acceptability of Intervention Measure (AIM), and Intervention Appropriateness Measure (IAM). We are analyzing cognitive interview transcripts using conventional content analysis and summarizing survey responses using descriptive statistics. To date, seven patients and six organizational leaders have completed data collection. On average, patients were 55.3 (SD = 6.9) years old, female (5/7, 71.4%), married (6/7, 85.7%), and white, non-Hispanic (6/7, 85.7%) with a high school (3/7, 42.9%) or college (3/7, 42.9%) education. Organizational leaders were female (5/6, 83.3%), white, non-Hispanic (5/6, 83.3%) executives (3/6, 50.0%) in medical oncology (4/6, 66.7%). Table 1 details UES, SUS, AIM, and IAM scores by participant group. In cognitive interviews, patients approved of features that allowed them to view their symptom history, review symptom self-management education, identify symptom management goals, and contact their clinical team. Patients also wanted features that would normalize their symptom experience and allow them to view their progress through treatment. Organizational leaders approved of features that allow clinicians to view symptom trends and generate tailored evidence-based symptom management recommendations. Neither patients nor organizational leaders viewed badges or other gamification features as engaging. Patients and organizational leaders found Nurse TEAM usable, acceptable, and appropriate. Additional research is needed to identify novel, non-gamified features that promote focused attention to and engagement with remote symptom management applications. Our current recruitment efforts aim to increase the racial and ethnic diversity of our patient participants.

CONSTRUCTION AND VALIDATION OF AN INSTRUMENT TO ASSESS THE KNOWLEDGE OF HEALTH PROFESSIONALS IN ONCOLOGICAL CARE FOR THE TRANSGENDER POPULATION

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As a minority in society, the LGBTQIAPN+ community experiences discrimination and violence through the propagation of social stigmas, in addition to being marginalized by the health system. The transgender population tends to experience cancer and other diseases at higher rates, due to the difficulty in accessing health, mainly due to the fear of discrimination by professionals. The purpose was to construct and validate with experienced judges in the area an instrument to evaluate the oncological knowledge of health professionals about the transgender population. A scoping review of the literature was conducted to support the construction of the instrument entitled "Preparation of health professionals for oncological care for transgender population". Pasquali's assumptions were used as a theoretical basis, which establishes principles to be followed for the creation and validation of measurement instruments based on constructs. A pre-instrument was then defined satisfying the criteria: behavioral, objectivity, simplicity, clarity, relevance, accuracy, variety, modality and typicality. The instrument was submitted to content validation by 9 experts in the field using the Delphi technique in March 2023. The level of agreement for validation was set at 80%. The initial instrument was composed of 26 items divided into three categories: Knowledge, Attitudes and Health practices,

following the criteria of breadth and balance. After the first round, 19 items underwent changes regarding formulation and/or categorization. The category 'Attitudes' was changed to 'Feelings and opinions'. After these changes, the instrument was sent for further validation. In the second round, 5 items did not reach 80% agreement and were changed and forwarded to a third round, in which they were approved. After all items reached 80% agreement, the instrument remained with 26 items divided between: Knowledge with 11 items, Feelings and opinions with 8 items and Health practices with 7 items. The literature points out the absence of instruments that allow assessing the level of knowledge of oncological health of the transgender population. Through this work it was possible to build an instrument that allows the evaluation of the knowledge of professionals and validate it with oncology experts. The instrument is now being validated with the target population.

SYMPTOM BURDENS AND SOCIAL FACTORS IN OLDER CANCER SURVIVORS RECEIVING IMMUNOTHERAPY: INSIGHTS FROM THE NIH ALL OF US RESEARCH PROGRAM

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Immunotherapy is a biological treatment that modulates the immune system to treat cancer but may lead to immune-related adverse effects. Symptom burdens correlate with treatment adherence and survivorship, while the social environment significantly influences patients' recovery, disease experience, and overall quality of life. Despite this, limited information exists on symptom burdens and their connection with social determinants of health (SDOH) among older adults undergoing cancer immunotherapy. This study aims to analyze the prevalence of depression, fatigue, and sleep disturbance and their association with SDOH in this population. We utilized the National Institutes of Health All of Us data, involving a cohort of 110 individuals aged 65 years and above undergoing immunotherapy who participated in the SDOH and the Healthcare Access and Utilization Survey. Sample characteristics were described using mean, median, frequency, and percentage. To analyze the relationship between symptoms (symptomatic vs non-symptomatic), demographics, SDOH, and healthcare, Wilcoxon (or t-test) or Pearson chi-squared test were used. Statistical analyses were performed in the All of Us Researcher Workbench using Jupyter Notebook in R (p<.05). The majority were White (n=89) and 66% were female (n=67), with an average age of 66.8±11.1 years. Nearly half reported fatigue, 30% reported depression, and 28% reported sleep disturbance. Individuals with depression were more likely to feel that they received poorer services when visiting the doctor's office (15.2% vs 2.6%), have reduced assistance during sickness (84.5% vs 97.3%), heightened feelings of isolation (45.5% vs 22.6%), and less likely to receive discourteous treatment (42.4% vs 55.8%) compared to those without depression. The majority of the fatigued group disagreed that their neighborhood has several free or low-cost recreation facilities (48.1% vs 14% [non-fatigued group]). Individuals without fatigue are more likely to seek suggestions for personal problems (75.9% vs 62.7%), which is likely to affect their relationship with healthcare providers. The data also suggest a significant association between companionship and whether or not cancer patients experience sleep disturbance (p=0.033). Symptom burdens may influence the perception of service quality received by cancer survivors. Due to the association of depression, fatigue, and sleep disturbance with social experiences, psycho-oncology and rehabilitative services should be actively integrated into cancer care, subsequently improving the recovery experience of patients. Further studies should focus on the interrelation of individual and social factors on depression, fatigue, and sleep disturbance.

PERCEPTIONS OF TELEHEALTH SERVICES AMONG RURAL LUNG CANCER PATIENTS IN DEVELOPING COUNTRIES: A QUALITATIVE STUDY USING THE TECHNOLOGY ACCEPTANCE MODEL

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Lung cancer patients in rural China have higher rates of late diagnosis and mortality than do those in urban areas, with prominent disparities in prognosis and disease burden between the two groups of patients. Owing to geographic constraints, lung cancer patients living in rural areas may not only be at a socioeconomic disadvantage but also face huge challenges access-

ing professional health care. Thus, it is necessary to understand their telehealth experiences and demands to effectively address health disparities. A qualitative descriptive study design was used in this study and we conducted semi-structured interviews with 14 rural Chinese lung cancer patients between December 2022 and March 2023. Interview content was analyzed using Nvivo software and a framework analysis was performed using the Technology Acceptance Model to identify meaningful themes. It was found that rural lung cancer patients showed an interest in telehealth services. Participants identified perceptual and technical factors related to perceived ease of use, benefits and drawbacks related to perceived usefulness, and facilitators and barriers related to intention to use (Figure 1). Lung cancer patients residing in rural areas of China are increasingly turning to telehealth services as a potential solution to alleviate the disease burden and meet their care needs. However, in order to fully realize the potential benefits of telehealth services, it is crucial to optimize all aspects of disease-specific user interface design and ensure cost-effectiveness of care services. Additionally, rural areas and disease-specific characteristics such as technological literacy barriers and negative care-seeking behavior culture must be taken into consideration. More high-quality nursing team, specialized telecare lung function modules, and media technology training courses should be developed for rural lung cancer patients to enhance the quality of their home care, meet their information needs and better control their disease progression.

HOW DOES SOCIAL SUPPORT MEDIATE THE IMPACT OF CAREGIVER BURDEN ON QUALITY OF LIFE IN CHINESE PALLIATIVE CARE: A CROSS-SECTIONAL STUDY

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In China and Chinese cultural communities, family caregivers of late-stage cancer patients in palliative care units experience a decline in quality of life due to various burdens. It is necessary to discuss the in-fluencing factors and pathways affecting the quality of life of family caregivers in a specific cultural context. The purpose was to understand the factors influencing the quality of life of family caregivers of late-stage cancer patients in Chinese palliative care units and to test whether social support acts as a mediator between caregiver burden and quality of life, providing a reference for Chinese cultural communities. A cross-sectional study design was used, involving surveys of family caregivers using general demographic data, quality of life scales, caregiver burden scales, and social support rating scales. The Mann-Whitney U test and Kruskal-Wallis H test were used for factor analysis, and bootstrap methods were used to determine the mediating effect of social support. The quality of life of family caregivers in Chinese palliative care units for late-stage cancer is related to the daily care time of caregivers, the relationship between caregiver and patient, and the age of the patient. The quality of life of caregivers is negatively correlated with caregiver burden and positively correlated with social support. Furthermore, social support plays a mediating role between caregiver burden and caregiver quality of life. Providing culturally specific social support can alleviate caregiver burden and improve the quality of life of family caregivers of terminal cancer patients in palliative care units. Families, society, and palliative care institutions should integrate to reduce the burden on family caregivers, increase social support, and transform the positive aspects of specific cultural backgrounds into an overall palliative care culture, jointly addressing various issues related to terminal cancer.

WHETHER TELEHEALTH INTERVENTIONS ARE EFFECTIVE FOR CANCER SCREENING AND WHICH REMOTE TECHNOLOGIES ARE MOST EFFECTIVE? A NETWORK META-ANALYSIS

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Cancer poses a severe threat to life expectancy and has an increasing mortality rate. Cancer screening

is a pivotal method for reducing mortality from disease, but the screening coverage is still lower than expected. Telehealth interventions have demonstrated significant benefits in cancer care, yet there is a lack of clarity about their effects on improving cancer screening. Additionally, there is no consensus regarding the most effective teletechnologies for promoting screening in average-risk individuals. Purposes were to detect the impact of telehealth interventions on cancer screening among average-risk populations and to identify the most effective teletechnologies. Six English databases, including the Embase, MEDLINE, Web of Science, PsycINFO, CLNAHL, and Cochrane Central Register of Controlled Trials (CENTRAL) databases were searched from inception until July 2023 to yield relevant randomized controlled trials (RCTs). Two individual authors completed the literature selection, data extraction, and methodological evaluations. Traditional pairwise analysis and network meta-analysis were performed to identify the overall effects and compare different teletechnologies. Thirty-four eligible RCTs involving 131,644 participants were enrolled. Overall, telehealth interventions showed statistically significant effects on the improvement of cancer screening (RR = 1.19, 95% CI: 1.12 to 1.26, P < 0.00001). Subgroup analyses revealed that telehealth interventions were most effective for cervical cancer screening (RR = 1.23, 95% CI: 1.09 to 1.39, P = 0.0009), and rural populations also experienced benefits (RR = 1.92, 95% CI: 1.07 to 3.46, P = 0.03), but there was no improvement in screening for older adults (RR = 1.08, 95% CI: 0.96 to 1.22, P = 0.21). The network meta-analysis indicated that mobile applications (96%), video plus telephone (88%), and text message plus telephone (76%) were associated with more obvious improvements in screening than other teletechnologies. Our study identified that telehealth interventions were effective for the completion of cancer screening. For different types of cancer, telehealth interventions were most effective for cervical cancer screening. For vulnerable groups, telehealth interventions benefit rural populations, but were ineffective for older adults. Mobile applications, video plus telephone, and text message plus telephone are the three forms of teletechnologies most likely to improve cancer screening. More well-designed RCTs involving direct comparisons of different teletechnologies are needed in the future.

YOUNG ADULTS CROWDFUNDING CANCER TREATMENT: A DESCRIPTIVE STUDY

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With the increasing costs of cancer care, young adults are searching for alternative solutions to make ends meet. Crowdfunding is one potential way of covering the direct costs of treatment and indirect costs (e.g., travel for treatment). Young adults with cancer are more likely to experience financial stressors when undergoing treatment as they may be students or are early on in their career trajectory and thus have more limited financial resources, including resources such as accrued medical leave and disability insurance. The focus of this study was to explore how young adults are using the crowdsourcing website GoFundMe to financially support themselves during cancer treatment. Following IRB approval, potential GoFundMe websites were screened between August and September 2023 using the search term "cancer." One hundred thirty-three sites were screened however, only 48 sites met inclusion criteria. Data was extracted between September and December 2023 using a web scraping tool (Python Script). Descriptive analyses were conducted using SPSS. GoFundMe sites were created primarily for females (54.17%), in their late twenties (M= 28.39 years old) diagnosed with breast (16.67%), brain (14.58%) colorectal (10.42%), leukemia (10.42%), adrenal (6.25%), soft tissue sarcomas (6.25%) and other cancers (31.25%). Site donation goals ranged from $2,487.8 to $1,243,900. Almost half of the GoFundMe sites met or exceeded their goal (47.9%). However, most of the remaining sites had raised at least half of their goal (29.17%). Donations ranged from $3.32 to $18,658.50 (M = $68.44), however most donations (95.7%) fell between $3.32-$200. Most sites were created to meet direct, indirect costs of treatment and daily expenses (e.g., mortgage or rent). Some sites were created to pay for experimental care which included clinical trials, alternative and unproven treatments. Funds were requested to help pay for travel experiences for the patient and/or family to make memories or pay for funeral expenses at the end of the patient's life. All sites raised some funds for the patient and their family. However crowdfunding success (i.e., meeting fundraising goals) appears to be variable. Future research should explore factors

related to successfully meeting fundraising goals. Nurses should work with patients to understand their financial burdens and advocate for legislation to support young adults financially, as financial stressors can negatively impact medical access, adherence, and broad psychosocial well-being.

THE IMPACT OF A VIRTUAL EDUCATIONAL COOKING CLASS ON INFLAMMATORY POTENTIAL OF DIET IN CANCER SURVIVORS

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Cognitive dysfunction is highly prevalent among cancer survivors. Inflammation may contribute to impaired cognition, where diet may represent a novel strategy to mitigate cognitive decline in cancer survivors. The purpose of this study was to assess the impact of an educational cooking class on inflammatory potential of diet (measured by the Dietary Inflammatory Index (DII)) in cancer survivors and determine the relationship between dietary changes and cognitive function. A non-randomized interventional study of a virtual educational cooking class was conducted in adult cancer survivors who were at least 6 months post-treatment. Dietary intake was assessed via the Diet History Questionnaire III (DHQIII) and cognitive function was assessed via the Functional Assessment of Cancer Therapy-Cognitive Function (FACT-Cog) questionnaire at baseline and 1-month post-intervention. Energy-adjusted DII scores (E-DII) were calculated from the dietary data. Changes in E-DII and cognitive function were assessed with Wilcoxon Signed Rank tests; Spearman correlations and multiple linear regression assessed the relationship between E-DII and cognitive function. Of 22 subjects, all were female, White, and primarily had breast cancer (64%), with a median age of 61.5 years and BMI of 28.4 kg/m2. There was a significant decrease in E-DII scores, becoming more anti-inflammatory, one-month post-cooking class (-2.3 vs -2.7, p = 0.005). There were significant improvements in the FACT-Cog sub-scores, including perceived cognitive impairment (COG-PCI, p<0.001), comments from others (COG-OTH, p<0.001) and quality of life (COG-QOL, p<0.001). Change in calories was a significant pre-

dictor of change in perceived cognitive ability (COG-PCA) after adjustment (β = 0.007, p = 0.04; 95% CI (0.000, 0.014)), but E-DII scores were not associated with cognitive function after adjustment.

Discussion and Implications: After attending a virtual educational cooking class, cancer survivors significantly decreased their inflammatory potential of diet and improved cognitive function scores after one month. Cooking classes may be an engaging and effective way to impact diet-derived inflammation for the improvement of cognition. Further research should evaluate the longitudinal impact of educational cooking classes and need for repeat exposure for sustainable action adoption in a larger, more diverse population. This research expands the use of a non-invasive and actionable nutrition intervention for cancer survivors experiencing cognitive dysfunction, where a virtual model may help reduce barriers to care.

MEASURING SYMPTOM BURDEN OF IMMUNOTHERAPY THERAPY FOR NON-SMALL CELL LUNG CANCER

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Non-small cell lung cancer (NSCLC) is the leading cause of cancer-related mortality in the United States. Agents that inhibit immune checkpoint activation by tumors have increased the 5-year median overall survival in advanced NSCLC from 2% to 16%. While immunotherapy (IT) is often well tolerated, it may have significant side effects. Validated patient-reported outcome (PROs) questionnaires allow accurate patient symptom measurement during treatment. Accurate measurement is critical for symptom science, an oncology nursing research priority. No symptom PROs currently exist specific to IT. The purpose of this study is to develop and validate a PRO to measure symptom burden in patient receiving IT. English-speaking patients, 18 years of age or older, with a diagnosis of NSCLC, and beginning first or second course of initial IT were eligible. All patients were treated at a comprehensive cancer center in the southcentral United States. After giving human subjects' research-approved consent, each patient completed the MD Anderson Symptom

Inventory (MDASI)-IT, a single-item quality of life (QOL) question, and the Functional Assessment for Cancer Therapy - general (FACT-G). The MDASI-IT is a 27-item PRO, measuring symptom burden of IT therapy, developed using qualitative patient interviewing and expert panel review. Ninety-eight patients completed the assessment. Mean patient age was 67.1 years (range 31-87 years), 51% were male, and 81% were white. 36% received pembrolizumab, 27% pembrolizumab and 28.5% received nivolumab. The mean symptom severity (0-10 scale with 0=not present and 10=as bad as can be imagined) was 1.68 (standard deviation[sd]=1.44). The mean interference was 2.10 (sd=2.18). Cronbach coefficients for internal consistency were 0.927 for the symptom items and 0.932 for the interference items. Intra-class correlations for test-retest reliability were 0.893 for the symptom items an 0.980 for the symptom interference items. Patients reporting good QOL had significantly lower symptom severity and interference scores than patients reporting poor QOL (both p=0.008). The MDASI-IT symptom items (-0.784) and interference items (-0.733) correlated well ($\geq$+/-0.7) with the FACT-G physical well-being scale. The MDASI-IT has good internal consistency and test retest reliability. It is able to differentiate groups of patients based on patient QOL rating. It demonstrates concurrent validity with correlation to the physical well-being scale of the FACT-G. THE MDASI-IT is a psychometrically sound PRO measuring symptom burden of IT for use in research or practice.

THE RELATIONSHIP BETWEEN ILLNESS PERCEPTIONS, DYADIC COPING AND ILLNESS MANAGEMENT AMONG BREAST CANCER PATIENTS AND THEIR SPOUSES: A DYADIC LONGITUDINAL MEDIATION MODEL

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Optimizing illness management after surgery is significant to better outcomes for breast cancer patients and their spouses. However, related studies are limited. Based on the theoretical and empirical studies, the illness management ability can be affected by illness perceptions, and dyadic coping might be the mediator during the path. A descriptive and longitudinal study was conducted among postsurgical breast cancer patients and their spouses. Their illness perceptions, dyadic coping, and illness management were tested by using the illness perceptions questionnaire-revised, dyadic coping inventory, and illness management assessment scale. The actor-partner interdependence mediation model (APIMeM) was constructed to explore the intrapersonal and interpersonal effects between the above three variables. The APIMeM revealed that some dimensions of patients'/spouses' illness perceptions showed positive/negative actor effects on her/his own illness management (positive effects: personal control, illness coherence dimensions; negative effects: timeline-acute/chronic, consequence, emotional representation, causes-uncontrollable factors dimensions). The significant partner effects were only displayed in the timeline acute/chronic dimension. Moreover, dyadic coping played the mediation effects during these paths, and only the actor-actor and partner-actor indirect effects were statistically significant. The study demonstrates the significance of illness perceptions in influencing dyads' illness management, and also reveals the underlying mediation mechanism of dyadic coping. It can provide more specific guidance for the dyadic interventions to optimize dyads' behavior among breast cancer patients and their spouses. Our study was the first longitudinal research to explore the intrapersonal and interpersonal effects between illness perceptions, dyadic coping, and illness management from the dyadic perspective among breast cancer patient-spouse dyads. As for clinical guidance in the future, it can be useful to help medical staff improve their illness management ability by conducting the illness perceptions-based dyadic intervention.

CONSTRUCTING NURSING EVALUATION INDICATORS FOR CONCURRENT CHEMORADIOTHERAPY FOR NASOPHARYNGEAL CARCINOMA BASED ON THE OMAHA SYSTEM

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Cancer nursing assessment based on the Omaha Problem Classification Table can provide patients with care in the fields of environment, psychosocial, physical and health-related behaviors, identify different health problems of nasopharyngeal cancer patients, and achieve scientific nursing assessment.

Methods From March 2023 to September 2023, a literature review and group discussion were used to initially develop a nursing evaluation index system for concurrent chemoradiotherapy for nasopharyngeal cancer, and 22 experts from 5 regions including Guangdong, Hong Kong, Ningxia, Hunan, and Guizhou were selected. Participate in the consultation. According to the importance of the items, the average score is ≥4 points, and the coefficient of variation is <0.25. Combined with the in-depth analysis of the suggestions put forward by the experts, the research team finally formed the construction of simultaneous radiotherapy and chemotherapy care for nasopharyngeal cancer based on the Omaha problem classification table. Evaluation indicators. Results In this study, the recovery rates of expert letter questionnaires were 100% and 72.7%, and the expert authority coefficients were 0.818 and 0.850 respectively. In the first round of expert correspondence, 10 experts provided opinions, and in the second round of expert correspondence, 2 experts provided opinions. The final evaluation indicators include 4 first-level indicators, 20 second-level indicators, and 80 third-level indicators. The first-level indicators include: environmental field, psychosocial field, physiological field and health-related behavioral field. Conclusion This study uses the Delphi expert correspondence method to explore the nursing evaluation indicators suitable for simultaneous radiotherapy and chemotherapy for nasopharyngeal carcinoma in my country. The Omaha problem classification table can be used to comprehensively and systematically evaluate the patient's health problems. Based on the nursing outcome, the nursing problems, The combination of interventions and outcomes reflects the holistic nature of nursing practice. The construction of indicators at all levels is scientific, systematic and feasible, providing theoretical and practical reference for the future construction of nasopharyngeal cancer care.

THE DEVELOPMENT OF THE 2024 ONCOLOGY NURSING SOCIETY RESEARCH PRIORITIES

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Organizational research priorities help express the research mission, prioritize funding, create a vision, and articulate the unique contributions of an organization to the research landscape. In the fall of 2023, an expert panel of 14 volunteers, reflecting diversity in years of oncology nursing experience, racial and ethnic backgrounds, geography of practice sites, and type of research participation continued this important tradition by developing the Oncology Nursing Society's (ONS) 2024-2027 Research Priorities. The process utilized multiple data sources including previous ONS research agendas, a literature review, and a stakeholder survey. Current ONS research priorities were cross walked with priorities from other cancer care organizations and funding agencies and summarized using content analysis. The stakeholder survey was summarized descriptively. Utilizing these data and a stack rank activity, five topics emerged as research priorities for the priorities of the upcoming three years: 1) continuing and developing advanced precision symptom science; 2) developing evidence for safe and effective cancer care delivery models and support of the cancer-nursing workforce; 3) describing the impact of the environment on cancer care delivery and outcomes; 4) determining the optimal integration of patient navigation across the cancer care continuum; and 5) advancing the use of innovative methodologies in oncology nursing research. In addition, the expert panel formulated ten evergreen statements that convey timeless wisdom, universal truths, or fundamental principles that are foundational for oncology nurse science. These include: recognition of all oncology nurses as important to the development of oncology nursing science; support for the growth and development of oncology nurse scientists; a commitment to diversity, equity, and inclusion; and cancer research across the lifespan. Evergreen statements also recognize the importance of cancer caregivers, value communities of interest in the research process, the vital role of clinical trials, multidisciplinary science teams, research directed at less common tumor types, and the need for oncology nurse scientists to remain current in research design, analytic techniques and emerging methodologies.

Discussion and Implication: The Oncology Nursing Society Research Priorities are an evolving resource that serves to anchor organizational vision, funding initiatives, mentorship, and policy.

EXAMINATION OF CANCER-RELATED DISTRESS USING THE NEW NATIONAL COMPREHENSIVE CANCER CENTER PROBLEM LIST

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Significance

Cancer-related distress (CRD) is experienced by nearly all people with cancer and, when severe or prolonged, is associated with high symptom burden, psychological comorbidity, decreased treatment adherence, disease progression, poor quality of life, and increased healthcare utilization. Though there has been considerable effort toward ensuring people with cancer are screened for CRD, the wide variety of causal factors, paired with need for further triage and limited resources to adequately address sources of CRD, results in delays in follow-up and/or untreated CRD. In December 2022, The National Comprehensive Cancer Network published an updated Problem List (PL) to screen for CRD. To our knowledge, prevalence of reported sources of CRD using the new measure has not yet been reported. This information is needed to ensure that clinicians are informed and prepared to respond to treat CRD. The purpose of this analysis is to describe the prevalence of CRD and reported sources of CRD among people with various cancer types who were screened using the new PL. This is a secondary analysis of cross-sectional medical record data collected between 2016-2023. The University of Wisconsin-Madison Clinical Research Data Service extracted CRD data (severity and reported sources of CRD), demographics, clinical characteristics, and follow-up information from records of people treated for cancer at a midwestern comprehensive cancer center. Our sample will consist of a subset of approximately N=650 people with cancer who were screened for CRD using the new PL in 2023. Descriptive statistics will be used to describe the sample, CRD severity, and reported sources of CRD. If possible, differences between CRD severity and reported sources of CRD by departments will be analyzed using Student's T-tests and/or Chi Square tests. Understanding prevalence of reported causes of CRD could improve practice by informing oncology nurses of what sources of CRD people with cancer report. Knowledge of which sources of CRD are most prevalent may also inform decisions to appropriate resources toward interventions targeting common sources of CRD.

SICKLE CELL DISEASE: FULL DISCLOSURE-CAUSES, COMPLICATIONS AND RACE

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Sickle cell disease is one of the most common and severe monogenic disorders in the world affecting over 100,000 African Americans in the United States alone. The hallmark of Sickle cell disease is a vaso-occlusive event where sickled cells occlude vessels and cause severe pain often followed by hospitalization and intravenous opioid therapy. Sickle cell disease is not a neoplasm; however, the care of this vulnerable population is the responsibility of oncology centers throughout the United States. Oncology nurses receive little education on this illness. We know that racial and medical biases lead to treatment disparities and poor health outcomes. Perhaps there is no patient population more impacted by racism than persons with sickle cell disease. Our purpose was to design a sickle cell disease learning module for nurses to improve assessment skills and to reduce knowledge deficits thereby creating better health outcomes, fewer treatments disparities, and more individualized nursing care for patients suffering from sickle cell disease. We created a didactic two-part educational series where we present Sickle cell disease pathology, clinical manifestations, treatment modalities and barriers to care which include racial, medical, and implicit biases. Participants completed an anonymous pretest and posttest at the conclusion of the series. Our posttest results indicate that this educational intervention improves nursing knowledge. Improvement on questions varied from 50% to 100% when analyzing pre and posttest results. Anecdotally nurses openly discussed changes they would make to their practice and how this series helped them to recognize their own biases when caring for individuals with sickle cell disease. Because of this educational series, nurses verbalized the importance of an evidence base approach when caring for this vulnerable population. We have concluded that educational classes with open and nonjudgement discussions can increase knowledge, improve practice, and help nurses to become more aware of how biases affect patient care. Additionally, we concluded that when knowledge improves, patients receive more compassionate and individualized care.

IMPACT OF PSYCHOSOCIAL DISTRESS SCREENING PARTNERSHIP WITH CANCER SUPPORT COMMUNITY SAN FRANCISCO BAY AREA IN AN AMBULATORY COMMUNITY-

BASED CANCER CENTER: A RETROSPECTIVE COHORT STUDY

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A not-for-profit, community-based organization (CBO) offers free emotional, social, and financial support services for cancer patients, families, and caregivers, and services are underutilized. A large, multi-specialty medical group operates an outpatient cancer center, part of a multi-hospital system and integrated delivery network (IDN). Cancer centers patients' psychosocial distress screening was done ad hoc, identified unmet health-related social needs were not visible to other IDN providers, and referrals were performed outside of EMR workflows. This study describes the implementation, feasibility, and acceptability of a cancer center psychosocial distress screening process in partnership with a CBO using an EMR integrated, evidenced based survey tool and referral matrix. The cancer center created a comprehensive referral matrix for patient distress management using the National Comprehensive Cancer Center Network (NCCN) version 2.2023. Demographic data was compared across patient cohorts, including age, sex assigned at birth, health insurance, marital status, employment status, race, ethnicity, and preferred language. The patients' top unmet physical, emotional, social, practical, and spiritual needs were identified for each cohort, and number of patients who participated in CBO programs. Between January and July 2023, 124 distress screens, representing 11% of total visits, were conducted for patients meeting distress screen criteria. Of these, 68% (81) had negative distress screens, and 52% (36) identified unmet needs. 5 patients participated in CBO programs from negative screens, while all 39 patients with positive distress screens identified unmet needs, with 6 participating in CBO programs. Demographic characteristics of positive distress screen patients included a higher percentage of women, those with commercial insurance, employed individuals, married-partnered individuals, and Non-Hispanic White patients. Notably, the demographic characteristics of the 81 negative distress screen patients included a higher percentage of retired individuals and those with Medicare insurance. Eighteen patients (9.2% of completed distress screens) and 7 patients without completed distress screening participated in CBO programs. Top identified unmet needs for both distress screen cohorts were similar. This retrospective study underscores the feasibility and acceptability of a manual psychosocial

distress screening process integrated into the EMR. The collaboration with a CBO successfully identified cancer patients' unmet health-related needs, leading to increased participation in CBO programs. The study emphasizes the limitations of existing EMR tools, advocating for further exploration to optimize these tools, improve care coordination, and reduce provider burden.

ILLNESS PERCEPTION AND RISK-MANAGEMENT BEHAVIORS FOR LYMPHEDEMA AMONG GYNECOLOGIC CANCER PATIENTS

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Lymphedema is an excruciating long-term condition. Gynecologic cancer patients undergoing lymphadenectomy or radiotherapy are at higher risk of lower limb lymphedema (LLL). They are encouraged to be alert to the possibility of LLL and take risk-management measures throughout life. Previous studies have showed illness perception had significant impact on health behaviors in a range of diseases. However, we know little about perception for LLL and adherence to risk-management measures of Chinese gynecologic cancer patients. The present study aimed to assess the current status of illness perception and risk-management behaviors of Chinese gynecologic cancer patients who were at risk of LLL, and further to examine the effect of illness perception on risk-management behaviors. This was a cross-sectional observational study. Participants were recruited by convenient sampling in the gynecological outpatient clinic of a cancer center. Illness perception and risk-management behaviors questionnaires specifically for LLL in Chinese gynecologic cancer patients were adopted. Descriptive statistics, Pearson correlation analysis, univariate analysis and hierarchical linear regression analysis were used for data analysis. The risk-management behaviors of samples need to be improved, especially in "physical exercise" dimension. For illness perceptions, patients perceived that their illness understanding was unclear, tended to regard lymphedema as a chronic, cyclical and serious disease, and experienced negative emotions caused by LLL, but they were optimistic about the controllability of LLL. Besides, patients just recognized some symptoms associated with LLL, and were more likely to attributed LLL to cancer, therapies and behavioral factors. Hierarchical linear regression analysis indicated that patients who recognized more symptoms,

were more aware of the severity of LLL, had a clearer understanding of LLL, and have a more accurate attribution of LLL, were more likely to perform better in risk-management behaviors for LLL. The present study adds our knowledge of perception for LLL and adherence to risk-management measures of Chinese gynecologic cancer patients. It could help health care providers design strategies based on patients' perception for LLL to promote their risk-management behaviors, further to minimize the occurrence and progression of LLL and improve quality of life. This study was the first to assess illness perception and risk-management behaviors for LLL in Chinese gynecologic cancer patients, and it validated the effect of illness perception on health behaviors proposed by common sense model.

MEDIATING ROLE OF SOCIAL SUPPORT AND ACTIVE COPING STYLE IN THE INFLUENCE OF CAREGIVER BURDEN ON ANTICIPATORY GRIEF AMONG INFORMAL CAREGIVERS OF ADVANCED CANCER PATIENTS IN CHINESE PALLIATIVE SETTING

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Informal caregivers assume the main responsibility of care for patients with advanced cancer. Due to the deterioration of disease and approaching bereavement, they tend to experience anticipatory grief (AG), which has a negative impact on their physical, psychological, behavioral and social functions, leading to prolonged grief disorder and adverse outcomes. The purpose was to explore the current status, influencing factors and mediation model of AG among informal caregivers of advanced cancer patients in Chinese palliative setting, so as to provide a new perspective for supports. The Family Caregiver General Information Questionnaire, Anticipatory Grief Scale, Caregiving Burden Scale, Social Support Scale and Simple Coping Style Scale were utilized to collect data. SPSS and Amos were utilized to perform statistical description, variance, correlation, multi-factor and path analysis. Two-sided P<0.05 indicated a statistically significant difference.

205 informal caregivers of advanced cancer patients were participated in the study, with 74.91±12.64 of AG. The results of multiple linear regression demonstrated that understanding of palliative care, death education, social support, caregiver burden and active coping style were the main influencing factors of AG (R-square=0.637). The results of path analysis and mediating effect test illustrated a direct positive effect of caregiver burden on AG (β=0.362, p<0.001), with the total effect of 0.510 (95% CI 0.312-0.654), the direct effect of 0.2 (95% CI 0.007-0.423), and the indirect effect of 0.309 (95% CI 0.123-0.496) (Figure 1). Death education, understanding of palliative care, social support, caregiver burden and positive coping style are important factors influencing the AG among Chinese informal caregivers of advanced cancer patients. Social support and active coping style play a mediating role in the impact of caregiver burden on AG. In further clinical oncology nursing practice, appropriate palliative and death education, caregiver knowledges and skills supplements, positive psychological supports are required to improve the AG, quality of life and the care of informal caregivers of advanced cancer patients, thereby improving patients' quality of life. We found out the influencing factors of AG experienced by informal caregivers of advanced cancer patients, and mediating role of social support and active coping in the influence of caregiver burden on AG, which provides evidences for further palliative practice.

EFFECT OF TELE-EXERCISE INTERVENTIONS ON QUALITY OF LIFE IN CANCER PATIENTS: A META-ANALYSIS

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Advancements in cancer therapy have greatly increased the survival rate of patients, and cancer has transformed from a lethal disease to a chronic disease. Survey results from 2020 showed that the number of cancer patients globally had reached more than 50 million people. However, due to the impacts of cancer, treatments, and complications, cancer patients often suffer from severe symptom burdens, such as

fatigue, pain, and psychological distress, which can lead to impaired quality of life. Tele-exercise interventions are cost-effectiveness non-pharmacological adjunctive therapy that can improve physical pain and psychological distress in cancer patients, but the effect on cancer patients' quality of life remains inconsistent. The purpose was to evaluate the impacts of tele-exercise intervention on cancer patients' quality of life. The PubMed (MEDLINE), Embase, CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), Web of Science, and PsycINFO databases were searched from inception to August 21, 2023. The Cochrane Collaboration's Risk of Bias tool 2 was utilized to estimate the risk of bias. For statistical analyses, R Studio was employed. This meta-analysis contained eight trials. When compared to controls, tele-exercise interventions (SMD=0.41, 95% CI: 0.12 to 0.70, p < 0.01; I2=54%, p=0.03) had a positive influence on improving cancer patients' quality of life. Subgroup analyses demonstrated that tele-exercise was more effective in improving cancer patients' quality of life for durations greater than or equal to 10 weeks. Furthermore, tele-exercise was found to have a stronger advantageous effect with quality of life among female cancer. In addition, among the types of interventions for tele-exercise, neither web-based nor telephone-based formats significantly enhanced quality of life among cancer patients. Tele-exercise interventions are a cost-effective and feasible non-pharmacological complementary way to improve quality of life among cancer patients. Tele-exercise with an intervention duration greater than or equal to 10 weeks may be more effective in enhancing cancer patients' quality of life. For female cancer patients compared with male cancer patients, tele-exercise may have a greater favorable impact on quality of life. Additional large-sample, well-designed randomized controlled trials are warranted to further validate the effect of tele-exercise concerning quality of life in cancer patients.

PROFESSIONAL QUALITY OF LIFE OF ONCOLOGY NURSES TWO YEARS AFTER THE COVID-19 PANDEMIC

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The purpose was to describe stress, teamwork, resilient coping, and professional quality of life (PQOL) among oncology nurses between March 2021 and March 2022. During the first year of the COVID-19 pandemic, oncology nurses experienced uncertainty, emotional distress, increased workload and challenges in care delivery. As the care environment began to normalize and vaccination became available in the subsequent year, the PQOL of oncology nurses and potential long-term effects of pandemic experience was unknown. This quantitative descriptive study was part of an exploratory sequential mixed methods design. Based on the findings of the initial qualitative study, four measures were selected: Nursing Teamwork Scale, Nursing Stress Scale, Brief Resilient Coping Scale, and PQOL Measure, which comprises compassion satisfaction, burnout, and secondary traumatic stress. Data were collected from August 2022 to March 2023. Oncology nurses (534 RNs, 118 APRNs) at a large academic healthcare system in the northeast region of the US were recruited with flyers and announcements. Nurses were asked to reflect on their experience since March 2021. Descriptive statistics and bivariate analyses were performed. Among the 178 participants (80% RNs, 15% APRNs), half provided direct care for COVID-positive patients. The PQOL measures revealed 99.6% reported moderate-high compassion satisfaction and 55% moderate resilience coping, despite that 53% reported moderate burnout and 48% reported moderate levels of secondary traumatic stress. Inpatient nurses reported higher secondary traumatic stress than outpatient nurses. Lower nursing stress, greater teamwork, and greater resilience were associated with significantly higher PQOL. There was no statistically significant association between caring for COVID patients and PQOL. The findings align with qualitative results, emphasizing the contributions of nursing stress, teamwork, and resilient coping on PQOL. Implications include a need for sustained system-wide support for teamwork and resilience to enhance PQOL of oncology nurses.

FACTORS ASSOCIATED WITH PAIN IN CANCER SURVIVORS- AN ANALYSIS OF BRFSS DATA

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Pain is one of the most common symptoms in cancer population, and may result from the tumor growth, diagnostic procedures, or cancer treatment. Yet, there is great inter-personal variability in pain phenotype.

Leaving untreated, cancer pain may persist months and years into survivorship, significantly impact personal well-being, functionality, and overall quality of life. Understanding the risk factors associated with pain is key in facilitating early identification of persistent pain in this population. Data from 2018-2022 Behavioral Risk Factor Surveillance System were pooled for the statistical analysis. Logistic regression models were used examine association between demographics, clinical factors, psychobehavioral factors and the presence of pain in cancer survivors. A total of 30064 cancer survivors age >=18 year old was included in the analysis. About 8% of cancer survivors reported experiencing physical pain caused by cancer or cancer treatment. We found that age (Exp(B)=0.89, p<0.001), sex (Exp(B)=1.43, p<0.001), BMI [underweight (Exp(B)=1.47, p<0.05), overweight (Exp(B)=1.18, p<0.05) obese (Exp(B)=1.16, p<0.05)], race/ethnicity [non-Hispanic Black (Exp(B)=1.73,p<0.001), Asian (Exp(B)=1.54, p<0.05), American Indian/Alaskan Native (Exp(B)=1.94, p<0.001); Hispanic (Exp(B)=1.32, p<0.05)], mental health ((Exp(B)=1.43, p<0.05), depression (Exp(B)=1.31, p<0.001), physical activities (Exp(B)=0.72, p<0.001) and received a written summary of cancer treatment (Exp(B)=0.54, p<0.0001) are associated with pain in cancer survivors. This study identified risk factors associated with pain in cancer survivorship, emphasizing the higher risk for certain subgroups. Notably, being physically active and receiving a written summary of cancer treatment exhibited a negative association with cancer pain, suggesting a protective effect. These findings underscore the importance of targeted interventions and comprehensive care strategies tailored to specific risk profiles in cancer survivors.

A SURVEY OF RURAL CANCER SURVIVORS' KNOWLEDGE OF SYMPTOM SELF-MANAGEMENT STRATEGIES

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Self-management of cancer-related symptoms is necessary to reduce symptom burden and improve quality of life among people living with cancer. However, evidence suggests that cancer survivors living in rural areas face unique barriers to symptom self-management, including cultural and social factors, fewer supportive care services, and geographical distance from care providers. As a result, rural cancer survivors often rely on their own knowledge and skills to manage symptoms. Qualitative investigations have described rural cancer survivors' behavioral, practical, pharmacologic and non-pharmacologic approaches to controlling and living with symptoms developed through trial-and-error. However, there is limited research documenting rural cancer survivors' knowledge of evidence-based symptom self-management strategies. Understanding of which strategies are more and less frequently known to rural cancer survivors can inform nurse-led interventions to improve symptom management and reduce disparities in this population. The purpose of this study is to describe rural cancer survivors' knowledge of evidence-based symptom self-management strategies. A cross-sectional survey was mailed to a random sample of N=500 cancer survivors residing at rural Wisconsin zip codes. The survey assessed demographic and clinical information, and asked respondents to indicate whether they had learned about 27 different evidence-based symptom self-management strategies. This abstract reports preliminary results from the first N=215 survey respondents; final results will be updated at the time of presentation. Descriptive statistics were used to summarize the sample and rural cancer survivors' knowledge of symptom self-management strategies. Respondents to date are mostly White (95.8%), female (53.5%), and on average M=64 years old (SD=12.6, range=19-90). Most had been diagnosed with breast or prostate cancer and treated with surgery (66%), radiation (44%), chemotherapy (33%), and/or hormone therapy (17%). Respondents had learned an average of M=3.3 (SD=3.4, range=0-22) symptom self-management strategies. Physical activity (41%), active coping (29%), diet/nutrition changes (29%), and relaxation (27%) were the most frequently known strategies. In contrast, dance therapy (<1%), self-hypnosis (<1%), reflexology (1%), and acupressure (2%) were least frequently known. Rural cancer survivors have knowledge of some symptom management strategies more than others, with greater knowledge of mainstream approaches. Only physical activity was known to more than one-third of respondents, suggesting room for oncology nurses to educate rural cancer survivors about more self-management options. Future research should explore ways to overcome barriers to access and use of lesser-known strategies in the rural cancer survivor population.

CHRONIC HEALTH CONDITIONS, DISABILITY, AND PHYSICAL AND COGNITIVE LIMITATIONS AMONG LGBTQ+ CANCER SURVIVORS

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With advancements in cancer treatment and detection, there are now over 18 million cancer survivors living in the U.S. Compared to the general population, cancer survivors are at higher risk for chronic health conditions and physical and cognitive limitations. These risks may be magnified in minoritized populations such as survivors who identify as lesbian, gay, bisexual, or transgender. Purposes were: 1) To assess the difference in age-adjusted prevalence of chronic health conditions, disabilities, as well as physical and cognitive limitations reported by LGBTQ+ and non-LGBTQ+ cancer survivors in the United States. 2) To understand the differences in the cumulative burden of chronic health conditions between LGBTQ+ and non-LGBTQ+ cancer survivors. We used weighted cross-sectional data from the Behavioral Risk Factor Surveillance System (BRFSS) 2021 sexual orientation and gender identity and cancer survivorship modules completed by respondents across seven states. We calculated age-adjusted prevalence for each chronic health-condition, disability, and physical/cognitive limitation as well as a sum of lifetime chronic health conditions in LGBTQ+ and non-LGBTQ+ cancer survivors. Multivariable logistic regression models were used to calculate adjusted odds ratios (aOR) and 95% confidence intervals (CI) adjusted for age, race, ethnicity, smoking, and socioeconomic status (SES). Of 7,213 cancer survivors included in this analysis, 311 (4.3%) reported an LGBTQ+ identity. In weighted analyses, LGBTQ+ cancer survivors had significantly higher age-adjusted prevalence of many conditions including asthma (40% vs. 15%), COPD (21.6% vs. 8.6%), depressive disorders (49.6% vs. 29.1%), and cognitive limitations (38.6% vs. 14.9%) as well as reported more chronic conditions on average than non-LGBTQ+ cancer survivors. (1.2 vs. 0.7) Compared to non-LGBTQ+ cancer survivors, LGBTQ+ survivors were twice as likely to report asthma (aOR: 2.1, 95%CI: 1.1-3.3) and cognitive limitations (aOR: 2.0, 95%CI: 1.3-3.1), and 50% more likely to report depressive disorders (aOR: 1.5, 95%CI: 1.0-2.2). Our results affirm that LGBTQ+ cancer survivors have greater prevalence of chronic health conditions and physical and cognitive limitations than non-LGBTQ+ cancer survivors. LGBTQ+ cancer survivors may benefit from targeted interventions around health behaviors like smoking and coping with LGBTQ+ stigma related stress. Interventions at the clinician, health system and societal level are needed to reduce stigma experienced by LGBTQ+ cancer survivors and increase access to survivorship care.

TELEHEALTH DURING THE COVID-19 PANDEMIC AND ITS INFLUENCE ON TIME TO TREATMENT INITIATION IN A POPULATION OF PATIENTS WITH BREAST CANCER

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Cancer patients seeking treatment require efficient scheduling with appropriate providers to ensure the best possible clinical outcomes. This study's purpose aimed to identify if Telehealth [TH] vs. In-Person [IP] consults influenced the Time to Treatment Initiation [TTI] in a population of patients with breast cancer before, during, and after the COVID-19 pandemic. The global crisis caused healthcare delivery disruptions and patients reported delaying or avoiding medical care. This comprehensive cancer center in New York was not immune to these healthcare delivery challenges. Care models were modified to include home-based therapies and expand the scope of Telehealth initiatives. Improving access to cancer care involves understanding how integrating TH vs. IP consults could minimize system-level delays to starting treatment and potentially improve survival after cancer diagnosis. A retrospective analysis was conducted on n=960 deidentified electronic medical records of patients with breast cancer and demographic data was summarized for timepoints 2019, 2020, and 2021. In 2019, only IP consults were performed [n=447]. In 2020, TH vs. IP consults [n=128; 81 TH vs. 47 IP]; and in 2021 [n=385; 26 TH vs.359 IP]. Nonparametric statistical tests were used to examine

demographic data and time differences from initial consult to TTI in patients who had TH vs. IP consults for each of the study's time points, and overall. Statistically significant differences were found for age [p=.013] between 2019 [Median= 55], 2020 [Median= 52], and 2021 [Median= 55] suggesting that during COVID-19 younger patients opted for telehealth. Differences between the number of IP vs. TH consults over the years 2019 [no TH], 2020 [63% TH vs. 37% IP], and 2021 [93% IP vs. 7% TH] were statistically significant [p<.001]. Analyses comparing time in days from the initial call to treatment initiation between TH and IP consults were not statistically significant in 2020 and 2021. However, comparisons using all time-points found significantly greater time to treatment initiation[p=0.045] for IP [Median=33] vs. TH [Median=28] consults. Findings in this research sample suggest that IP consults appear to be preferred by study patients, as they increased proportionally in 2021, and the use of telehealth consults did not negatively impact the TTI. Further inquiry to identify oncology patient perspectives for choosing a consult modality would inform future patient education, communication, and engagement strategies.

EXAMINING CAR T-CELL PATIENT AND CAREGIVER LONGER-TERM OUTCOMES AFTER CAR T-CELL THERAPY

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The study aim is to describe patient symptom burden, cognitive function, and quality of life (QoL) as well as caregiver QoL and caregiving burden among patients in remission and one to five years post-CAR T-cell therapy for lymphoma or multiple myeloma and their caregiver. In addition, we examine the association between patient outcomes (QoL and symptom burden) with caregiving burden. Available evidence focuses on short-term outcomes after CAR T-cell therapy, with a paucity of data reporting on longer-term patient and caregiver outcomes. While the patient experience during the acute phase after CAR T-cell therapy is well-characterized, the longer-term symptoms and quality of life of patients in remission and caregiver experience has yet to be fully described. This is a cross-sectional study utilizing a social determinants of health framework. Patient-participants were recruited from a single-center academic medical center if they met the following criteria: > 18 years of age, one to five years post CAR T-cell therapy for lymphoma or multiple myeloma, English-speaking, able to consent to the study, and in remission. Caregiver-participants were recruited via referral from patient-participants and needed to be > 18 years of age, able to consent, and English-speaking. Our study uses validated measures including the PROMIS-29 and Zarit Burden Interview, as well as electronic medical record data collection for patient clinical variables. Our target sample size is 50 patients and 30 caregivers. Analysis will utilize descriptive statistics as well as bivariate correlational analyses to examine associations between patient outcomes, patient clinical variables, and caregiver outcomes. Currently, there are 31 patient-participants and 16 caregiver-participants. Data collection is ongoing and will be completed for results to be presented at the ONS conference. In this novel study, we describe the longer-term quality of life, patient symptom burden, and caregiving burden of patients and caregivers. We will examine the association between caregiving burden and patient symptom burden and quality of life. Our study has critical implications for long-term follow-up and care of CAR T-cell patients, a patient population that is quickly growing. In addition, our study will identify if there is a need to support caregivers beyond the acute post-CAR T-cell infusion phase. Subgroups of patients and caregivers at higher risk for poorer quality of life, caregiving burden, and symptom burden outcomes may be identified.

SOCIAL RISKS AND UNMET NEEDS IN INDIVIDUALS WITH CANCER LIVING IN METROPOLITAN AND NON-METROPOLITAN AREAS

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Residing in non-metropolitan areas may pose additional challenges for individuals with cancer, including inaccessibility of care or services due to distance, travel impediments, and financial constraints. Few studies have explored and compared the social risks and unmet needs of individuals with cancer living in metropolitan versus non-metropolitan areas. Purposes were: (a) To identify social risks and unmet needs in individuals with cancer and (b) to compare differences between those living in metropolitan and

non-metropolitan areas. We analyzed data from 900 individuals with cancer using the Health Information National Trends Survey (HINTS) 6 (2022). Metropolitan and non-metropolitan areas were identified using the Rural-Urban Continuum Codes 2013 based on zip codes. Variables such as education, household income, insurance, health literacy, food insecurity, housing instability, and lack of transportation were included to assess social risks and unmet needs. Descriptive statistics, t-tests, and Chi-square analyses were employed. Among 900 individuals with cancer, 759 (84.3%) resided in metropolitan areas, while 141 (15.7%) were in non-metropolitan areas. The mean age was 68.56, and the majority were Non-Hispanic White (75.4%), had less than a college degree (53.6%), had health insurance (98.2%), and had a household income of over $50,000 (56.7%). In the past 12 months, 9.3%, 8.7%, and 8.2% experienced food insecurity, housing instability, and lack of transportation, respectively. However, more than 30% reported feeling uncomfortable sharing these issues with their healthcare providers. Approximately 11.3% to 27.0% had low health literacy in understanding health information and medical statistics. Individuals with cancer living in non-metropolitan areas had lower health literacy, $t(885) = -3.059$, $p = .002$; were more likely to have lower household income, $2(4, N = 821) = 16.65$, $p = .002$; and had less education, $X2(3, N = 887) = 23.90$, $p < .001$, than those in metropolitan areas. However, there were no statistical differences in food insecurity, housing instability, lack of transportation, and insurance between individuals in metropolitan and non-metropolitan areas. We identified differences in social risks (low income, education, and health literacy) but no differences in unmet needs. A thorough examination of social risks and addressing their unmet needs are needed to reduce health disparities in non-metropolitan populations. In addition, fostering open communication and trust between individuals and healthcare providers becomes crucial for ensuring effective support and personalized care.

METFORMIN FOR CANCER CARE: REVIEW OF STUDIES TO DISCOVER WHO BENEFITS

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Repurposed use of metformin for anticancer effects has become increasingly common and sought by cancer patients. Conventional oncology clinicians typically do not have enough knowledge about risks and benefits to be comfortable discussing or prescribing metformin for cancer care. Definitive answers are needed to inform metformin's use in oncology. Because metformin use is accompanied by some serious side effects, including increased risk of worse cancer outcomes, interactions with some cancer treatments, gastrointestinal symptoms, anemia, and hormone imbalances, evidence-based information regarding risks and benefits can guide clinical practice. Hundreds of studies have produced conflicting results regarding metformin's effects on cancer survival or cancer risk. We conducted a review to assess the strength of the evidence regarding metformin in cancer care and to elucidate sources of conflicting results that clinicians and patients may use to better inform shared decision-making. We reviewed 193 clinical studies, including at least 96 meta-analyses, from Pubmed through March 2022 on metformin's use in cancer care. We categorized studies by population glycemia status, treatment doses, timing, duration, and other characteristics to find possible causes for these conflicting results. One clear difference we found among the reported outcomes was the populations they sampled. Many studies included only subjects with diabetes, a few studies included only subjects without diabetes or prediabetes, and some studies included both sets of subjects. Parsing studies into the separate populations of subjects with diabetes/prediabetes versus no diabetes produced clear patterns of treatment effects based on the subjects' glycemic status. Use of metformin shows substantial benefit for improved survival and reduced risk of many types of cancer among people with diabetes, prediabetes, or other metabolic conditions related to hyperglycemia. Among people without hyperglycemia, published evidence shows very little or no benefit from metformin. In our review of clinical studies, very few studies interpreted their results based on subjects' glycemic status. Yet we found clear differences in cancer risk and outcomes depending on the glycemic status of study subjects. Identifying whether metformin may benefit specific cancer populations is a key in educating patients about this off-label therapeutic option and supporting shared decision-making.

COMPLEMENTARY AND ALTERNATIVE MEDICINE USE IN PEOPLE WITH CHRONIC MYELOID LEUKEMIA

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Cancer patients use a variety of methods to treat their cancer and manage symptoms/side effects including complementary and alternative medicine (CAM). Individuals with Chronic Myeloid Leukemia (CML) who take Tyrosine Kinase Inhibitors (TKIs) have substantial side effects from TKIs. Little is known about CAM use in CML patients. The purpose was to explore CAM use in CML patients taking TKIs. This is a secondary descriptive analysis of a parent study about TKI adherence trajectories for CML. This study evaluated CML patients on TKIs (N=101) that completed surveys between October 2019-October 2023. Patients were given a list of 37 CAM methods and described CAM use, frequency, effectiveness, and cost for treatment and symptoms/side effect management. Patients (61% White; 51% female) aged 49±15 years (range19-81) were well educated with 78% having some college or holding an undergraduate or higher degree. More than half (53%) made over $50,000/year. Almost half (49%) used at least one CAM method within the last year. The most used methods were exercise (37% of participants used), dietary supplements (18%), meditation (12%), massage (10%), spiritual healing/prayer (8%), and marijuana (8%). Costs over the last year varied; half of participants who used massage or marijuana reported spending between $100-$500; 56% of people who used dietary supplements spent <$100, 54% of those that exercised reported no cost, and all that reported using spiritual healing/prayer reported no cost. Participants reported practicing meditation, taking dietary supplements, and spiritual healing/prayer daily; exercising at least once a week; getting massages at least once a month; and marijuana use varied. Patients reported that the following methods were effective: spiritual healing/prayer (100% of those that used this method said it was effective), dietary supplements (94%), meditation (92%), massage (90%), marijuana (88%), and exercise (81%). Patients who did not use CAM reported not doing so primarily because they weren't interested or did not need it, but some did not know about CAM or had financial concerns. Some individuals with CML are using CAM for treatment and side effect/symptom management. Exercise was most frequently used, but spiritual healing/prayer was considered most effective. Providers should educate patients about CAM and encourage open communication to understand any CAM use to promote optimal patient outcomes. Future work should explore what symptoms/side effects are being treated with CAM.

PERCEPTIONS AND NEEDS FOR A WEB-BASED DYADIC INTERVENTION TO MANAGE PSYCHONEUROLOGICAL SYMPTOMS IN PATIENTS WITH COLORECTAL CANCER AND THEIR CAREGIVERS: A QUALITATIVE STUDY

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Patients with colorectal cancer (CRC) and their caregivers often experience psychoneurological symptoms such as fatigue, depression, anxiety, and sleep disturbance. These symptoms can lead to significant detrimental effects on their mood and quality of life. Utilizing a dyadic intervention approach can potentially generate a more synergistic effect on symptom management compared to strategies that focus solely on the patient. To date, there is a noticeable gap in research regarding symptom management for patient-caregiver dyads, particularly using web-based tools. These digital tools provide high flexibility and accessibility for disproportionately affected patients and their caregivers in symptom management. Therefore, the purpose of this study was to describe the needs and perceptions of patient-caregiver dyads for a web-based tool to manage psychoneurological symptoms. This study utilized a qualitative descriptive design with purposive sampling. We conducted semi-structured interviews with CRC patients undergoing chemotherapy and their caregivers. The interviews were recorded and transcribed. A thematic analysis was performed to identify key themes that could inform the development of a web-based intervention tailored for CRC patient-caregiver dyads. The study included a total of 11 patients (median age 63 years, 55% female, 81% White) and 8 caregivers (median age 53 years, 75% female, 75% White). The patient-caregiver relationships varied (5 spouses, 2 parent-child dyads, 1 sibling dyad, and 3 individuals without caregivers). Four main themes were identified in our analysis, which include: (1) high burden of psychoneurological symptoms experienced by patient-caregiver dyads, (2) self-identified strategies for symptom management, including information seeking and self-education, family and social support, and engaging in physical and leisure activities, (3) input and suggestions for technology use, covering aspects like content, format, and social interaction features,

and (4) concerns about health equity, particularly in terms of technological literacy, geographical distance, and time constraints. Our findings provide novel insights into the experiences, needs, and suggestions from CRC patient-caregiver dyads to manage psychoneurological symptoms. Leveraging these findings, we aim to develop a web-based dyadic intervention tool that best cater to the psychosocial needs of these patient-caregiver dyads and enhance health equity in the process by making care more accessible.

COLORECTAL CANCER: ADHERENCE FACTORS

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Colorectal cancer (CRC) is the second leading cause of cancer-related death in the U.S. In 2023, over 150,000 will be newly diagnosed with CRC and over 52,000 individuals will die. More than half of these cases will be attributed to causes that could have been detected with screening, like precancerous polyps. Adherence to CRC screening significantly decreases morbidity and mortality of the disease. The purpose of this study was to compare cancer screening adherence among individuals with and without health insurance, along with urban/rural residence and demographic data, using nationwide survey data. Secondary analysis of the 2021 Behavioral Risk Factor Surveillance Survey was conducted. The sample included 7,472 total cases, male and female, over the age of 45. Logistic regression was used to estimate the odds of completing a CRC screening, using health insurance and urban/rural residence as the variables. Gender and urban/rural residence were not significant when looking at CRC screening adherence. The odds of CRC screening adherence with an endoscopy was 20%, CI [.151, .265], higher with the presence of health insurance. The odds of CRC screening adherence with a stool test was 46.9%, CI [1.057,2.042], if living in an urban area. Insurance status and gender were not factors in stool testing adherence. Health insurance contributes to completing CRC screening with a sigmoidoscopy or colonoscopy. Urban residence accounted for higher adherence rates versus rural residence with stool tests. More research needs to be done to explore access to CRC screening for those who do not have health insurance and who live in rural areas.

THE EFFECTS OF INTERNET - BASED HEALTH EDUCATION INTERVENTION ON SELF-CARE

ABILITY, SENSE OF SHAME AND LIFE QUALITY OF COLORECTAL CANCER PATIENTS AFTER COLOSTOMY: A RANDOMIZED CLINICAL TRIAL

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This study was conducted to evaluate the effect of Internet-based health education intervention on self-care ability, sense of shame and life quality of colorectal cancer patients after colostomy. This study was a randomized controlled trial. seventy-six colorectal cancer patients after colostomy were recruited from May 2021 to November 2022. They were randomized into either intervention group (N = 38) or control group (N = 38). The control group received routine care and follow-up, while the intervention group received internet - based health education intervention. The self-care ability (ESCA), Sense of shame (SIS) ,life quality (Stoma QOL) and stoma related complications of colorectal cancer patients after colostomy were evaluated between the groups before the intervention, at discharge, and 3 and 6 months after discharge. A linear mixed model was used to examine the intervention effect on primary and secondary outcomes. 70 colorectal cancer patients after colostomy completed the study (92.1%). Before intervention, there was no statistically significant difference in the incidence of ESCA, SIS, Stoma-QOL, and stoma related complications between the two groups of stoma patients (P>0.05). After 3 and 6 months of discharge, the intervention group had significantly higher ESCA and Stoma-QOL than the control group (P<0.05); The incidence of SIS and stoma related complications was significantly lower than that of the control group (P<0.05). The interaction between time and grouping shows that the effect of time factors varies with different groups; After intervention, there were statistically significant differences in self-care ability, shame, complications, and quality of life between the two groups of patients with colostomy at different observation points (P<0.01). The intervention group's ESCA and Stoma-QOL increased significantly with the migration of the observation time point, and were significantly higher than the control group, especially Stoma-QOL (P<0.01), while the incidence of SIS and stoma related complications was significantly lower than the control group (P<0.01). Internet-based health education intervention can significantly improve the self-care ability, sense of shame, reduce

the incidence of stoma related complications, and life quality of colorectal cancer patients after colostomy.

DEVELOPMENT OF THE BARRIERS AND FACILITATORS OF CHRONIC CANCER PAIN SELF-MANAGEMENT INSTRUMENT: A MIXED METHOD STUDY

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Minimizing barriers to chronic cancer pain self-management and maximizing facilitators is crucial to improved pain outcomes for cancer survivors. No available instrument measures both barriers and facilitators for chronic cancer pain self-management. While many studies identified the barriers to cancer pain management using Ward et al. (1998) Barriers Questionnaire (BQ), many essential factors were not addressed, including discrimination, and transportation, family and medical support and self-efficacy. The purpose was to develop and test an instrument that measures barriers and facilitators of chronic pain self-management among people with cancer. A sequential exploratory qual-QUAN mixed method design was used. Ten cancer people with chronic pain were interviewed. An exhaustive literature review and results of the Phase I qualitative study resulted in development of 151 instrument items. Two rounds of expert reviews were conducted to establish content validity during Phase II. Experts' ratings supported a 72-item measure with a content validity index of 95%. Phase III consisted of administering the 72-item measure to 200 participants with chronic cancer pain; They were recruited from one of the main outpatient oncology center and Facebook support groups. Exploratory factor analysis was conducted using principal component analysis and oblique rotation, including Promax rotations with Kaiser normalization. The analysis resulted in two "constructs" that underlie nine inter-related latent variables measured by the instrument. Seven were considered as barriers (health care providers' relationship; fear of side effects; fear of addiction, dependence and tolerance; beliefs; psychological stressors; discrimination; and transportation). Two were considered as facilitators (self-efficacy and active role; and family, friends, and social support). The total explained variance was 65.8%. Internal consistency for the two constructs' subscales was acceptable to good. The newly developed Barriers and Facilitators of Chronic Cancer Pain Self-Management instrument addresses essential factors not currently included in existing measures that affect pain self-management among cancer people with chronic pain, including patient-healthcare provider communication, discrimination, psychological factors and transportation. Also, the developed instrument will be the first to assess the facilitator-related factors, including family, friends, social support, self-efficacy, and the active role of the patient. Health care organizations could administer the BFCCPSM instrument as part of continuous quality improvement efforts. Results would help to develop organizational-level and provider-level mitigation strategies, to confront the pervasive issue of bias in chronic cancer pain management.

DEVELOPMENT AND PRELIMINARY APPLICATION OF MULTIMODE MANAGEMENT PROTOCOL FOR NUTRITION IMPACT SYMPTOM CLUSTER IN PATIENTS WITH HEAD AND NECK CANCER DURING RADIOTHERAPY

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Patients with head and neck cancer (HNC) often experience multiple nutrition impact symptoms (NIS) during radiotherapy, which can significantly impact patient nutrition, continuity of treatment, and quality of life. There is a lack of management protocol for NIS cluster in this population. Under the guidance of Framework for Developing and Evaluating Complex Interventions, this study aimed to: a) construct a multimode management protocol of core NIS cluster, and b) preliminary apply this protocol in patients with HNC during radiotherapy. This study composed management protocol draft based on evidence and main concepts of theory of symptom management. Then, one-to-one expert consultation was used to modify the protocol. For preliminary application, mixed research design was used. Quantitative part used historical controlled study design, and each group included 10-20 patients through convenient sampling. Control group accepted routine symptom management, while intervention group accepted management according to the protocol. Qualitative part used semi-structured interview to understand the experience about symptom management from patients and doctors participated in the intervention. Feasibility was evaluated through recruitment rate, attrition rate, compliance,

and experience from patients and doctors. Preliminary effect was evaluated by differences on NIS cluster assessed by the Head and Neck Patient Symptom Checklist (HNSC), body composition assessed by bioimpedance analysis, and quality of life assessed by the Quality of Life Questionnaire-Core 30 (QLQ-C30). Final protocol included oral care, swallowing function intervention, nutritional management, and so on, which was modified according to suggestions from five experts. There was no significant difference of recruitment rate (95.2% 1/21 vs 80.8% 5/26,x^2=1.078, P=0.299) and attrition rate between the intervention and control group (14.3% 3/21 vs 5.0% 1/20, x^2=0.465, P=0.495). Intervention group had lighter NIS cluster (group Wald x^2=8.578, P=0.003), slower rate of aggravation (time points*group Wald x^2=9.112, P=0.011), and had smaller interference on dietary (group Wald x^2=3.918, P=0.048). These two groups had no significant differences on body mass index, appendicular skeletal muscle index, and quality of life. Interview results indicated that the protocol had good feasibility and could help patients manage NIS cluster. The protocol for NIS cluster in patients with HNC during radiotherapy based on evidence and expert consultation had good feasibility. In the future, formal implementation and evaluation of the protocol should be continued, in order to reduce patients' symptom burden and quality of life.

THE ASSOCIATION BETWEEN PSYCHOLOGICAL RESILIENCE AND SOCIAL SUPPORT STATUS OF CHEMOTHERAPY PATIENTS WITH GYNECOLOGICAL MALIGNANT TUMORS: A CROSS-SECTIONAL STUDY

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This study aimed to investigate the psychological resilience and social support status of gynecological malignant tumor chemotherapy patients and their correlation, to provide a basis for improving the psychological resilience of gynecological malignant tumor chemotherapy patients. A cross-sectional research was conducted among Chemotherapy Patients with Gynecological Malignant Tumors from November 2022 to March 2023. And this research adhered to the STROBE guideline and approved by the Ethics Committee of Fu Jian Provincial Hospital. A stratified sampling followed by a simple random sampling technique was used to select 250 respondents. Structured and pretested questionnaires adapted from the CD-RISC and SSRS Questionnaires were used to collect the data. Epi-data version 4.2.0 and SPSS version 20 were used to enter and analyze the collected data, respectively. The psychological resilience score of gynecological malignant tumor chemotherapy patients was (79.06 ± 16.21), and the social support score was (36.01 ± 9.51). Univariate analysis showed that marriage had an impact on the psychological resilience of gynecological malignant tumor patients undergoing chemotherapy (P<0.05). Residential habits, family income, medical expense payment methods, and chemotherapy frequency had a statistically significant impact on the total score of social support assessment for gynecological malignant tumor chemotherapy patients (P<0.05). Psychological resilience is positively correlated with social support (P<0.01), and the higher the level of social support, the better psychological resilience. The psychological resilience and social support of gynecological malignant tumor chemotherapy patients are at a moderate level. In clinical work, attention should be paid to identifying the existing or potential psychological crises of these patients, improving their social support, and further improving their psychological resilience and quality of life.

A QUALITATIVE STUDY OF SEXUAL HEALTH IN SEXUAL AND GENDER MINORITY WOMEN AFTER CURATIVE TREATMENT FOR BREAST, GYNECOLOGICAL, OR COLORECTAL CANCER

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Leading organizations, such as the National Comprehensive Cancer Network, American Cancer Society, National Cancer Institute, and the American Society of Clinical Oncology, stress the need to address sexual health issues in survivorship care, given the prevalence of sexual dysfunction following breast, colorectal, and gynecological cancer treatments. Twenty to 90% of female cancer survivors face disruptions in sexual health post-treatment; however, most research focuses on cisgender women, neglecting the needs of sexual and gender minority women. The purpose was to describe the meaning of sexual health for individuals who identify as sexual and gender minority women and who have undergone curative treatment for breast, gynecological, or colorectal cancer. A qualitative descriptive study was conducted with individuals who were assigned female at birth, identified as lesbian or bisexual, and were currently or formally

partnered with women. Participants were conveniently sampled from a larger group of individuals who completed a self-administered web-based survey about sexual health after cancer. Interviews were conducted using a semi-structured interview guide of open-ended questions about what sexual health meant to them, their experiences with cancer survivorship, and their priorities for what would improve sexual health post cancer treatment. Interviews were audio-recorded, transcribed, and analyzed using thematic analysis.

Findings: Individuals' (N=5) ages ranged from 27-41 with a mean age of 34.5 years. Three (n=3) were survivors of ovarian cancer and two (n=2) of breast cancer. Analyses supported three major themes: 1) There is a "silent crisis" in healthcare for queer people with cancer; 2) Sexual health is an unaddressed need for sexual minority women ("We have different needs than normal people, and especially [for] plastic surgery, it was awful"); and 3) Cancer care during the COVID-19 pandemic was unacceptable for these individuals. Participants were diagnosed or cared for during the peak of the COVID-19 pandemic and experienced emotional and physical wounds due to the perceived lack of compassion and care. Sexual and gender minority women, particularly those identifying as queer or non-binary, often feel unheard and marginalized within a healthcare system that lacks sensitivity to their sexual health needs. Findings underscore the need for survivorship and palliative and psychosocial oncology care, an ONS Research Priority, that is tailored for the preferences and priorities of sexual and gender minority women after cancer treatment to ensure their needs are acknowledged and addressed.

LONGITUDINAL CHANGES IN PATIENT-REPORTED QUALITY OF LIFE AND HOPE AMONG EARLY PHASE CLINICAL TRIAL PARTICIPANTS

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Little research has sought to understand associations of longitudinal changes in patient-reported outcomes (PROs) and clinical outcomes among early phase clinical trial (EP-CT) participants. The purpose was to examine associations of 1-month changes in PROs (quality of life [QOL] and hope) with clinical outcomes in adults enrolled on EP-CTs. We prospectively enrolled adults with cancer participating in EP-CTs at Massachusetts General Hospital from 04/2021-01/2023. We assessed QOL (Functional Assessment of Cancer Therapy-General, with subdomains of physical wellbeing [PWB], emotional wellbeing [EWB], social wellbeing [SWB], functional wellbeing [FWB]), and hope (Herth Hope Index [HHI]) at time of EP-CT enrollment and one-month later. Descriptive statistics and regression models explored associations of 1-month changes in patient-reported QOL and hope scores with patient characteristics and clinical outcomes (time on trial [TOT], treatment response, ED visits, admissions, and survival). Paired samples t-tests compared changes in FACT-G and HHI scores. Results: Of 205 enrolled patients, 159 (77.9%) had baseline and 1-month data evaluable for analysis (median age: 63.0 [range 33.0 – 88.6], 59.8% female, 93.6% metastatic cancer). Most common cancer types were gastrointestinal (31.5%), breast (22.0%), and head and neck (9.4%). Overall, mean QOL (75.21 vs 76.24) and hope (27.1 to 26.7) scores did not change significantly from baseline to 1-month. EWB significantly improved (16.2 to 17.0, p<0.001), but changes in PWB (20.3 vs 20.5), SWB (22.1 vs 22.4), and FWB (16.5 vs 16.3) were not significant. The only significant factor associated with change in QOL was baseline ECOG performance status (B=2.76, p=0.049). The only significant factor associated with change in hope score was older age (B=1.29, p=0.008). One-month changes in PWB were associated with reduced risk of ED visits (HR= 0.92, p=0.005). We found no significant associations with TOT, treatment response, admissions, or survival. In this novel study of EP-CT participants, we demonstrated longitudinal changes in QOL and hope and identified factors associated with these changes. Specifically, baseline performance status and age correlated with changes in these PROs, and we found that changes in PWB predicted a reduced risk of ED visits. Notably, despite the rigors and intensity associated with initiating an EP-CT, we showed significant improvement in EWB after 1-month of participation. Future studies should measure PROs over the course of trial participation to identify factors associated with changes in PROs and guide the development of targeted interventions.

DEVELOPMENT OF AN EDUCATIONAL MANUAL FOR CANCER PATIENTS UNDERGOING IMMUNOTHERAPY

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Immunotherapy has been considered as a new pillar of oncological treatment. Immune checkpoint inhibitors have generated significant clinical benefits and improved survival. However, they cause adverse events that are very different from those that occur as a result of treatment with conventional antineoplastic chemotherapy. Therefore, it is necessary to educate these patients and their families so they can understand the mechanisms of action of these immunotherapy, which is different from the conventional chemotherapy, understand the possible adverse events that may occur due to immune checkpoint inhibitors and understand what strategies they can use to help manage these adverse events if they occur. Therefore, the present study aims to develop an educational manual for cancer patients undergoing immunotherapy. This is a methodological research developed in four stages: 1. Bibliographic review, 2. Textual elaboration of the educational manual, 3. Selection of images and figures and 4. Formatting and configuration of the manual. Findings: the educational manual was prepared based on the scientific evidence available in the literature consulted and includes information and guidance regarding treatment with immunotherapy. Regarding the general structure of the educational manual, it was prepared in portrait mode, with dimensions 15 cm wide and 20 cm high. The manual has 20 pages and its content was distributed across eight topics, namely: 1. What is immunotherapy?, 2. What types of cancer can be treated, 3. What will your treatment be like, 4. Can I have side effects? , 5. What to do if you have side effects?, 6. What happen with your treatment if there are side effects?, 7. Identification card, 8. References. The educational manual has simple terminology, as well as illustrations to facilitate the teaching-learning process and make it more welcoming and attractive. It is believed that this manual will provide greater safety for cancer patients who are starting immunotherapy treatment, as well as during treatment.

ENHANCING NURSING SELF-EFFICACY WITH SYMPTOM MANAGEMENT IN END-OF-LIFE CARE ON A HEMATOLOGY- ONCOLOGY UNIT

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Hematology-oncology patients can have unpredictable illness trajectories and may experience life threatening complications related to their illnesses and treatments. With varied clinical experience of staff on a hematology-oncology unit, enhancing nursing self-efficacy in the often unexpected transition to end-of-life care was essential. Enhancing nurse self-efficacy with end-of-life symptom management and improving interprofessional communication through a three-part educational series. Nurses on a hematology-oncology unit were emailed a presurvey via REDCap to determine levels of self-efficacy in managing challenging symptoms and qualitative questions to assess barriers, challenges and priority areas for the educational intervention. A three-part education series was developed and offered over six weeks focused on enhancing nursing self-efficacy in end-of-life symptom management, emotional distress, spiritual and cultural considerations. Communication strategies were integrated throughout with an unfolding case discussion. A postsurvey assessed the effectiveness of the intervention. 65% of nurses who were sent surveys completed one or both surveys. A linear mixed-effect model was utilized to estimate the mean and significance of the changes. There were statistically significant increases in nurses' self-efficacy on 10 of 22 (45.5%) survey items ($p \leq .05$) (including nonpharmacologic interventions for pain, restlessness and delirium; identifying anxiety, describing the dying process; the nurse's role as advocate). The qualitative findings amplified the quantitative findings. The nurses described enhanced self-efficacy with communication, collaboration, nursing management of symptoms, supporting and preparing patients and families, and utilizing knowledge gained to promote a more positive, peaceful environment for patients, families and staff. The offering of this workshop enhanced hematology oncology nurses' self-efficacy in important areas of collaboration and end-of-life care for hematology-oncology patients and their families. The model for this project was effective and could serve as a foundation for further education related to end-of-life care for oncology nurses across oncology units.

DEVELOPMENT OF AN EDUCATIONAL PROGRAM TO INCREASE OBESITY-CANCER RISK KNOWLEDGE IN NURSES ACROSS A HEALTH NETWORK

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Obesity remains a major issue facing the El Paso, Texas region. Our institution is the largest health network and employer in the region. Greater than 75% of adult residents have excess weight and more than 36% are obese. Obesity is associated with an increased risk of at least 13 different cancer types. This prevalence of obesity and subsequently high incidence of cancers (liver, stomach, and breast), require us to take a population health approach in addressing this. Missing, was a systematic way to educate nurses about this so they can play a critical role in cancer prevention for our community. The purpose was to develop an educational program for nursing addressing the link between obesity and cancer risk. A current state assessment was performed to understand nurses' awareness of obesity and cancer risk. A literature review was conducted to understand what current information about the link exists. Based on this, four educational modules were developed providing an overview of cancer risk related to obesity, physical activity, food, and alcohol use. The modules were deployed to all 1,115 of our nurses via our internal education platform. Nutrition referral rates were compared from Jan 2022 – July 2022 (13.8% pre-education implementation) and August 2022 – March 2023 (17.1% post-education implementation). A survey was done across our four acute care hospitals and across eight specialties. Respondents who stated that they were aware of the link: 25% from emergency, 17% for both adult critical care areas, 14% medical/surgical, and <1% pediatrics, quality, pre-op, and imaging. The common answer was, nurses were not aware of the link, and expressed education on the matter would be impactful for their specialties. Given the prevalence of obesity and cancer in our community, developing education modules to address this link and disseminating it to our nurses, serves as a critical step in cancer prevention efforts. These modules enabled nurses in high-impact areas like cardiology, primary care, and critical care to address obesity from a cancer prevention lens. Though it is still early to realize its true impact, data suggests educating our nurse workforce increases the number of nutrition referrals and thus patient teachings about obesity and cancer risk. More broadly, it catalyzed a high-level conversation between public health, hospital, and community leaders.

FAMILY PREFERENCES FOR NURSING

INTERVENTIONS DURING END OF LIFE CARE OF A LOVED ONE IN THE HOSPITAL SETTING

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Most individuals prefer their site of death not be in the hospital. Yet, this is dichotomous with our American reality where most deaths occur in the acute care setting and family members are often relegated to a position of bystander. Reported here are the results of descriptive research to determine family preferences for nurse-specific interventions during end-of-life care of a loved one in the hospital setting. Results of this research has driven unit-specific care guidelines for the development of family-targeted nursing care at the end of life within the acute care hospital setting. Data collection was initially planned for a period of 32 weeks. A log was created from Medical Record data specific to deceased characteristics and next of kin variables. A cover letter, Study Information Sheet, and consent form was sent to the next of kin (translated versions of Vietnamese, Korean, and Spanish were made available). Ten staff nurses (five bilingual) collaborated on this research and underwent a 3 hour training session. They used the 13-item Family Preferences for End of Life Nursing Care Survey which was developed based on literature noted in hospice nursing research (see p.1of 2attached). A total of 136 letters were sent to next of kin. Due to the extensive amount of returned letters, inability to contact next of kin, next of kin listed not present during last hospitalization, no answer to attempted phone contacts, and refusals, the data collection was ended after 19 weeks. A total of eighteen phone interviews were completed. Response frequencies were compared with results demonstrating overall general satisfaction (4 or 5) with end of life care provided. Three themes however evolved where a specific intervention was not offered and the majority responded they would have wanted this option: offer to pray with me, offer the chance to help with the final care of the body, and send a condolence card. Limitations with contact specifics from the medical record precluded a larger sample size for this study thus with such a small sample, the generalizability of findings cannot be made. However, when these preliminary findings were discussed in Shared Governance committees on units where family members participated, a closer examination of family/nurse shared care options has been deliberated.

STREAMLINING THE INTRADEPARTMENTAL REFERRAL PROCESS BETWEEN NURSE NAVIGATORS AND ONCOLOGY SOCIAL WORKERS

TO ADDRESS UNMET NEEDS IN BLOOD CAN-CER PATIENTS AND CAREGIVERS

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Targeting social determinants implicated in adverse cancer outcomes is essential to making population-level change. Intervention for unmet needs (UN) is often assumed by acute care institutions, however, collaboration between health care systems, community resources, and public health agencies can address UN throughout the oncology continuum. Nurse navigators can provide referrals to bridge the gap in connecting patients with community resources and public health agencies to collectively address UN. A quality improvement (QI) framework was used to implement a referral process within a non-profit agency from nurse navigators (NN) to social workers(SW) to support patients with a blood cancer diagnosis or their caregivers who present to a nurse navigation program with modifiable UN. An educational intervention was conducted to train the NN to initiate an electronic health record (EHR) referral to SW when modifiable UN were documented. Evaluation of referrals via chart abstraction occurred prior to and after the intervention. A Relational Coordination Survey (RCS) was administered to both NN and SW pre and post-intervention to evaluate relational factors contributing to the referral process. Eighty-two percent (n=117/143) of pre-intervention records and 83% (n=87/105) of post-intervention records were abstracted. Referral to SW increased from 7% (n=2/30) pre to 20% (n=3/15) post-intervention. EHR referrals to SW were also placed for those without documented UN in both the pre (n=4/6) and post-intervention (n=3/6) groups. Seven NN and 13 SW completed both RCSs demonstrating an increase in frequency of NN communication (M= 4.6 to M=5, p = .042). Reduction in SW accuracy of communication was also identified (M= 4.4 to M=4.1, p = .02). Clinically significant findings of this QI project were the increase in number of referrals from NN to SW, and uptake following referral. Opportunities exist to integrate automated EHR workflows to increase referrals to SW while retaining NN autonomy to recognize and refer for those who would benefit from SW consult despite lack of UN. Increased frequency of NN communication demonstrates enhancement in team collaboration as it relates to addressing UN. The use of community resources, such as non-profit agencies, to provide screening and referral for UN is a novel means of alleviating burden within acute care settings. Evaluation of applicability in other specialty populations with existing community support is warranted.

ONCOLOGY NURSE NAVIGATOR / REGISTERED DIETICIAN COLLABORATIVE CARE: LEVERAGING REMOTE HOME-BASED NUTRITIONAL MONITORING TO OPTIMIZE CLINICAL OUTCOMES

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Lack of oncology dietary reimbursement from Medicare causes significant barriers and delays in care. Home based nutritional monitoring is covered by Medicare. The primary aim was the adoption of a home-based nutritional monitoring program in collaboration with a oncology nurse navigation program. The QI/IS project was conducted within an academic oncology practice serving a primarily (=>60%) Hispanic population. Collaboration between a private home nutritional monitoring company who employed registered dieticians (RD) and an oncology nurse navigation (ONN) program employed by the academic cancer center was key to success. Build within the academic EHR (electronic health record) facilitated read / write access and downstream billing / reimbursement capabilities. Blue tooth capable home scales and data transmission from the scale to the Registered Dietician (RD) supported weekly telehealth visits. If the patient was not doing well, the dietician communicated with the ONN via the EHR and the patient was expedited to a higher acuity level of care. Primary aim was adoption of a home-based monitoring nutritional service by an academic oncology practice. Secondary aims consisted of: (a) Developing a scalable sustainable home monitoring dietary model with reimbursement pathways to successfully integrate Patient Generated Health Data (PGHD) into our EHR. (b) Alignment with our ONN workflows to optimize increased acuity of care as needed in a timely manner. Three interventions contributed to the adoption of the home-based monitoring program.

- Funding was obtained from the American Cancer Society navigation capacity grant which allowed

underserved patients to obtain home based dietary monitoring services.

- EHR build for a private third-party group, who employed the Registered Dieticians (RD), to read, write, and submit bills for home-based monitoring within our academic EHR.
- ONN assessment utilizing the NCCN Distress thermometer.

Primary outcome goal to define success of "adoption" by our practice was defined by at least 80% of our attendings referring to the program. Secondary goal included 95% of all patients who received an order for the home dietary monitoring program had an ONN assessment documented. Data will be analyzed in February to present in April 2024. Ability to adopt a home dietary monitoring program aligned with our ONN program provided less delays and expedited increased acuity in care when needed thus maintaining patients on complex treatment plans and gaining the best clinical outcomes possible.

IMPLEMENTATION OF NURSING PROCESS FOR TUMOR INFILTRATING LYMPHOCYTE PROGRAM FOR MELANOMA

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New and emerging cellular therapies require complex coordination of care and monitoring. Tumor infiltrating lymphocyte (TIL) therapy, shows promise in clinical trials in diseases such as advanced melanoma, lung cancer, and cervical cancer. Bringing these novel therapies to the forefront offers a transformational approach to treating and someday curing cancer. Given the complexity of cellular therapy, Registered Nurses (RN) serve an integral role in the implementation of new complex therapies through the development of standard operating procedures, education, and workflow development to enhance patient safety. Cellular therapy promotes RN's working to their full scope of education and training. A community-based institution in combination with a multidisciplinary Foundation for Accreditation of Cellular Therapy (FACT) team developed processes to implement TIL therapy after expected upcoming FDA approval for treatment

of advanced melanoma. The multi-step process to successfully treat patients with TIL includes: appropriate patient selection, coordination of tumor harvesting and manufacturing, oncologic management of the patient during the manufacturing process (3 to 4 weeks), administration of non-myeloablative lymphodepleting chemotherapy, appropriate infection prophylaxis, storage at a third party facility, specialized handling and thawing of the cellular product, administration and monitoring of interleukin-2, symptom management of cytokine release syndrome and capillary leak syndrome, and supportive care during absolute neutrophil count recovery. Operationalizing this process within our institute required essential planning, coordination, and education between multiple stakeholders including the manufacturer, outpatient oncology program, surgery, inpatient and outpatient pharmacy and cellular therapy team. Implementation of TIL requires ongoing evaluation and debriefing meetings to identify successes and opportunities for improvement. Our institution has successfully implemented TIL cellular therapy using an expanded access protocol and will provide to patients after FDA approval. This effort has required a multidisciplinary approach, spearheaded by a Cellular Therapy Clinical Nurse Specialist who was integral in creating standard operating procedures, electronic treatment plans, patient education, and multidisciplinary education across the healthcare system. As centers begin operationalizing TIL and other cellular therapies, having experienced bedside/chairside nurses participate in the process is essential. Specialized education incorporating the entire multidisciplinary team is essential to ensure successful outcomes and minimize adverse events. Registered Nurses are crucial in the development of standard operating procedures, best practices that translate to new therapies, and identification of additional resources needed to implement a complex cellular therapy program.

ASSOCIATION BETWEEN GENE EXPRESSION AND PAIN TRAJECTORY IN COLORECTAL CANCER PATIENTS UNDERGOING CHEMOTHERAPY

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Chemotherapy, a front-line treatment for colorectal

cancer, often results in persistent pain. Gene-expression profiles have played a crucial role in developing prognostic signatures for colorectal cancer and cancer treatment. Previous studies have also uncovered connections between alterations in gene expression and the development of chronic pain in specific subgroups, including musculoskeletal and neuropathic pain. Nevertheless, the longitudinal correlation between gene expression and pain during chemotherapy remains an area of limited exploration. A prospective longitudinal design was used to examine the association between longitudinal changes in gene expressions and the presence of pain in colorectal cancer patients undergoing chemotherapy. Adult colorectal cancer patients under chemotherapy were recruited from a hospital in the Northeast U.S. Blood samples and patient-reported pain (Brief Pain Inventory) were obtained before (V1), immediately after the chemotherapy (V2), and at the end of the rest period of one chemotherapy cycle (V3). High-throughput RNA sequencing was performed to quantify gene expression using peripheral blood. The EdgeR and KEGG pathway maps were used to analyze differential gene expression and conduct pathway enrichment analysis. A total of 15 patients were included in this data analysis. The majority were white (93.3%), non-Hispanic (100%), male (66.7%), overweight or obese (60%). About 66.7% had colon cancer, while 33.3% had rectal cancer. Among the participants, 46.7% were diagnosed with stage III cancer, and 40% were diagnosed with stage IV cancer. Patients were stratified into two groups based on their pain trajectory. Dynamic changes in differentially expressed genes were identified over time. In Group 1 (n=7), there was an up-regulation of genes related to the inflammatory response and positive regulation of cytokine production from V1 to V2, followed by a downregulation of the inflammatory response from V2 to V3. In Group 2, there was a downregulation of genes associated with myeloid cell development, hemostasis, and gas transport from V1 to V2, and an upregulated gene expression related to hemoglobin metabolic processes, myeloid cell development, and gas transportation from V2 to V3. We found a significant association between pain and gene expression during chemotherapy for colorectal cancer. The identification of specific gene pathways will enhance our understanding of the genetic mechanism of pain phenotype and lay the foundation for developing precision treatment strategies to alleviate symptoms and improve the overall quality of life for these patients.

"PLEASE DO NOT INVITE HIM"-ADVANCED CANCER PATIENTS' PARTICIPATION IN NURSING RESEARCH: FROM THE PERSPECTIVE OF THEIR SPOUSES IN A DEATH TABOO CULTURAL CONTEXT

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The participation of advanced cancer patients in nursing research is crucial for improving cancer care. However, recruiting and involving these patients present a significant challenge, especially in China where family caregivers are central to healthcare decisions. Additionally, the cultural taboo associated with death in China adds another layer of difficulty in recruiting advanced cancer patients for research. Despite these challenges, there is a dearth of understanding about the perspectives of spouses of advanced cancer patients on the recruitment and involvement of advanced cancer patients in nursing research. The purpose was to delve into the perceptions and concerns of spouses regarding the recruitment and participation of their advanced cancer ones in nursing research. A descriptive qualitative study was undertaken. Semi-structured interviews were carried out in three cancer hospitals in mainland China between September 2022 and August 2023. Sixteen spouses of advanced cancer patients were recruited for the study. Data interpretation was done using Colaizzi's seven-step method. Three themes emerged from the data: limited participation in research, refusal of participation in research, and prerequisites for patients' involvement in research. Spouses expressed reluctance to let their ill husband or wife participate in nursing research, primarily due to concerns about causing distress to advanced cancer patients and the use of sensitive language during research processes. They stressed the need for gaining their approval and support when enrolling cancer patients as participants. To mitigate these concerns, spouses suggested emphasizing the benefits of participation, using non-sensitive language, and avoiding death-related discussions with patients. They also recommended that all patients, not just specific ones, be recruited for research and that familiar researchers conduct the recruitment and research. Lastly, spouses suggested that they could represent patients in participating in nursing research. The findings underscore the need to consider their concerns and suggestions, which can guide nursing researchers in creating culturally sensitive recruitment strategies and fostering the

participation of advanced cancer patients in nursing research within a family-centred and death-taboo cultural context. The findings can serve as a guide for devising culturally sensitive strategies for recruitment and retention, thereby enhancing participation.

PSYCHOLOGICAL DISTRESS IN SPOUSES WHOSE PARTNERS DIAGNOSED WITH FAMILIAL HEPATOCELLULAR CARCINOMA: A CROSS-SECTIONAL STUDY

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Familial clustering is a common feature of hepatocellular carcinoma (HCC) as well as a high-risk factor for the disease. HCC is the fifth most common cancer worldwide, with more than 80% of cases found in endemic areas of hepatitis B such as Africa or East Asia, including mainland China. An HCC patient's partner, quite often his/her spouse, often plays a key role in taking care of them during the long disease trajectory. However, little is known about these spouses' psychological distress when caring for their loved partners with familial hepatocellular carcinoma. The purpose was to investigate spouses' psychological distress when their partners were diagnosed with familial HCC. A correlational, cross-sectional design was adopted. A convenience sample of 130 spouses whose husband/wife was diagnosed with familial HCC, was recruited from a cancer centre in Tianjin, mainland China from May 2021 to Feb 2023. A structured questionnaire was distributed to collect data, including the Psychological Distress Thermometer, the Fear of Disease Progression Scale, the Herth Hope Inventory, and social-demographic information. Hierarchical multiple regression analyses were used to analyse the data. Spouses experienced a high level of psychological distress after their husband/wife were diagnosed with familial HCC. Psychological distress and hope were significantly associated with fear of disease progression (P<0.001). Hierarchical multiple regression analyses showed that demographic and clinical factors explained 12.4% of the variance in psychological distress in spouses, fear of disease progression positively predicted psychological distress (P<0.001) with a significant change of 20.2% in the variance, but hope had no significant impact on psychological distress (P>0.05). Spouses whose husband/wife got familial HCC are more likely to experience severe psychological distress. Interventions that decrease spouses' fear of disease progression should be designed and developed to reduce their psychological distress and enhance their hope.

A QI PROJECT: PROVIDER ADOPTION OF A SELF-GUIDED MINDFULNESS APPLICATION FOR CANCER PATIENTS WITH MODERATE TO SEVERE ANXIETY

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A cancer diagnosis is incredibly stressful causing a spike in anxiety. Prolonged anxiety can have a negative impact on compliance with cancer treatment plans, and clinical outcomes. The QI project was conducted within a medical oncology clinic at an NCI designated cancer center whose patient population is approximately 60% Hispanic. The Edmonton Symptom Assessment Scale (ESAS), provided in Spanish and English, was used to define moderate to severe (=>5) anxiety scores. Five months pre-implementation 14.7% (n=415) of patients recorded experiencing moderate to severe anxiety. The primary aim of this QI project was adoption of a Mindfulness mobile application. Adoption of a mindfulness mobile application, The UCLA Mindfulness Application, was the primary aim. The application is free and has a Spanish version. The secondary aim was to provide a value-based intervention that could be recommended in isolation, or as an adjunct, to assist patients to manage their anxiety. The interventions selected to obtain adoption of the mindfulness application were:

- Increasing patients' awareness with an infographic displayed in the clinic room and a business card containing a QR code that allowed for easy download of the application to a phone post clinic visit.
- Increasing prescriber's awareness via coaching sessions.
- Implementing a dot phrase in the EHR (e-health record) to document the recommendation of the mobile application. A dot phrase is a template that can be effortlessly inserted into the clinic note.

As of January 2024, the project continues in the implementation phase which began October 2023 and will be completed in February 2024. Success of adoption will be measured by the number of business cards handed to patients containing the QR code divided by number of patients reporting moderate to severe

anxiety. Success would be defined by a score of 75% or greater. Data is collected weekly and for the first two months 207 patients (17%) recorded moderate to severe anxiety and 103 business cards have been handed out, with a weekly average of 17 cards. Thus far success score for adoption is 49.76%. The QI project will be ready for presentation by May 2024. Post-implementation data will be analyzed weekly, interpreted on a bi-weekly basis, and ready for presentation early May 2024. Currently adoption of the Mindfulness application by the clinic staff and providers seems to be positive.

EXTENDING IVAD MAINTENANCE FLUSH FREQUENCY: VISUALIZATION OF RESERVOIR CONTENTS

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The Oncology Nursing Society (ONS) and the Infusion Nursing Society (INS) standards of care and guidelines acknowledge insufficient evidence exists to define frequency of flushing for Implanted Vascular Access Devices (IVAD). Guidelines suggest extending to 12-weeks is safe based on functionality. Manufacturers product device instructions typically recommend every 4-weeks. Purposes were as follows:

- Review IVAD flush maintenance best practice.
- Examine if substances in an IVAD reservoir visually change over time.
- Aspirated from IVADs using the no flush dry pull method during extended maintenance frequency.

Data related to IVAD flush frequency was gathered during the COVID-19 pandemic in an outpatient oncology clinic when routine care was delayed. The objective was to observe IVAD contents for potentially harmful substances, for example discolored fluids or visible clots. A no flush dry pull method was developed to allow for observation of physiological characteristics within the IVAD. Visible clots and alterations in color and appearance of aspirated contents were observed and time intervals tracked. Visible clots and alterations in color and appearance were observed in 25.4% of the 59 patients observed between 8-17+ weeks when the no flush dry pull method was utilized. Based on the findings post publication an additional 82 cases were analyzed. CDC guidelines stipulate that central venous access devices (CVADs) should be removed as soon as possible (defined as category IA evidence). Research on the development of biofilm related to implanted medical devices is expanding the understanding of the body's response to implanted devices. Biofilm or microbial colonization encourages bacterial growth, creating the potential for central line and systemic infections, and is correlated with the sludge found in studies evaluating reservoir contents. Exploring the physiology of solutions within an IVAD reservoir being flushed into the patient and monitoring for potential adverse outcomes studies are limited. Extending flush intervals has become common place and has shown cost reduction, patient satisfaction and increased compliance. If flush intervals are extended for maintenance purposes to 12 weeks benefits of continuing to keep the device verses removal when not actively on treatment may not outweigh potential complications, Patency and functionality are only two components in decision-making.

QUALITATIVE ANALYSIS OF COMPLEXITY OF MANAGING WORK WHILE UNDERGOING ACTIVE CANCER TREATMENT

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Cancer patients, often under the age of 62, face the challenging task of balancing treatment needs with employment obligations to maintain their jobs. Despite the availability of leave and disability benefits, these are typically limited to twelve weeks, whereas cancer treatments often extend far beyond this period. This scenario forces patients to meticulously balance their health needs with employment demands. This study aims to conduct qualitative interviews to comprehend the current workflow of work accommodation and leave management among cancer patients across various clinics. It seeks to identify effective strategies and pinpoint gaps that complicate this process for patients. Six social workers and nurse navigators from outpatient solid tumor cancer centers in the San Francisco Bay Area were interviewed. The interviews, based on open-ended questions, delved into their roles, clinic workflows, frequency of patient assessment, data collection methods, observed issues, and barriers in addressing these issues. Transcribed interviews were systematically analyzed, organizing information into workflow processes and clustering key points. The analysis revealed that most cancer centers initiate the process with an intake session involving a nurse or social worker and a distress scoring at the point of diagnosis. Patients are referred to services and instructed to reach out for further assistance if needed. However, these sessions occur early in the treatment journey when patients might be unaware of their needs or the support available.

Interviews indicated that many patients prematurely utilize sick leave or vacation time instead of applying for Short Term Disability (STD) or FMLA due to lack of awareness. The leave duration for each treatment varies, and is determined by individual clinicians, leading to significant uncertainty and inconsistency in the process. This lack of standardization can cause distress, impacting patients' work life. Often, the return to work is premature, causing anxiety and a lack of readiness, while the system fails to properly assess accommodation needs or 'fit to work' status. The dependence of health insurance on employment further complicates this balance for patients. The study concludes that a more integrated, patient-centric approach is essential to address these challenges, highlighting the need for policy reforms and improved coordination among healthcare providers, employers, and insurance companies.