Abstract book

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Keynote addresses

Advancing Cancer Prevention and Screening in Vulnerable Populations and Ethnic Minority Groups: Insights from Community-Engaged Research

Professor Hae-Ra HAN

Elsie M. Lawler Endowed Professor
Associate Dean,
Community Programmes & Initiatives
School of Nursing
Johns Hopkins University

Health care is a basic human right, not a privilege. The most important indicator of a mature society is societal assurance of access to and quality of health care and for everyone. This is no different for cancer prevention and screening. Using cervical cancer as an example, this presentation will compare and contrast health equity indicators for cervical cancer in various contexts and discuss how nurses can work with those in needs while setting up future research agenda.

Transforming cancer care through digital innovations: benefits and challenges

Professor Jo Armes

Professor of Cancer Care &
Lead for Digital Health
Lead for Digital Innovation - ARC KSS
School of Health Sciences
University of Surrey

Digital innovation has the potential to transform cancer diagnosis and care, for example by increasing clinicians' capacity, facilitating improvements in treatment delivery, detecting cancer earlier or enabling the delivery of more personalised and precise treatment and support. Prof Armes will discuss the benefits and challenges of implementing digital innovations throughout the cancer pathway, including the potential impact on health inequalities.

Plenary sessions I: Collaborative Approaches in Supportive Care

The power of patient-reported outcomes measures in transformation of cancer care

Professor Changrong YUAN

Professor,
School of Nursing,
Fudan University

Patient-reported outcomes (PROs) are essential for capturing the core of patient experiences and are crucial in evaluating treatment efficacy in clinical trials, as recognized by the FDA. The Patient-Reported Outcomes Measurement Information System (PROMIS) is a comprehensive tool comprising over 300 measures designed to assess physical, mental, and social health across diverse populations. Within the field of cancer care, PROMIS provides a personalized assessment of health status, quality of life, and treatment impact from the patient's perspective. Since assuming the role of official representative for PROMIS in China in 2018, Prof. Yuan and the team have been dedicated to integrating PROMIS with cancer care research and leveraging big data. This presentation will outline the active involvement in translating and validating the Chinese version of PROMIS and how this tool enhances our clinical practice and research endeavors.

How collaborative approach affects the development of oncology nursing care: Opportunities or challenges?

Mr Wai Man LING

Nurse Consultant (Oncology),
Hong Kong East Cluster,
Hospital Authority

Contemporary anticancer care is complex under the influence of ultra-fast advancement in medical science and biotechnology. Quality anticancer services thus require concerted efforts from various professional disciplines and clinical specialists. Multi-disciplinary collaborative approach becomes the cornerstone of this modern service model. In addition, collaborating with stakeholders for the sake of patients' health is deemed to be an essential competency of a nurse. Oncology nurses should therefore ride the wave of collaborative care. However, in reality, collaboration does not only give rise to opportunities but also challenges. Through a pragmatic reflection on the situation faced by local oncology nurses, these challenges will be dissected and possible coping strategies will be explored.

Enhance the global access to high quality, high value cancer care: NCCN's global programs

Dr Wui-Jin KOH

Senior Vice President and Chief Medical Officer, National Comprehensive Cancer Network (NCCN)

NCCN's vision is to define and advance high-quality, high-value, patient-centered cancer care globally, primarily through the development and continuous update of evidence-based, consensus-driven Clinical Practice Guidelines. These span the continuum from screening, risk assessment and prevention, diagnosis, treatment, supportive care, surveillance, to survivorship. Corresponding Patient Guidelines educate patients and their family/caregivers. To enhance international accessibility and relevance, NCCN's global initiatives include guideline Translations, Adaptations, and Harmonizations, created in collaboration with local experts. Cancer nurses, often the most directly involved with patients, vitally contribute to the implementation of guideline-adherent care, and are a critical component of all robust cancer programs.

Plenary Session II:

Innovations Across the Cancer Control Continuum

Using Innovation and Technology to Improve Racial/ethnic Minorities' Cancer Survivorship: Lessons Learnt and Way Forward

Professor Eun-Ok IM

PhD, MPH, RN, CNS, FAAN
Dean & Laura Lee Blanton Chair
The University of Texas at Austin

This presentation showcases a few NIH funded studies on racial/ethnic minorities' cancer survivorship, which were conducted using computer and mobile technologies. The presentation discusses pros and cons of using technologies in an early Internet-based study to develop a decision support program for cancer pain management among four major racial/ethnic groups of cancer survivors. Also, it discusses pros and cons of using computer and mobile technologies in a culturally tailored information and coaching/support program for Asian American breast cancer survivors. Then, it shows the commercialization process that the research team went through. Finally, suggestions for future research program development are made.

When J.A.R.V.I.S. Meets Oncology: Powering Cancer Care Through Digital Health Innovations

Dr Kevin YAP

Clinical Associate Professor,
Surgery Academic Clinical Programme (ACP),
Duke-NUS Medical School

Serious Games Lead,
Division of Pharmacy,
Singapore General Hospital

Co-Lead (Develop),
SingHealth Allied Health and Pharmacy Data, Innovation,
Technology & Transformation (DIT2) Taskforce,
Singapore General Hospital

Adjunct Senior Research Fellow (Digital Health),
School of Psychology and Public Health,
La Trobe University, Melbourne, Australia

Imagine stepping into a world where cancer care is powered by technology as advanced as Iron Man's artificial intelligence (AI) sidekick – J.A.R.V.I.S. This presentation aims to explore the frontiers of digital health innovations in cancer treatment and management, drawing analogies with Iron Man's cutting-edge technologies. From innovation trends such as virtual care platforms to AI-driven diagnostics and precision oncology, we shall navigate how J.A.R.V.I.S.-like technologies can provide a tailored, real-time approach to the transformation of cancer care. Join me as we uncover various digital oncology trends, where every patient can benefit from superhero-level advancements in oncology tech.

Enhancing psychosocial support for pediatric cancer patients through virtual reality interventions

Dr Cho Lee WONG

Associate Professor,
The Nethersole School of Nursing,
Faculty of Medicine,
The Chinese University of Hong Kong

This presentation will delve into the fascinating field of innovative technologies, with a particular focus on virtual reality intervention. We will dicuss how this cutting-edge technology can be effectively integrated into pediatric cancer care, and explore the various ways in which virtual reality interventions can impact the psychosocial well-being of pediatric cancer patients. Throughout the presentation, we will showcase projects as examples to facilitate discussion and illustrate the potential benefits of virtual reality interventions in this context.

Service Innovation in Cancer Care: Digitalization in Medicine and Development of a Telehealth Clinic

Dr Dominic CHAN

Consultant,
Department of Oncology,
Princess Margaret Hospital

The pandemic has blurred the lines between situations that clearly call for traditional IRL ("in real life") consultations and others where IRL may not be compulsory. The strategic, purposeful design of a hybrid IRL/URL oncology care delivery model that respects the preferences of patients and healthcare providers and offers telecare when it is clinically appropriate may allow healthcare providers to offer efficient and timely care. Telehealth and broader digital engagement tools have enjoyed persistent patient demand beyond the pandemic. The most crucial variable when deciding how and where to increase the utilization of telehealth is clinical appropriateness. Healthcare leaders need to commit to patient-centric strategies by incorporating telehealth and A.I. to improve the patient experience along the care continuum.

Genomic and Genetic Nursing Forum I:

Future Directions in Genomic and Genetic Nursing

Research Opportunities in Genomic and Genetic Nursing: Building a Program of Research in Cancer Genetics

Professor Kelly METCALFE

Associate Dean,
Research and External Relations

Professor,
Lawrence S. Bloomberg Faculty of Nursing,
University of Toronto

Advances in genomic technology are rapidly changing the way that healthcare is delivered worldwide. Nurses have the opportunity to identify and evaluate interventions to support patients and their families in navigating the integration of genetics into clinical care. In this presentation, we will explore the development of a research program to support the integration of genetic testing across the cancer continuum.

Capacity Building for the Future of Genomic and Genetic Nursing and the Wider Nursing Workforce

Dr Emma TONKIN

Associate Professor,
Faculty of Life Sciences and Education,
University of South

WalesGenomics is a key driver for health service delivery in many countries globally. Integral to the vision of embedding genomics into mainstream patient care, testing is increasingly being used across the lifespan to improve diagnosis, risk assessment, prognosis, management, and the selection of treatments for maximum efficacy and minimum adverse effects. Nurses are a key component of the health workforce and require genetic and genomic knowledge and skills appropriate to their role, to provide quality, safe and equitable care.

This presentation will review some of the current and future applications of genomics and consider the challenges of building capacity within the profession.

Genomic and Genetic Nursing Forum II:

Translation of Genomic and Genetic Sciences into Nursing Practice

Development of Genomic Medicine in Hong Kong

Dr Brian Hon-Yin CHUNG

Chief Scientific Officer,
Hong Kong Genome Institute

Genomic medicine in Hong Kong has made significant progress in personalized healthcare, driven by key advancements such as the Hong Kong Genome Project (HKGP) and adoption of whole-genome sequencing (WGS). WGS has been successfully applied in diverse areas, including cancer genomics, pharmacogenomics, prenatal testing, and preimplantation testing. The establishment of specialized genomic centers and international collaborations has further facilitated research and clinical implementation. However, challenges persist in areas such as infrastructure, ethics, data security, and public awareness. With ongoing efforts, the integration of genomic medicine has the potential to revolutionize healthcare delivery in Hong Kong, bringing substantial benefits to patients.

Application of Genetic Counselling in Cancer Care

Dr Annie Tsz-Wai CHU

Head of Operations
(Scientific Branch),
Hong Kong Genome Institute

With the advancement of genomic technologies, the genetic aetiology of cancer has continued to expand with the transition into genomics. This has accelerated the integration of WGS in mainstream clinical practice and enabled the comprehensive evaluation of genomic signatures at a personal level. Genetic counseling has become an integral service in the cancer care continuum, embedded within multi-disciplinary cancer programmes to inform personalized interventions. Accordingly, understanding how genetic counseling may influence cancer care is essential for care coordination and optimal service provision. This presentation will address this process and highlight the significance of its adaptation in real-life situations.

Building a Multidisciplinary Clinical Genetics Team

Dr Josephine Shuk Ching CHONG

Associate Professor of Practice
in Medical Genetics and
Clinical Professional Consultant,
Department of Paediatrics &
Department of Obstetrics and Gynaecology,
The Chinese University of Hong Kong

The talk will focus on sharing experience on how to build a clinical genetic team.

The talk will include some case sharing to illustrate the role of genetic counsellor and nurse in the clinical genetic clinic.

What does it mean by a multidisciplinary approach in managing patients with genetic conditions.

How to translate genetic information into clinical management.

Concurrent Abstracts

007

A qualitative study to explore the factors influencing the mammography screening practices among South Asian women in Hong Kong

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[2] *School of Nursing, Paramedicine and Healthcare Sciences, Charles Sturt University, Australia*

Purpose: To examine factors influencing mammography screening practices among South Asian women in Hong Kong.

Methods: South Asian women, aged 40 and above and had no history of breast cancer, were recruited from community between August and December 2022 to this qualitative exploratory study. In-depth face-to-face interviews using a semi-structured interview guide were conducted by the principal investigator and ethnically matched interpreters. The interviews were transcribed verbatim by trained bilingual translators. The transcripts were then analysed via thematic analysis.

Results and discussion: Thirty-one South Asian women (10 Indians, 11 Pakistani, and 10 Nepalese) consented to participate and completed the interviews. Among the 31 women, only seven of them had ever undergone mammography screening in the past years. Both facilitators and barriers to mammography screening were identified. Influence of doctors, family and friends, personal strong sense of commitment to the family and having accessible and available mammography screening information and services served were appeared as important facilitators to mammography screening. The influence of personal beliefs about health management and social norm, a lack of knowledge and understanding of breast cancer and mammography screening, logistical barriers due to cost and access, and physical barriers due to pain and discomfort associated with the screening procedure were identified as important barriers to mammography screening.

Conclusion: The finding reveals that if mammography screening uptake are to be improved effectively among South Asian women in Hong Kong, there is a need to develop and implement cultural relevant intervention that the barriers are to be taken into account particularly their lack of knowledge about breast cancer.

009

Profiles of Symptoms in Chinese Children with Leukemia: A Latent Profile Analysis

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[2] *School of Nursing, Fudan University, Shanghai, China*

Purpose: To identify unobserved subgroups of Chinese children with leukemia based on self-reported symptoms, and to explore individual characteristics of these subgroups.

Methods: A multicenter cross-sectional survey study was conducted. With convenience sampling, 244 children with leukemia who received chemotherapy in four hospitals in Shanghai, Jiangsu, Zhejiang, and Guangdong Province were selected from September 2021 to November 2022. The children or proxies completed Patient-Reported Outcomes Measurement Information System Profile-25 (PROMIS profile-25) survey. Latent Profile Analysis (LPA) and multinomial logistic regression model were performed to identify subgroups based on symptoms in children with leukemia and population heterogeneity.

Results: LPA results suggested that there existed three distinct classes of symptoms in children with leukemia: Class 1-“all symptoms slightly severe level” class (97, 39.8%), Class 2-“all symptoms severe level” class (69, 28.3%), and Class 3-“low mobility and peer relationship” class (78, 32.0%). Socio-demographic characteristics, including the gender of the child, gender of parents, marital status of parents, average monthly income of the family, and reimbursement ratio of treatment expenses had significant associations with the latent class membership ($P < 0.05$).

Conclusions: There are three latent profiles of symptoms in children with leukemia. Healthcare providers could provide targeted intervention to children according to the characteristics of different subgroup population characteristics, so as to improve children’s symptom management experience.

Keywords: Children with leukemia; symptom; patient-reported outcomes; latent profile analysis

010

The development of a support system with intelligent information recommendation function for parents of children with leukemia

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Purpose: To develop a support system with intelligent information recommendation function for parents of children with leukemia. The support system is suppose to provide convenient, accessible and intelligent support for parents.

Methods: The individual interviews and focus group interviews were conducted with stakeholders (parents and healthcare providers) to explore the needs of the content and functions of the support system from different perspectives. The content of the support system was constructed according to the content needs, which were reviewed by healthcare experts. Based on the functional requirements, brainstorming and focus group interviews were conducted to discuss the functional design and interface of the support system. Then the support system were developed in cooperation with software developers.

Results: The support system consisted of three parts: an APP for parents, an APP for healthcare providers, and a backstage management website. The APP for parents included health education, symptom management, medical guidance, and diet management modules with intelligent information recommendation functions. The intelligent recommendation was achieved through hybrid recommendation technology. There was also access for parents to report their children's symptoms and treatment progress, consult healthcare providers and get psychological support. The APP for healthcare providers included the functions of browsing children's basic health information, reminding parents to report the symptoms and browsing the self-reported outcomes, recommending the health education information parents may need, and answering the questions parents asked. The backstage management website helped to manage the users' information and the health education information, and realize the intelligent information recommendation.

Conclusion: This study has developed the support system for parents of children with leukemia, which met the content and function needs of the parents of children with leukemia. The support system can provide scientific, intelligent, convenient and accessible care support for parents to participate in taking care of their children.

Keywords: Children with leukemia, parent, support system, intelligent

011

Factors influencing psychosocial adaptation in patients with enterostomies and network analysis: a nationwide multicentre cross-sectional study

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Objectives: Psychosocial adaptation is one of the most common challenges that colostomy patients have to face in the postoperative period, and has been shown to be closely related to their quality of life. However, most of the current research findings on psychosocial adaptation in patients with colostomy are based on small samples, with variations in results and a lack of exploration of central intervention targets for psychosocial adaptation, which leads to limitations in guiding clinical nursing practice. The aim of this study was to investigate the factors influencing psychosocial adaptation in patients with enterostomies and to identify potential intervention targets for psychosocial adaptation.

Design: A national multi-centre cross-sectional study

Methods: All enterostomal patients were evaluated for psychosocial adaptation using the Ostomy Adjustment Inventory-20 (OAI-20). Univariate and multivariate linear regression were used to analyse the potential relationship between the level of psychological adjustment of enterostomal patients and individual factor. By network analysis, we calculated the centrality indicators for each node in the ostomy psychosocial adaptation network at different levels of low, medium, high, respectively.

Results: A total of 19,909 patients with enterostomies were finally included in this study, out of which 6408 (32%) reported low psychosocial adaptation, 11,930 (60%) reported moderate psychosocial adaptation and 1571 (8%) reported high psychosocial adaptation. It was found that a negative association between being female, partially self-care, completely dependent on others for care, having no medical insurance with psychosocial adaptation scores. In the low-level psychosocial adaptation network, #OAI-14:limited activity (rS=1.007, rEI=0.787), #OAI-9: worried about ostomy(rS=1.085, rEI=0.697), and #OAI-11:always like a patient(rS=0.942, rEI=0.733) were identified as central indicators.

Conclusions: The results of this study found that the percentage of ostomates who were at a high level of psychosocial adaptation was low. In future nursing practice, individualised and precise interventions can be carried out in terms of both the influencing factors and the most influential nodes of psychosocial adaptation in order to improve the level of psychosocial adaptation in patients with enterostomies.

Keywords: Psychosocial adaptation, Enterostomy, Network Analysis, Nursing care

014

Effectiveness of Psychoeducation Interventions on Caregivers of Children with Cancer: Systematic Review and Meta-analysis

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Background and Purpose: A child's cancer diagnosis is stressful for caregivers and family members; it can negatively impact their psychological well-being. Studies have indicated that caregivers experience caregiving stress when caring for their ill children, while also bearing the burden of a childhood cancer diagnosis. Caregivers experience signs of anxiety, depressive symptoms, and poor health-related quality of life. Psychoeducation interventions (PEIs) have been used as an adjunct treatment to manage anxiety, depressive symptoms, and quality of life in caregivers. This systematic review and meta-analysis aimed to evaluate the available evidence on the effectiveness of PEIs on anxiety, depressive symptoms, and coping skills among caregivers of children with cancer.

Methods: Ten English databases were searched to identify studies on PEIs for caregivers of children with cancer. Study inclusion criteria were as follows: studies on caregivers of children with cancer on treatment evaluating the effect of PEIs on anxiety, depressive symptoms, health-related quality of life, and coping. Two reviewers independently screened article titles and abstracts and conducted data extraction.

Results: Fourteen randomised control trials were included. The PEI had beneficial effects on anxiety levels (SMD: -0.59, 95% CI [-0.92, -0.25], p=.0007), quality of life (SMD: -0.31, 95% CI [-0.00, -0.61], p=.05) and depressive symptoms (SMD: -1.18, 95% CI [-2.08, -0.28], p=0.01) immediately after the intervention. The effect of PEIs was maintained at long-term follow-up for depressive symptoms (SMD: -0.52, 95% CI [-1.54, -0.36], p=0.0004). Likewise, the synthesised data showed that PEI effectively enhanced coping skills.

Conclusion: The review provides evidence that PEIs are effective in reducing negative psychological outcomes and enhancing the coping skills among caregivers of children with cancer. However, due to the methodological flaws and heterogeneity in evaluating interventions, more research is needed to identify the most effective PEI design and improve the quality of evidence.

025

Profiles of chemotherapy-induced peripheral neuropathy in breast cancer patients undergoing chemotherapy: a latent class analysis

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Capital Medical University, China

Purpose: This study aimed to identify the potential subgroups of chemotherapy-induced peripheral neuropathy (CIPN) in breast cancer patients undergoing chemotherapy and examine the association of the latent subtype with characteristics.

Methods: Between April and November 2022, a cross-sectional survey was conducted in 8 tertiary A hospitals in China. Chemotherapy-induced peripheral neuropathy was assessed with the Functional Assessment of Cancer Therapy/ Gynecologic Oncology Group-Neurotoxicity scale (FACT/GOG-NTX). Latent class analysis was used to analyze the potential subgroups of breast cancer patients undergoing chemotherapy. Multinomial logistic regression was used to examine the association of the latent subtype with characteristics.

Results and discussions: A total of 387 breast cancer patients undergoing chemotherapy were included in the analysis. Three different subgroups were identified: Class 1 (25.4%)- “High CIPN symptoms and high dysfunction”, Class 2 (39.2%)- “moderate CIPN symptoms and low dysfunction”, Class 3 (35.3%)- “low CIPN symptoms and low dysfunction”. The result of multinomial logistic regression showed that chemotherapy cycles, taxane type, exercise frequency, the use of β blockers, fatigue and depression were predictors of subgroups of CIPN.

Conclusions: The findings reveal that the symptoms of CIPN in breast cancer patients undergoing chemotherapy are heterogeneous, which provides new insights into the symptom management of CIPN. Identifying different subgroups of CIPN would help develop interventions tailored to the patients.

033

Needs-oriented psychoeducational intervention among caregivers of AYA cancer patients: A randomised controlled trial

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Purpose: Psychoeducational intervention (PEI), which focuses on providing information as well as emotional and psychosocial support, may be an appropriate method for addressing unmet needs of the caregivers of adolescent and young adult with cancer. This study aimed to examine the effects of a needs-oriented PEI on unmet needs, anxiety, depression, quality of life (QoL), and coping among these caregiver.

Methods: A randomised controlled trial was conducted in China. A total of 160 consented participants were randomised to the intervention or control groups in a 1:1 ratio. The intervention group received a needs-oriented PEI (five sessions/week) and usual care, while the control group only received the usual care. The needs-oriented PEI was delivered using WeChat articles and calls to address caregivers' concerns and suggest possible strategies. Outcomes were evaluated at baseline (T0), 5 (T1) and 12 (T2) weeks after baseline. Outcome data were analysed using generalised estimating equations models.

Results and discussions: A significantly greater reduction in unmet needs was found in the intervention group than the control group at T1. The intervention group also had significantly lower severity of anxiety at T1 and T2 when compared with those in the control group, while the effect on depression was only observed at T1. The intervention group reported significantly slower decline in QoL at T1 but not at T2 when compared with the control group. No significant differences were found between the two groups in terms of three coping strategies (problem-focused, emotion-focused, and dysfunctional coping) at T1 and T2.

Conclusion: This innovative web-based needs-oriented PEI could meet the caregivers' needs and relieve caregivers' anxiety, depression, and delay the worsening of QoL immediately after intervention. To improve sustainability of intervention effect, modifications, such as providing booster sessions, additional counselling and peer support, may be considered.

034

Randomized controlled trial on the effectiveness of a multicomponent self-management intervention for people with cancer pain: A study protocol

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[2] *The Chinese University of Hong Kong, China*

Purpose: To design a randomized controlled trial protocol that evaluates the effectiveness of a multicomponent intervention in improving the outcomes (pain intensity, self-efficacy, QoL, pain-related knowledge, and pain medication adherence) of patients with cancer pain.

Methods: The study is a prospective, single-blinded, randomized, controlled trial with parallel groups. A total of 88 adult patients with persisting cancer-related pain scores over 3 on 0-10 Numeric Rating Scale for more than three days within the last two weeks will be randomly assigned to either the intervention group or control group in a ratio of 1:1. The intervention is developed based on the findings of a systematic review. The participants in the intervention group would receive a four-session individual intervention, including face-to-face individual counselling, education, skills building for pain self-management in the hospital, and four weekly enhanced interviews through the cancer pain self-management mobile app after discharge. The participants in the control group would receive the usual care. Baseline data collection will occur after the eligibility assessment and obtaining the consent. Follow-up assessments will be conducted at 4 weeks after the intervention. The primary outcome is pain intensity while other outcomes are self-efficacy, quality of life, pain-related knowledge, and pain medication adherence.

Results and discussions: The expected outcomes are reduced pain intensity, increased self-efficacy, quality of life, pain-related knowledge, and improved pain medication adherence. The results of this study will determine whether the multicomponent intervention can be recommended for clinical practice and whether the developed mobile app could support cancer patients' self-management of their pain at home in mainland China.

Conclusions: This study will provide helpful information for health professionals to guide cancer pain patients toward self-management and provide suggestions and evidence for future cancer patient self-management interventions incorporating mHealth.

035

Perception of Uncertainty Concerning Illness and Coping Styles among Parents of Children with Central Nervous System Tumors: a Correlation Analysis

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Objectives: To investigate the perception of uncertainty concerning illness among parents of children with central nervous system tumors and their coping styles and to analyze correlations to provide a basis for developing targeted intervention measures.

Methods: We studied 108 parents of children with central nervous system tumors admitted from January 2019 to September 2020. Information about these children and their parents were analyzed using the modified Parents' Perception of Uncertainty in Illness Scale (PPUS) and the Coping Health Inventory for Parents to calculate correlations of parents' perceptions of uncertainty concerning illness and coping styles.

Results: The total score of PPUS was 45.28 ± 8.428 for the parents of children. The most common coping styles were the maintenance of family unity, cooperation, and optimism. The average score for frequency of use was 4.25 ± 0.939, and it was the most effective style, with an average score of 2.45 ± 0.730. The correlation analysis revealed that parents' perception of uncertainty concerning illness positively correlated with coping style ($P < 0.05$).

Conclusion: The parents of children with central nervous system tumors show substantial perception of uncertainty concerning the illness and are susceptible to lack of communication and expression. Positive, effective coping methods should be adopted to reduce uncertainty concerning illness to reduce the psychological pressure on parents.

Keywords: children with intracranial tumors, parents, perception uncertainty in illness, coping style

036

A Systematic review to analyse qualified nurses' experiences and support needs while caring for dying patients

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[2] *Birmingham City University, Birmingham, UK*

Background: Death and dying is a reality that clinical nurse faces every day in clinic. It is an emotional and demanding experience for nurses. Understanding qualified nurses experience and support needs while caring for dying patients enable them to provide high-quality care for patients and reduce nurses' burnout and pressure in palliative care.

Objective: To analyse qualified nurses' experiences and support needs while caring for dying patients by examining the findings of existing qualitative studies.

Design: Systematic review methods incorporating thematic analysis were used.

Methods: A comprehensive search was conducted between 2009 and 2019 in three main databases. All qualitative studies in English that explore qualified nurses' experience and support needs while caring for dying patients were included. One student reviewer selected the studies for inclusion with the help of librarians and assessed each study quality under the expert's supervision. Thematic synthesis was chosen to synthesize the findings of the included studies.

Results: Nine primary qualitative studies met inclusion and quality criteria. Three key themes were identified from the original findings: a feeling of lacking education and support from the organizational level; a feeling of rewarding naturally comes from the caring process; to be involved in decision making or teamwork.

Conclusions: Qualified nurses expressed a variety of experience and support needs while caring for dying patients and their families. Improving knowledge about palliative care, involving nurses in decision making, and committing leadership and evidence-based practice (EBP), facilitate preparation and support nurses in palliative care. They addressed the needs of humanistic care and expressed different personal growths and professional developments through the caring process.

037

A Feasibility Study to Examine the effects a Young Adult Community Health Advisor (YACHA)-Led Intervention on Colorectal Cancer Screening Uptake among Asymptomatic South Asians in Hong Kong

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Purpose: To examine the feasibility and acceptability of a YACHA-led intervention among asymptomatic South Asians aged 50 to 75 and to estimate the preliminary effect of the intervention on the colorectal cancer screening uptake (faecal immunochemical test).

Methods: From July to November 2022, a pilot randomised controlled trial was conducted and participants were recruited from community setting. A YACHA-led intervention was implemented for the intervention group, while the control group would receive the intervention after all follow-up data were collected. The feasibility was assessed by the number of people approached, screened and eligible, consented to participate and completed the study. The acceptability was assessed by the satisfaction questionnaire. The colorectal cancer screening uptake (faecal immunochemical test) was assessed one month after the intervention.

Results and discussion: A total of 39 South Asians were approached. Three of them were not eligible, and the remaining 36 South Asians consented to participate. Among them, 19 participants were in the intervention group and 17 participants in the control group. Four of the intervention group participants withdrew from the study. The overall study completion rate was 88.9%. More than 90% of the participants from a YACHA-led intervention were satisfied with the intervention's design, duration, and content. Eleven participants from a YACHA-led intervention group had undertaken colorectal cancer screening with faecal immunochemical test (11 out of 15, 73%). One participant from the control group had screened with faecal immunochemical test for colorectal cancer (1 out of 17, 5.9%).

Conclusions: The findings support the feasibility and acceptability of YACHA-led intervention and give preliminary evidence of its effectiveness in enhancing the uptake of colorectal cancer screening among South Asians aged 50 to 75 years in Hong Kong.

038

Women’s experience and management of cancer-related fatigue and psychological distress during treatment for gynecological cancer: A qualitative study

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Purpose: Women with gynecological cancer have significant cancer-related fatigue and psychological distress during chemotherapy and/or radiotherapy. However, little is known about these women’s experience and management of these symptoms. The purpose of this study was to explore the experience and management of cancer-related fatigue and psychological distress among women with gynecological cancer during chemotherapy and/or radiotherapy in mainland China.

Methods: A qualitative descriptive design was used in this study. Face-to-face semi-structured individual interviews were conducted with twenty-three women with gynecological cancer who experienced cancer-related fatigue and psychological distress in mainland China. Content analysis was applied to data analysis.

Results and discussions: Three categories were identified: overwhelming experience of cancer-related fatigue, diverse experience of psychological distress, and strategies for managing cancer-related fatigue and psychological distress. Women with gynecological cancer experienced a sense of physical exhaustion, emotional distress, and disruption to normal life when facing cancer-related fatigue during chemotherapy and/or radiotherapy. The experience of psychological distress was diverse, including distress due to cancer treatment, the psychological burden associated with social relationships, frustration with being ill, and worries about disease progression and recurrence. Strategies applied by women to manage cancer-related fatigue and psychological distress were mainly grouped into two sub-categories: non-pharmacological methods (i.e., attention distraction, low-intensity exercise, relying upon social support, rest and sleep for cancer-related fatigue and self-encouragement) and unable to find a suitable method.

Conclusions: The findings provide insights into the complex experience of cancer-related fatigue and psychological distress among women with gynecological cancer during chemotherapy and/or radiotherapy. The findings also provided direction for future interventions to manage these symptoms. Our findings highlight the need to assess cancer-related fatigue and psychological distress in clinical practice and develop patient-centered interventions to reduce such symptoms and the negative impacts on women’s quality of life.

039

The effectiveness of positive psychological interventions in patients with cancer: A systematic review and meta-analysis

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Aims and Objectives: To systematically determine the effectiveness of positive psychological interventions on quality of life, positive psychological outcomes, and negative psychological outcomes in patients with cancer.

Background: Patients with cancer often suffer from various psychological problems, and have a poor quality of life. Positive psychological interventions have been increasingly applied to patients with cancer, but the results of these studies have not been synthesized.

Design: A systematic review and meta-analysis of randomized controlled trials.

Methods: Six English databases and four Chinese databases were searched from the inception to December 2022. Two reviewers independently assessed the risk of bias using the Cochrane Risk of Bias tool. RevMan was used for meta-analysis.

Results: Twenty-nine randomized controlled trials examined the effects of positive psychological interventions including meaning therapy, dignity therapy, positive psychotherapy, mindfulness- based intervention, life review, written expression of positive emotion, acceptance and commitment psychotherapy, attention and interpretation therapy, compassion training, and spiritual therapy on patients with cancer. Positive psychological interventions significantly improved the quality of life, enhanced positive psychological outcomes including well-being, meaning of life, self-esteem, optimism, resilience and self-efficacy, and alleviated negative psychological outcomes including depression, anxiety and hopelessness. However, the heterogeneity of some outcomes was rather high, due to the wide diversity of the interventions included.

Conclusion: Positive psychological interventions have potentially positive effects on improving quality of life, enhancing positive psychological outcomes and alleviating psychological distress in patients with cancer. However, due to the heterogeneity and the lack of follow-up studies, more high-quality studies are needed to confirm the results of our review and to clarify the long-term effects of positive psychological interventions.

Relevance to clinical practice: As safe and feasible psychological interventions, healthcare professionals can consider selecting appropriate positive psychological interventions according to the condition of cancer patients.

Keywords: cancer, positive psychological interventions, quality of life, psychological health outcomes, meta-analysis

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Construction of a machine learning-based prediction model for a high-risk group of breast cancer patients with symptoms distress

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Purpose: To construct a prediction model for high risk of self-reported symptom distress in breast cancer patients during chemotherapy.

Background: Identifying and predicting those at high risk of breast cancer symptom distress early on can enable the implementation of personalized symptom interventions at an earlier stage, thus improving the efficacy of symptom management. Machine learning algorithms have been proven to be effective in recognizing and forecasting risk groups.

Methods: The participants of this study were focused on breast cancer patients who were undergoing chemotherapy. The PROMIS measures was used to evaluate the typical symptoms, including pain, fatigue, sleep disturbance, anxiety, depression. The patients with high-level or low-level of symptom distress were classified based on previous Latent class analysis (LCA) results. the traditional logistic regression analysis, and five classical machine learning classification algorithms, including artificial neural network, decision tree, support vector machine, random forest, and extreme gradient booting (XGBoot), were used to construct the prediction models for breast cancer patients who are in the high-risk classification of symptom distress, specifically, and the optimal model was screened after comprehensive evaluation by ROC curve analysis, calibration curve analysis.

Results: The prediction accuracy of the random forest algorithm model is 0.88, and precision rate was 0.87. The area under the curve of the random forest model was the largest. after comprehensive comparison, the prediction model of high-risk classification of symptom distress for breast cancer patients by random forest algorithm was the optimal model, with positive prediction value of 98.02%. The overall prediction performance is good.

Discussion: The performance of the prediction models of breast cancer patients based on the six algorithms is different. While the performance of random forest algorithm model shows best overall, which can be used for early warning of breast cancer patients with high symptom distress.

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The Impact of Colorectal Cancer Patient Perceived Family Risk Communication on First-Degree Relatives' Colonoscopy Screening Behavior: A Structural Equation Model

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Purpose of the study: To construct a relationship model between family relationships, family health beliefs, family risk communication and colonoscopy screening behavior of first-degree relatives (FDRs) of colorectal cancer (CRC) patients based on the Family System Perspective (FSP).

Methods: A cross-sectional study was conducted in Guangzhou, China from November 2022 to February 2023. A convenience sample of 179 people with CRC was recruited. Sociodemographic characteristics, family relationships, family health beliefs, family risk communication, and FDRs' colonoscopy screening behavior were measured. The data were analyzed using structural equation modeling.

Results and discussions: Among 179 families of patients with CRC, almost half of families (49.2%) had at least one FDRs who completed colonoscopy screening; around 72.6% of families had family risk communication about CRC risk and screening. Family health belief was positively correlated with family risk communication ($\beta = 0.601$, $P < 0.001$), family risk communication was positively correlated with screening behavior of FDRs ($\beta = 0.409$, $P < 0.001$), and family risk communication demonstrated a mediating role between family health belief and colonoscopy screening behavior of FDRs. However, family relationships ($P = 0.719$) and family health beliefs ($P = 0.213$) did not have a direct effect on the colonoscopy screening behavior of FDRs; and family relationships did not have a direct effect on family risk communication ($P = 0.890$). The model fit was well ($\chi^2/df = 1.344$, CFI = 0.965, TLI = 0.952, RMSEA = 0.044, SRMR = 0.057). Health communication to promote colonoscopy screening for the FDRs of CRC patients should pay attention to the improvement of family health beliefs and encourage patient-mediated family risk communication.

Conclusion: Our findings suggest that family risk communication mediates family health beliefs and FDRs' colonoscopy screening behavior.

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Experience of Caregivers of Children Receiving Cancer Treatment: Qualitative Study

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Background and Purpose: The diagnosis of cancer in a child impacts and disrupts the family routines and structures. Studies have reported that caregivers experience changes in emotional, physical, and psychological well-being. The most common feelings experienced by the caregivers include shock, despair, fear, guilt, loss, and anxiety due to the child's diagnosis. This study aimed to evaluate the experience of caregivers of children receiving cancer treatment.

Methods: This descriptive qualitative study used semi-structured interviews with twenty-two caregivers of children receiving cancer treatment. The interviews were audio-recorded and transcribed verbatim. The data was analysed using qualitative content analysis. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist was adhered to during the reporting of this study.

Results: Three themes emerged: (1) Caregivers' well-being, (2) Caregivers' coping mechanisms, and (3) Caregivers' perceived needs. The caregivers perceived that the diagnosis of cancer in their child affects their physical, social, and psychological well-being, affecting the care they provide. In response to the stressors of child's cancer diagnosis and caregiving, caregivers use adaptive and maladaptive coping mechanisms. The caregivers' most cited needs were information, emotional, and psychological needs. Caregivers believed meeting these needs would help them cope and adjust better to their child's cancer diagnosis and treatment.

Conclusion: Caregivers of children receiving cancer treatment experience both physical and psychosocial challenges and unmet information, emotional, and psychosocial needs. Nurses must pay attention to the caregivers of children receiving cancer treatment and provide the appropriate psychosocial support. Meeting caregivers' information and emotional and psychological needs should be part of care in the paediatric cancer unit. In this regard, developing a psychological intervention for caregivers of children with cancer is vital.

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The Relationship between Illness Perception and Adherence to Oral Anticancer Agents among Patients with Gastrointestinal Tract Cancer: the Mediating Role of Medication Perception

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Purpose: Patients with gastrointestinal (GI) tract cancer reported suboptimal adherence to oral anticancer agents (OAA), leading to lower 5-year survival rates. The Common-Sense Model of Self-Regulation highlights the relationship between illness perception and medication adherence, while medication perception, which refers to the belief and self-efficacy about medication, was found to be associated with these two constructs. This study aimed to explore whether medication perception mediates the relationship between illness perception and adherence to OAA among this population.

Methods: Between July and August 2023, a questionnaire was administered to patients from four tertiary hospitals in Mainland China. Illness perception was assessed using the Brief Illness Perception Questionnaire. The belief and self-efficacy about medication were assessed by the Belief about Medicines Questionnaire and Self-efficacy for Appropriate Medication Use Scale, respectively. Adherence was evaluated using the Morisky 4-item Medication Adherence Scale. Mediation analyses were conducted.

Results: Among the 253 participants, 58.9% demonstrated good adherence. A higher illness perception was associated with a negative medication belief ($B=0.021$, $p<0.001$), a lower medication self-efficacy ($B=-0.237$, $p<0.001$), and worse adherence ($B=-0.019$, $p=0.001$). A higher level of medication self-efficacy ($B=0.028$, $p=0.001$) was associated with better adherence. The association between medication belief and adherence was not significant. When medication belief was excluded from the mediation analysis, a significant association was found between medication self-efficacy and adherence ($B=0.020$, $p=0.025$), and the association between illness perception and adherence was weakened ($B=-0.014$, $p=0.016$). While a significant mediation effect was observed ($Z_{\text{mediation}}=-2.093$, $p=0.036$), the direct and indirect effects were 73.68% and 26.32%, respectively.

Conclusion: Adherence to OAA among patients with GI tract cancer is suboptimal. Our findings suggest that the influence of illness perception on adherence is partially mediated by medication self-efficacy. Strategies to modify illness perception and improve medication self-efficacy may contribute to better adherence.

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Coping experience of patients with advanced cancer from the perspective of sense of coherence : a qualitative study

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Objective: To explore the disease coping experience of patients with advanced cancer from the perspective of sense of coherence, in order to provide reference for identifying their coping resources and formulating effective coping strategies.

Methods: A descriptive qualitative research method was used to conduct semi-structured interviews with 18 patients with advanced cancer who were hospitalized in the cancer center of a tertiary hospital in Guangzhou from March to May 2023. The content analysis method was used to summarize and refine the interview results.

Results: A total of three themes were summarized: comprehending the disease experience (reflecting on health behaviors, facing up to the fact of illness, accepting the law of life); managing disease threats (responding to multiple challenges, mobilizing coping resources); realizing the meaning of disease coping (identifying the meaning of coping, perceiving the benefits of disease, and making a life plan). Conclusion Effective coping resources can help patients with advanced cancer cope with multiple challenges in the disease process. Medical staff should strengthen cancer knowledge education, help patients with advanced cancer to explore positive coping resources, and reinforce the meaning of disease coping, thereby enhancing patients' disease coping ability and promoting their physical and mental health.

Keywords: Sense of coherence, Advanced cancer, Coping experience, Qualitative study

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Resilience interventions for pediatric cancer patients' families: Systematic review and meta-analysis

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Purpose: To systematically review and meta-analyze the evidence for the efficacy of psychological interventions to foster resilience in families of pediatric cancer patients.

Methods: PubMed, CINAHL, and nine other databases were searched up to March 2023. Trial registers and reference lists were additional sources. Empirical studies on psychological interventions to improve resilience in family members of pediatric cancer patients were included. Full-text and quality appraisal were performed independently by two reviewers. Pooled effect sizes were calculated for outcomes (i.e., resilience and mental health outcomes) using a random-effects meta-analysis. The intervention content and methods were narratively synthesized.

Results and discussions: Of 1,753 records retrieved, 17 studies were included in the review and 10 in the meta-analysis. At post-intervention, there was a positive effect of interventions on resilience (standardized mean difference [SMD], 0.83; 95% confidence interval [CI], 0.05 to 1.11), but no evidence of effects on depressive symptoms, stress, or well-being. The improvement in resilience was sustained in the short-term (≤3 months) (SMD, 2.57; 95% CI, 1.95 to 3.20), with delayed effects on depression (SMD, −0.48; 95% CI, −0.77 to −0.20) and stress (SMD, −0.26; 95% CI, −0.50 to −0.01). In later follow-ups (>3 to ≤6 months), there was evidence of effects on resilience (SMD, 0.61; 95% CI, 0.22 to 1.01) and depressive symptoms (SMD, −1.11; 95% CI, −1.2 to −0.28). Intervention types included stress management, resource identification and strengthening, coping strategies for daily life, and social support.

Conclusions: These findings suggest that resilience interventions are associated with most of the resilience and mental health outcomes. Because associations vary across populations and intervention formats, these intervention characteristics should be considered when developing and implementing future resilience interventions.

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Comparison of Three Nutritional Assessment Methods Associated with the Prognostic Impact of Laryngeal Cancer

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Background: Several studies have found that the prognostic nutritional index (PNI), controlling nutritional status (CONUT), and Glasgow Prognostic Score (GPS) of patients with laryngeal cancer accurately predict their prognosis. However, there is no consensus regarding the best assessment tool. Therefore, this study aimed to confirm the predictive value of the three nutritional scoring systems for the prognosis of patients with laryngeal cancer.

Methods: This study analyzed a cohort of 427 patients with laryngeal cancer who visited our hospital. PNI, CONUT, and GPS were calculated, and the relationship between these indicators and prognosis was examined.

Results: The optimal cut-off levels for overall survival (OS) of laryngeal cancer patients determined by PNI, CONUT, and GPS were 45, 3, and 0, respectively. When patients were stratified based on these thresholds, OS and disease-free survival (DFS) were significantly decreased in the malnutrition group (all three, $p < 0.05$). The OS rates of patients with laryngeal cancer were significantly affected by the three scores according to multivariate analysis.

Conclusions: The three scoring methods had a high predictive value for the prognosis of patients with laryngeal cancer, with GPS having the strongest correlation with the prognosis of laryngeal cancer patients.

Keywords: laryngeal cancer, prognosis, prognostic nutritional index, controlling nutritional status, Glasgow Prognostic Score

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Cross-cultural adaptation and psychometric validation of the Chinese version of McGill Quality of Life Questionnaire–Expanded (MQOL-E) in mainland China

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Background: McGill Quality of Life Questionnaire-Expanded (MOQL-E) is a more comprehensive instrument specifically applied to evaluate the quality of life (QOL) of patients with life-limiting illness.

Aim: To translate, cross-culturally adapt the MQOL-E into Chinese, and to determine the psychometric properties of the Chinese version of MQOL-E (MQOL-E-C) in patients with advanced cancer.

Design: In phase 1, the translation of MQOL-E-C followed the guidelines of Process of Translation and Adaptation of Instruments established by the World Health Organization (WHO). In phase 2, psychometric properties of the MQOL-E-C were examined in terms of internal consistency, item-total correlations, test-retest reliability, content validity, concurrent validity, and construct validity.

Setting/participants: A total of 190 patients with advanced cancer in the First Affiliated Hospital of Guangzhou University of Chinese Medicine participated in this cross-sectional study from June 2022 to May 2023, including a pre-test sample of 30 and a validation sample of 160.

Results: Cronbach's alpha coefficient of the MQOL-E-C was 0.908, ranging from 0.673 to 0.896 for subscales. The item-total correlation coefficients ranged from 0.495 to 0.706 ($P < 0.01$). The test-retest reliability was acceptable with intraclass correlation coefficients (ICC) ranged from 0.570 to 0.797. The scale content validity index/universal agreement (S-CVI/UA) and scale content validity index/average (S-CVI/Ave) calculated as 0.90 and 0.98 respectively, and the item content validity index (I-CVI) ranged from 0.83 to 1.00. Confirmatory factor analysis results provided support for the measurement structure of original model. MQOL-E-C was positively correlated with the Single-Item Scale ($r = 0.317$ to 0.598, $P < 0.01$), the Functional Assessment of Cancer Therapy-General ($r = 0.300$ to 0.760, $P < 0.01$) and the Functional Assessment of Chronic Illness Therapy-Spiritual Well-Being 12 Item Scale ($r = 0.245$ to 0.678, $P < 0.01$).

Conclusion: The MQOL-E-C appears to be culturally appropriate, reliable, and valid for assessing QOL in Chinese patients with advanced cancer.

Keywords: Quality of life, Palliative care, Cancer, Cultural adaptation, Psychometrics, China

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The mediating role of cognitive emotion regulation in the relationship of psychological flexibility and psychological distress: A cross-sectional study among breast cancer patients

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Purpose: The study aimed to evaluate the relationship between psychological flexibility, cognitive emotion regulation and psychological distress, and to examine whether cognitive emotion regulation may serve as a mediator between psychological flexibility and psychological distress.

Methods: This cross-sectional study was conducted in a hospital in southern China. One hundred eighty patients with breast cancer were recruited in the study and completed the Sociodemographic and Clinical Features Data Form, Acceptance and Action Questionnaire-II (AAQ-II), Cognitive Emotion Regulation Questionnaire-Short version (CERQ-Short) and Hospital Anxiety and Depression Scale (HADS). Data analysis was performed using IBM SPSS 24.0 and Mplus 8.3.

Outcome and Discussion: The mean score of anxiety and depression was 5.53(±19.97) and 3.65(±14.52) respectively. Psychological flexibility and maladaptive cognitive emotion regulation strategies were the predictors and explained 60.3% of the variance in anxiety and 65.4% of the variance in depression, respectively. The results confirm the full mediation of maladaptive cognitive emotion regulation strategies in the relationship between psychological flexibility and psychological distress. While adaptive cognitive emotion regulation strategies did not mediate the relationship between psychological flexibility and psychological distress.

Conclusion: This study provides preliminary evidence for the role that cognitive emotion regulation strategies plays in psychological flexibility and psychological distress in breast cancer patients. Maladaptive cognitive emotion regulation strategies was identified as a mediator between psychological flexibility and psychological distress among breast cancer patients. The significance of therapies focused on cognitive emotion regulation strategies should be emphasized in comprehensive biopsychosocial approaches for the management of breast cancer patients.

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Suffering and self-overcoming: A grounded theory of the process of coping with financial toxicity among young women with breast cancer

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Purpose: To explore the process of coping with financial toxicity among young women with breast cancer and formulate a grounded theory that serves as a foundation for creating intervention strategies aimed at supporting cancer survivors.

Methods: Qualitative study using the Corbin and Strauss variant of grounded theory. A series of in-depth interviews were carried out with young women with breast cancer (n = 29) by theoretical sampling method. We analyzed data by coding core categories in the patients' coping processes and developing theory around these categories. Data collection and analysis were performed simultaneously.

Results: A substantial theory of young female breast cancer survivors' process of coping with financial toxicity was constructed. Two core concepts of suffering and self-overcoming were identified. Young women with breast cancer suffered from financial toxicity, which was related to risk factors, coping resources and unmet needs. To overcoming financial toxicity, young women with breast cancer adjusted them by reshaping consumption concept, re-division of family functions, re-planning of occupation career and rebuilding life confidence.

Conclusion: This qualitative study constructed a theory delineating the coping strategies employed by young women with breast cancer in response to financial toxicity, offering profound insights into the intricacies of cancer-related financial toxicity. Identifying risk factors, enhancing coping resources and meeting unmet needs would be helpful to patients' adjustment to financial stress.

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Developmental pattern of symptoms of hematopoietic stem cell transplantation patients A longitudinal mixed-methods study

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Purpose: To understand the developmental pattern of symptoms of HSCT patients at different stages in the air laminar flow asepsis room.

Methods: This study used a mixed-methods design. A combination of longitudinal qualitative and quantitative studies was used to analyze the symptom experience and trajectory of symptom burden of HSCT patients at four time points: the first day of entering the air laminar flow asepsis room (T1), the pre-transplant conditioning period (T2), the graft transfusion period (T3), and the day before discharge (T4). Colaizzi's seven step analysis method was used to analyze qualitative data, and single factor repeated measure analysis of variance and Person correlation analysis were used to analyze quantitative data.

Results: Four themes were extracted, which were: i) the unexpected burden of symptoms: dynamic, disturbing, simultaneous and correlation; ii) emotional complexity in different transplant periods; iii) internal predicament: ineffective symptom management; iiii) external strength: desire for supports from multiple sources. In the quantitative study, the overall score of symptoms and subscale scores of HSCT patients at T1, T2, T3 and T4 in the air laminar flow asepsis room were not completely equal ($P < 0.001$). The overall score of symptom burden at different time points was $T1 < T4 < T3 < T2$. Pearson correlation analysis showed that FACT-BMT total score and each dimension score were negatively correlated with MSAS-Ch score at four time points.

Conclusions: The development of symptoms of HSCT patients in the air laminar flow asepsis room showed a dynamic trend with time nodes. The quality of life in the air laminar flow asepsis room was damaged, and the level of quality of life was negatively correlated with the symptom burden. Targeted symptom management measures should be carried out, so as to help improve the symptom experience and prognosis of HSCT patients.

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Impact of Body Image Perception on Behavioral Outcomes in Chinese Adolescent and Young Adult (AYA) Survivors of Sarcoma

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Purpose: This study aims to identify the prevalence and predictive factors of body image dissatisfaction among Chinese AYA survivors of sarcoma, and to evaluate the association between body image dissatisfaction and behavioral outcomes.

Methods: 116 AYA survivors (48.3% female; mean age 28.2, SD=8.2 years) who were diagnosed with osteosarcoma (49.1%) or soft-tissue sarcoma (50.9%) were recruited from the Orthopaedics & Traumatology and Paediatrics clinics of Prince of Wales Hospital. Survivors self-reported their perceived body image using Body Image Scale (BIS). Significant body image dissatisfaction was defined as a BIS score of >10 (out of 30 points). Behavioral outcomes were assessed using the DSM-oriented Scales of the Achenbach System of Empirically Based Assessment Adult Self-Report checklist. Multivariable linear regression was conducted to identify clinical and treatment predictors of body image perception, and to investigate the association between body image dissatisfaction and behavioral outcomes.

Results and discussions: At an average of 14.9 years post-cancer diagnosis, one-third of the cohort (35.3%) reported dissatisfaction with their body image, particularly in the areas of "being dissatisfied with the scar" (14.7%), "feeling less wholesome" (15.5%), and "less physically attractive" (12.9%). Female survivors (Est=3.13, SE=1.53; P=0.044) and survivors who received surgery (Est=7.13, SE=3.35; P=0.037) reported poorer body image perception. Multivariable analyses showed that body image dissatisfaction was associated with more symptoms of depression (Est=0.29, SE=0.10; P=0.005), anxiety (Est=0.38, SE=0.12; P=0.002) and avoidant personality (Est=0.41, SE=0.12; P<0.001).

Conclusions: One-third of the survivors of sarcoma were dissatisfied with their body image, which seemed slightly higher than the prevalence estimates reported in the Western population (13-28%). Negative perception of body image was associated with psychological distress even at long-term survivorship. The provision of social support and nurse-led psychosocial intervention early during the cancer care continuum may mitigate the negative impact of body image distress in AYA survivors.

Keywords: Adolescents and young adults, sarcoma survivors, body image dissatisfaction, behavioral outcomes

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Identifying central symptoms and central symptom clusters among lung cancer patients receiving immune checkpoint inhibitors: A network analysis

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Purpose: The aim of this study was to construct symptom network of symptomatic immune-related adverse events (irAEs), and explore central symptoms and central symptom clusters among lung cancer patients receiving immune checkpoint inhibitors (ICIs).

Methods: A cross-sectional study was conducted. From April 2022 to June 2023, a total of 661 lung cancer patients receiving ICIs at three medical bases in Guangzhou, China were recruited using a convenient sampling method. A general information questionnaire, the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core-30 and the Lung Cancer module-13 (EORTC QLQ-C30 and QLQ-LC13) were used for collecting participants' sociodemographic and clinical characteristics as well as symptomatic irAEs. A correlation network between symptoms was created by network analysis. Symptom clusters were identified by community detection based on the springclass algorithm. The central indicators were applied to investigate central symptoms and central symptom clusters.

Results and discussions: For lung cancer patients receiving ICIs, fatigue (n=552, 83.51%), dyspnea (n=439, 66.41%), and appetite loss (n=428, 64.75%) were the most common symptoms. As for severity, alopecia (44.43 ± 42.42), appetite loss (39.03 ± 36.46), and insomnia (35.75 ± 37.57) were the most severe symptoms. The edges of the network were thickest for "fatigue" and "appetite loss" (r=0.40), "nausea/vomiting" and "appetite loss" (r=0.29). Fatigue (r_s=1.34, r_c=0.01, r_b=44) and appetite loss (r_s=0.91, r_c=0.01, r_b=34) were the most central symptoms. In addition, the springclass algorithm identified three symptom clusters, namely respiratory symptom cluster, psychoneurological symptom cluster, and gastrointestinal symptom cluster. Psychoneurological symptom cluster (r_s=0.75, r_c=0.04, r_b=3) was ranked as the most central symptom cluster.

Conclusions: Fatigue and psychoneurological symptoms are the most common symptoms and symptom clusters among lung cancer patients receiving ICIs. Developing interventions that target fatigue-related psychoneurological symptoms may help reduce the overall symptom burden of lung cancer patients treated with ICIs.

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Perception of Online Communities towards the Use of Cancer Immunotherapy: A Data Mining Study of 3.6 Million Web-based Posts from Social Media Platforms

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Purpose: Immunotherapy has become a game changer in cancer treatment, yet, patients may have concerns and deficit knowledge regarding its use. This study analyzed the perspectives of online communities towards the use of immunotherapy.

Methods: A total of 4.9 million posts were extracted from Facebook, Twitter, Reddit, and 16 health forums from November to December 2022. The posts were first pre-processed using Spark NLP, an Apache Spark Natural Language Processing library in Python. Subsequently, topic modeling using BERTopic was performed. Topic diversity and coherence metrics were computed to determine the optimal number of topics. After identifying the 30 most important keywords for each topic, labels were assigned to the topics based on domain knowledge and clinical consensus; related topics were further classified into themes.

Results and discussions: 3.6 million posts were available for model building and evaluation after data cleaning. BERTopic performed best with 14 topics (topic diversity: 87.76%; topic coherence: 80.21%). They were further classified into four positive themes (8 topics), one neutral theme (2 topics), and three negative themes (4 topics). The positive themes included feelings of hope and positivity towards immunotherapy, the perceived superior effectiveness of immunotherapy over conventional chemotherapy, and its synergistic effects with other treatments. The negative themes were related to the extortionate cost and unpredictable side effects of immunotherapy, and how it caused lifestyle disruptions. Another emerging theme is the use of complementary therapies (e.g., massage, meditation, and herbal medicine) and self-treatments to relieve symptoms and side effects of immunotherapy.

Conclusions: The social media is a valuable source of real-world data reflecting patients' perceptions. We found that the online communities tended to have positive expectations towards immunotherapy, especially combination therapies. Our findings reinforce the need for quality supportive care for patients to alleviate their fear of side effects and lifestyle disruption.

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Translation and psychometric evaluation of an instrument to assess the health beliefs regarding Human Papillomavirus vaccination among Pakistani mothers in Hong Kong

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Purpose: Mothers' health beliefs in Human Papillomavirus (HPV) vaccination are essential for understanding the mothers' decision for vaccinating their daughters against HPV. There is a lack of validated instruments to measure the health beliefs in HPV vaccination among Pakistani mothers. The purpose of this study is to translate the Scale for Human Papillomavirus Vaccination- Health Belief Model constructs (HPVS-HBM) and evaluate its psychometric properties for Pakistani mothers in Hong Kong.

Methods: This is a descriptive correlational study, which recruited a convenience sample of 260 Pakistani women for participation. The original HPVS-HBM was translated from English to Urdu according to the Brislin's model. It is a 26-item scale comprising of the constructs of perceived susceptibility, perceived severity, perceived benefits, perceived barriers-cost, perceived barriers-safety concerns, and cues to action. An expert panel reviewed the translated HPVS-HBM and assessed the content validity of the items and the scale. Face validity was assessed by a sample of five Pakistani mothers, while construct validity of the subscales comprising of at least three items (perceived susceptibility, perceived severity, and perceived benefits) was examined by an exploratory factor analysis. Internal consistency and test-retest reliability were assessed to evaluate the reliability.

Results and discussions: The translated HPVS-HBM demonstrated good face validity and content validity (I-CVI: 0.83 – 1.00; S-CVI: 0.89 – 1.00). Factor analysis of 22 items of the scale revealed the 3-factor structure (perceived susceptibility, perceived severity and perceived benefit), which accounted for 80.56% of the total variance. The subscales also presented good internal consistency (Cronbach's alpha: 0.93 - 0.98) and acceptable test-retest reliability (weighted kappa: 0.49 – 0.96; ICC: 0.83 – 0.93).

Conclusions: The HPVS-HBM-U demonstrated desirable psychometric properties, indicated that it can be a valid and reliable instrument for measuring parental health beliefs regarding HPV vaccination among Pakistani mothers in Hong Kong.

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A meta-analysis of the effects of psychological intervention based on self-transcendence theory on the spiritual level and negative emotions of cancer patients

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Objective: To systematically evaluate the effect of psychological intervention based on self-transcendence theory on the spiritual level and negative emotion of cancer patients.

Methods: Systematic search of PubMed, Web of Science, Embase, Cochrane Library, CINAHL, A randomized controlled trial on the influence of psychological intervention of self-transcendence theory on spiritual health and negative emotions of cancer patients was published from CNKI, Wanfang Database and VIP Database from the establishment of the database to April 20, 2023. Two researchers independently screened literatures, extracted data and evaluated the risk of bias in the included studies. Meta-analysis was performed using RevMan 5.3 software.

Results: A total of 11 randomized controlled studies with 1038 cancer patients were included. The results of meta-analysis showed that compared with the control group, psychological intervention based on the self-transcendence theory could improve the level of self-transcendence of cancer patients [SMD=-1.59, 95%CI (-2.45-0.73), P=0.0003] and hope level [SMD=-5.92, 95%CL (-8.58-3.26). P < 0.0001], relieve anxiety [SMD=-1.58, 95%CI (-2.29 ~ -0.88), P < 0.0001], depression [SMD=-1.45, 95%CI (-2.17 ~ -0.72), P < 0.0001].

Conclusion: Psychological intervention based on self-transcendence theory can improve the spiritual level and relieve negative emotions of cancer patients, but its long-term effect on the self-transcendence level of cancer patients needs to be further verified by more high-quality studies.

Keywords: self-transcendence theory, Cancer, Spiritual level, Negative emotions, meta-analysis

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Methodological quality and content of recommendations for breast cancer risk management among BRCA1/2-mutation carriers: A systematic review of guidelines and consensus statements

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Objective: Germline mutations in the BRCA1/2 gene account for most hereditary breast cancer. Management of healthy carriers aims to prevent and allow early detection of breast cancer. The purpose of this systematic review was to assess methodological quality and summarize content of recommendations for breast cancer risk management among BRCA1/2-mutation carriers.

Methods: Major electronic databases (PubMed, Web of Science, CINAHL, China National Knowledge Infrastructure, Wanfang Database, and Chinese biomedical literature service system) and specializing societies (National Comprehensive National network, National Institute for Health and Care Excellence, European society of medical oncology, the Society of Obstetricians and Gynaecologists of Canada, Chinese Society of Breast Surgery) were searched. Eligible reports were published in English or Chinese from January 2018 to June 2023. Three independent reviewers assessed the methodological quality of guidelines and consensus statements using the AGREE II and JBI Critical Appraisal Checklist for expert consensus instruments. Latest recommendations on BRCA1/2-mutation carriers for breast cancer risk management were captured and summarized.

Results: A total of 1218 records were retrieved and 15 reports were included in the review (9 guidelines and 6 expert consensus). The included reports were from Chinese (n=4), USA (n=2), India (n=2), Japan (n=1), Europe (n=1), UK (n=1), Germany (n=1), Spain (n=1), Canada (n=1) and Brazil (n=1). The NCCN and NICE guidelines obtained the highest quality, and the remaining guidelines and consensus statements showed different substantial deficiencies. Recommendations for BRCA1/2-mutation carriers' management were identified in genetic counseling, breast cancer screening and surveillance, risk reduction surgery and care, pharmacological intervention, lifestyle intervention, psychological intervention, and health education.

Conclusion: This systematic review enhances the availability and clarity of BRCA1/2-mutation carrier's management relevant guidelines and expert consensus that can help healthcare providers develop management programme for BRCA1/2-mutation carriers to effectively prevent breast cancer.

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Experiences of cancer patients using electronic symptom management systems: a qualitative systematic review and meta-synthesis

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Purpose: The purpose of this systematic review was to synthesize qualitative studies regarding cancer patients' experiences with electronic symptom management systems (ESMSs) to provide evidences to support the development of highly acceptable ESMSs.

Methods: A total of 12 electronic databases including PubMed, Web of Science, The Cochrane Library, EBSCOhost, Embase, PsycINFO, ProQuest, Scopus, Wanfang database, CNKI, SinoMed, VIP were searched to collect relevant studies. Qualitative and mixed methods studies published in English and Chinese were included. We used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement checklist and the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) statement to improve transparency in reporting the synthesis of our qualitative research. A Critical Appraisals Skills Program (CASP) Checklist was used to assess the quality and a meta-synthesis was used to interpret and synthesize the findings of the included studies.

Results and discussions: A total of nineteen studies were included in the meta-synthesis. Cancer patients' experiences regarding ESMSs were summarized into three major themes: (1) perceptions and attitudes towards ESMSs, (2) the value of ESMSs, (3) barriers, requirements and suggestions for ESMSs, with ten subthemes emerging from the three major themes. The meta-synthesis revealed that cancer patients had both positive and negative experiences of ESMSs. In general, patients recognized the value of ESMSs in symptom assessment and management and were willing to use them, but they still encountered barriers and wanted the systems to be improved.

Conclusions: Findings from the systematic review can be used to develop future ESMSs that improve cancer patient outcomes. It is important for ESMSs to be tailored to the individual specific needs. Future research should focus on strengthening electronic equipment and technical support, enriching the functional content and participation forms, and exploring further intervention models for symptom management.

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The Relationship Between Financial Toxicity and Symptom Burden Among Breast Cancer Patients: A Longitudinal Study Utilizing a Cross-Lagged Panel Model

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Purpose: To explore the dynamic relationship between financial toxicity (FT) and symptom burden among breast cancer patients, providing a reference for effective FT intervention programs.

Methods: A longitudinal study was conducted between 2022 and 2024, recruiting female participants aged 18 years or older, diagnosed with breast cancer, and undergoing surgery from four hospitals in China. Sociodemographic, clinical and financial factors were collected at baseline (T1). The Comprehensive Scores for Financial Toxicity Based on The Patient-reported Outcome Measure (COST-PROM) and The Breast Cancer Prevention Trial Eight Symptom Scale (BESS) were employed to assess FT and symptom burden at 1 week (T1), 3 months (T2) and 6 months (T3) post-surgery. Pearson correlation analysis and Cross-Lagged Panel Mode (CLPM) were utilized to analyze the interplay between FT and symptom burden over three times periods.

Results and discussions: A total of 397 participants completed all three assessments. Pearson correlation analysis revealed a significant correlation between FT and symptom burden at each time point: T1 ($r1 = -0.471$), T2 ($r2= -0.394$) and T3 ($r3= -0.408$), with $p < 0.001$. The CLPM results showed significant pathways: from T1 symptom burden to T2 FT ($\beta = -0.016$, $p = 0.035$), T2 symptom burden to T3 FT ($\beta = -0.037$, $p = 0.025$), T1 FT to T2 symptom burden ($\beta = -0.129$, $p = 0.049$), and T2 FT to T3 symptom burden ($\beta = -0.119$, $p = 0.035$). An evident interaction between FT and symptom burden was observed. A higher symptom burden score predicted a lower FT score, indicating more severe FT.

Conclusions: This study highlighted a significant bidirectional relationship between FT and symptom burden among breast cancer patients. Future FT intervention programs should integrate symptom management, and nurses can play a vital role in alleviating FT though effective symptom management and control.

Keywords: financial toxicity, symptom burden, breast cancer, longitudinal study, a cross-lagged panel model

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Coping strategies for financial toxicity among cancer survivors in China: a multi-perspective qualitative study using the socioecological framework

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Purpose: Using the socioecological framework to explore multi-level coping strategies to relieve cancer-related financial toxicity among Chinese cancer survivors.

Methods: Semi-structured interviews with twenty cancer survivors and fourteen healthcare stakeholders from communities, hospitals, insurance companies and governments were conducted in 2022 in China. Narratives were transcribed verbatim and analyzed via qualitative content analysis. Content analysis was used to categorized coping strategies according to the socioecological framework.

Results: From the individual aspect, cancer survivors were encouraged to communicate with healthcare professionals about financial situation to plan the optimal treatment, adhere to standardized treatments to reduce the costs of recurrence and complications, and actively seek information about insurance regulations and relevant social resources to reduce out-of-pocket expenditures. From the interpersonal aspect, cancer survivors were encouraged to enhance communication among family members to adjust family budgets and allocate family roles, and to reintegrate into society and access more social supports. From the organizational aspect, it was suggested to provide evidence-based treatments to avoid low-value treatment expenses, initiate communication of costs to facilitate the optimal treatment decisions, and offer integrated care to reduce the expenditures of duplicated diagnosis and treatment. In the community, it was expected to provide continuous care to improve cancer symptoms self-management, and organize peer support activities to meet cancer survivors' information and psychological needs. In the aspect of policy, it was expected to lead evidence-based cancer treatment and care, foster the healthy development of commercial health insurance, and promote national negotiations on pharmaceuticals.

Conclusions: This qualitative study provides a multi-perspective and multi-faceted strategies of coping with financial toxicity, which will provide essential evidence for intervention development in future.

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Sociodemographic factors influencing the financial toxicity in lung cancer patients receiving immune checkpoint inhibitors: a cross-sectional study

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Purpose: The aim of this study was to evaluate the financial toxicity in lung cancer patients receiving immune checkpoint inhibitors (ICIs) and explore its influencing factors of different sociodemographic characteristics.

Methods: A cross-sectional study was conducted. A total of 608 lung cancer patients receiving ICIs were recruited from April 2022 to April 2023 at three medical bases in Guangzhou, China. The questionnaires which included the general information questionnaire and the item 28th of the European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core-30 were utilized to investigate participants' sociodemographic and financial toxicity. Univariate analysis and a multiple linear regression model were performed to identify the influencing factors of financial toxicity.

Results: For lung cancer patients receiving ICIs, the mean financial difficulty score (51.43±31.17) was higher than the reference value (16.3±28.1). Univariate analysis showed that the financial toxicity of participants with different age (t=3.613, P＜0.001), household registration type (t=3.944, P＜0.001), family generations (F=7.375, P=0.001), employment (F=17.476, P＜0.001), medical insurance (F=3.651, P=0.012) and average family monthly income (t=6.852, P＜0.001) had statistical differences. In the multivariate analysis, participants whose family generations were two generations had heavier financial difficulties than those in one generation family (β=0.134, P=0.013). Participants who were unemployed suffered more financial toxicity than those who were retired (β=0.128, P=0.019). Participants with average family monthly income >5,000 Chinese Yuan (CNY) reported lower financial toxicity than those with ≤5,000 CNY (β=-0.208, P <0.001).

Conclusions: Lung cancer patients receiving ICIs faced enormous economic toxicity that was associated with specific sociodemographic characteristics. It's crucial to analyze the cost-effectiveness of ICIs and improve value-based reimbursement policies, as well as strengthen shared decision making between health care providers and patients to mitigate the financial toll.

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Mechanism Analysis and Program Construction of Exercise on Cognitive Function in Breast Cancer Patients During Chemotherapy

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Background: Breast cancer (BC) is a malignant tumor with a high incidence rate and survival rate. It is the current research hotspot to help BC patients reduce the negative impact of treatment-related symptoms and maintain or improve the quality of life while “surviving with tumor”. Cognitive impairment is an important factor preventing patients from returning to family, work, and society. BC patients have a higher incidence of cognitive function changes during chemotherapy. Without early intervention, it may progress to cognitive impairment, seriously affecting the quality of life and overall recovery. Exercise intervention is the key content of the integration of sports and medicine and non-pharmacological health program proposed in the “the Plan of Health China 2030”. Exercise intervention has been used in the disease management and symptom management of BC patients. However, how to integrate exercise intervention into symptom management to play the synergistic role of exercise rehabilitation and how to reflect the precision of exercise needs to be solved.

Objectives: From the perspective of precision, this study aimed to construct an evidence-based exercise management program for cognitive function of BC patients during chemotherapy.

Methods: We will conduct a mixed-method study through a convergent parallel design in three stage: (1) A cross-sectional survey was adopted to explore the characteristics and related factors of cognitive function in BC patients during chemotherapy and to understand the mechanism of regular exercise on cognitive function; (2) A qualitative descriptive design was used to understand BC patients’ subjective attitudes and experiences of chemotherapy-related cognitive impairment; (3) an integration study was adopted to bring together the data. Finally, combining evidence-based theory, patient needs, and clinical conditions, we constructed a scientific and applicable exercise management program protocol for cognitive function of BC patients during chemotherapy.

Results: The mean score of cognitive function during chemotherapy was 97.21 (standard deviation 23.75). Regression analysis revealed that education level, partial items of chemotherapy types, partial items of monthly income, current chemotherapy situation and cycles, cyclophosphamide drug, partial items of exercise frequency, sleep quality, CRF, anxiety, and depression were statistically significantly associated with cognitive function, accounting for 31.5% of the overall variance. Clinical factors played a minor role, accounting for 6.6% of the overall variance. In addition, exercise had direct and indirect protective effects on cognitive function. Depressive symptoms and fatigue were important mediators. Qualitative study results showed 3 themes of experience including symptom perception, symptom coping and its influencing factors. Combined with related theories (symptom management theory, behavior related theories, and cognitive reserve theory), the results of previous network meta-analysis, and patient needs, an exercise management program for the cognitive function of BC patients during chemotherapy was constructed. The program consists of 6 parts and 8 units, and the average duration of each unit is 50-60 minutes.

Discussion: The study adopted a scientific study design to understand the characteristics of symptoms, clarify factors, determine the path of action, and comprehensively and meticulously grasp the mechanism of exercise on cognitive function during chemotherapy. After that, we

determined the patient’s subjective attitudes, experiences, and needs of symptoms. Evidence-based approaches also provided an important basis for the construction of the program. It can be seen that the overall construction process of the program was scientific and reasonable, and has great clinical significance and practical value. In the future, the feasibility and effect of the program still need to be further observed.

Keywords: breast cancer, cognitive function, chemotherapy, exercise management, associated factors, experience

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Perceptions on the use of tele-delivered supportive cancer care services among breast cancer survivors diagnosed during COVID-19 pandemic in Hong Kong: A qualitative analysis

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Purpose: Despite the impact of COVID-19 on supportive cancer care(SCC), new models of healthcare(e.g. telehealth) are catalyzed. To facilitate the utilization of tele-delivered SCC it is important to explore cancer survivors' perceptions towards those services. Guided by the Unified Theory of Acceptance and Use of Technology (UTAUT), this study explored the different aspects of tele-health perceptions among BCS amid the COVID-19 pandemic using a qualitative approach.

Methods: Through purposive sampling, 30 BCS diagnosed amid the pandemic (since January 2020) were invited to participate in a qualitative interview. The interview scripts were coded line-by-line and analyzed thematically using ATLAS.ti.

Results: Guided by the UTAUT, several themes were emerged. Many BCS 1) found telehealth useful for specific types of SCC (e.g., exercise, nutrition consultation, peer support groups), but not medical procedures (performance expectancy); 2) found that telehealth could save their travel/ t waiting time, but some worried that it would hinder their interactions with doctors/other cancer patients (effort expectancy); 3) believed that having relevant resources (e.g.,owning a smartphone, technology-related knowledge) could facilitate telehealth use, but specifications of devices and unstable Internet network could be the barriers (facilitating conditions). Moreover, some BCS believed that using telehealth could avoid hospital visits and lower the risk of contracting COVID-19, but others were not afraid of COVID-19 due to stringent pandemic control at public hospitals.

Discussions and conclusions: This study was unique in exploring BCS' perceptions of using tele-delivered SCC during COVID-19. To increase BCS' intentions to use tele-delivered SCC, healthcare professionals could highlight the benefits/efficiency of tele-delivered SCC, provide relevant resources for accessing telehealth services, and address the potential fear of infection. Given that specific types of tele-delivered SCC were more accepted by the BCS, those could be provided in hybrid/online mode so that resources could be better allocated in hospitals/clinics for necessary medical procedures.

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Effect of virtual reality on perioperative anxiety and symptoms in colorectal cancer patients: meta-analysis and systematic review

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Background: Reducing preoperative anxiety and symptoms improves surgical outcomes, but few studies have reported VR interventions in the management of perioperative anxiety and symptoms in colorectal cancer patients.

Aim: To explore the effects of virtual reality technology on perioperative anxiety, symptoms (pain, vital signs, mood and others), experience and safety of patients with colorectal cancer.

Methods: A systematic search of publications was conducted using PubMed, Embase, Web of Science, Cumulative Index to Nursing and Allied Health Literature database (CINAHL), and Cochrane Central Register of Controlled Trials from inception to 30 Apr 2023, under PRISMA guidelines, without language restriction. The study protocol was registered with the PROSPERO register (CRD42023416893) using the PICOS model for randomized controlled trials, which applied virtual reality to patients diagnosed with colorectal cancer to alleviate specific symptoms compared with usual care. Outcomes included anxiety and perioperative symptoms. The Cochrane Risk of Bias Tool was used to assess the methodological quality of each included study. All data were pooled with Revman 5.4.

Results: Four studies published between 2021 and 2023 were eligible for inclusion. Compared with routine care, virtual reality had a significant positive effect on alleviating perioperative anxiety (SMD = -0.96; 95% CI, -1.48 to -0.45, P= 0.0002) and decreasing diastolic blood pressure (SMD= -0.55; 95% CI, -0.92 to -0.19, P= 0.003) and heart rate (SMD= -0.43; 95% CI, -0.80 to -0.07, P= 0.02) among patients diagnosed with colorectal cancer. Respiratory rate, insomnia and some gastrointestinal symptoms do not seem to be alleviated when VR is used in patients with colorectal cancer.

Conclusions: VR can relieve perioperative anxiety, reduce pain, heart rate and blood pressure and improve mood in patients with colorectal cancer. Follow-up studies can continue to expand the sample size and conduct multicenter studies to provide high treatment evidence for the clinical use of VR in patients with colorectal cancer.

Keywords: virtual reality; colorectal cancer; anxiety; symptoms; meta-analysis; systematic review

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Construction and application of case management platform for breast cancer extended care led by oncology specialist nurses

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Purpose: To construct a breast cancer extended care case management platform led by oncology specialist nurses and verify its application effect in breast cancer patients.

Methods: A total of 120 breast cancer patients in a grade-A cancer hospital in Hangzhou from April to October 2022 were selected as the study objects and randomly divided into the experimental group (60 cases) and the control group (60 cases). The experimental group was provided with breast cancer case management platform to support intervention based on breast cancer case nursing, while the control group was provided with breast cancer case nursing. Self-management behavior, self-efficacy, disease uncertainty, and quality of life were compared between the two groups before intervention, 3 months and 6 months after intervention.

Results: 56 patients in the experimental group and 55 in the control group completed the study. The intergroup effect, time effect and interaction effect of self-management behavior and self-efficacy of two groups were statistically significant ($P < 0.05$). The time and interaction effects of disease uncertainty and quality of life were statistically significant ($P < 0.05$). The inter-group effect and time effect of upper arm and shoulder joint function scores were statistically significant ($P < 0.05$). After 3 months and 6 months of intervention, all indexes of the experimental group were better than those of the control group ($P < 0.05$). The rate of unplanned visits between 3 months and 6 months of intervention in both groups was 17.9%, which was lower than 36.4% in the control group ($P < 0.05$).

Conclusion: The breast cancer extended care case management platform realizes home self-health management of breast cancer patients during the interval of chemotherapy, which not only helps to improve the self-management ability and quality of life of breast cancer patients during the interval of chemotherapy, enhances the upper arm and shoulder joint function of patients, but also reduces the disease uncertainty and unplanned re-visit rate of breast cancer patients during the interval of chemotherapy.

Keywords: Oncology Specialist Nurse; Breast Cancer; Extended Care; Case Management; Mobile Health

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Young Adult Community Health Advisor (YACHA)-led Intervention to Increase Colorectal Cancer Screening Uptake among South Asians in Hong Kong: A Randomised Controlled Trial

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Purpose: This study aimed at assessing the effectiveness of young adult community health advisor (YACHA)-led intervention to increase uptake of colorectal (CRC) screening among asymptomatic South Asians aged 50 and 75 residing in Hong Kong and understanding the effectiveness and acceptability of the YACHA-led intervention.

Methods: A randomised controlled trial (RCT) design was adopted, and South Asian adults aged between 50 and 75 years were recruited in the study. The recruited participants were randomly allocated to either YACHA-led intervention or control group. Participants from the intervention group received YACHA-led intervention which included an educational session, phone follow-up calls and provision of navigation service whereas participants from control group received same intervention after completion of all assessment from intervention group. The outcome of the study measured the uptake of CRC screening with faecal immunochemical test (FIT). Acceptability of the YACHA-led intervention was measured through semi-structured interviews with 25 participants from the intervention group.

Results and discussion: A total of 99 participants with a mean age of 58.83 years participated in the study. The findings show that YACHA-led intervention was effective and acceptable to improve CRC screening uptake among asymptomatic South Asians. The proportion of South Asians adults from the YACHA-led intervention had significantly higher CRC screening uptake when compared with the number of participants from the control group (85.7% vs 2%, $p < .001$). All the intervention group participants agreed that they were satisfied with and understood the measures provided to them during the intervention.

Conclusions: This study demonstrates the effectiveness of YACHA-led intervention in improving CRC screening uptake among asymptomatic South Asians in Hong Kong. The trained YACHAs played a crucial role in addressing the barriers encountered by the older adults in the community and enhancing the uptake rate of CRC screening. Thus, it is suggested that YACHA-led intervention be designed to empower the members from less privileged groups and to improve healthcare access and utilization of the health services.

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A dynamic online nomogram model for acute vomiting after Transarterial Hepatic Chemoembolization of Primary Liver Cancer

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Purpose: To develop and validate a predictive model for acute vomiting following transarterial hepatic chemoembolization (TACE) for Primary Liver Cancer(PLC).

Methods: This is a retrospective study. The training data comprised a retrospective cohort of 434 patients who underwent TACE between October 2021 and April 2023 in the Affiliated Hospital of Southwest Medical University. Bootstrap Multiple Sampling Method was applied for internal verification. The validation data set for external validation consisted of a retrospective cohort of 150 patients who underwent TACE between May 2023 and August 2023 in the same hospital. Variables consisted of demographic, laboratory, clinical, and procedural details. Vomiting within 24 hours post-surgery was established as the outcome variable. The predictive model was formulated employing Lasso regression and logistic regression. AUROC, calibration curve, and DCA were utilized to examine the model's accuracy, discrimination, and clinical practicality.

Results: Overall, 182 of 584 patients (31.2%) after TACE had acute vomiting. LASSO regression was used to screen out 14 variables, of which gender, BMI, diabetes, history of vomiting after embolization, ascites,drug-loaded microspheres, preventive analgesics after surgery, and preoperative use of 5-TH3 receptor antagonist for antiemetic medication were identified as the strongest predictors by the binary logistics regression analysis and were used to develop the predictive model. The nomogram was there by developed with the link of https://liangyi.shinyapps.io/DynNomapp/. The modelling group data were resampled 1000 times for internal validation using the Bootstrap method. And the corrected C-statistic was 0.751 (95%CI: 0.750～0.753),fitting well in calibration curves. When applied to the external validation data set, the model demonstrated a C-statistic of 0.668 (0.581～0.756), fitting well in calibration curves. Decision curve analysis further confirmed the clinical usefulness of the nomogram.

Conclusion: The model identified eight variables as predictors of acute vomiting after TACE of PLC. They developed a nomogram that can be accessed on a web page to help clinicians estimate the individual probability of acute vomiting after TACE. This helped improve the treatment and prognosis of the PLC patient with TACE.

Keywords: PLC, TACE, vomiting, dynamic nomogram

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Effects of yoga intervention on the fatigue-pain-sleep disturbance symptom cluster for breast cancer patients: A systematic review

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Purpose: This systematic review aimed to evaluate the effectiveness of yoga intervention on the fatigue-pain-sleep disturbance symptom cluster in breast cancer patients.

Methods: A systematic search of Medline, Embase, PubMed, Cochrane Central Register of Controlled Trials, CINAHL, Web of Science, Scopus, British Nursing Index, China National Knowledge Infrastructure (CNKI), and Wan Fang database was conducted to identify randomized controlled trials (RCTs) from inception to September 2023. Two independent reviewers evaluated study eligibility, extracted data, and assessed the risk of bias using the Cochrane Risk of Bias tool (ROB 2.0). The effectiveness of yoga interventions and their effective components were reported through narrative synthesis.

Results: Of the 1389 studies initially identified, 18 met all inclusion criteria and were considered eligible. The risk of bias assessment indicated predominantly “some concerns”, with four studies presenting a “high risk of bias”. Two studies reported significant alleviation of fatigue-pain-sleep disturbance, and two studies indicated a significant reduction in fatigue-sleep disturbance compared to the control group. Commonly employed yoga contents included breathing, meditation, and posture. The effective interventions encompassed both in-person sessions and home-based sessions, with dosages ranging from 50 to 120 minutes of yoga interventions once per week to twice daily, lasting 6 to 16 weeks. This review has been registered in PROSPERO (No. CRD42023391269)

Conclusions: Yoga intervention can be beneficial in alleviating the fatigue-pain-sleep disturbance symptom cluster in breast cancer patients. Future research should be tailored to design yoga interventions addressing different treatment stages and preferences of breast cancer patients.

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Mobile App for Gynecologic Cancer Support Program for Patients With Gynecologic Cancer Receiving Chemotherapy in China：Multicenter Randomized Controlled Trial

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Background: Patients with gynecologic cancer receiving chemotherapy often report unmet supportive care needs. Compared with traditional face-to-face clinical interventions, mobile health can increase access to supportive care and may address patients' needs. Although app-based support programs have been developed to support patients with gynecologic cancer, their efficacy has not been adequately tested.

Objective: The aim of this study was to examine the efficacy of a mobile app for gynecologic cancer support (MGCS) for patients with gynecologic cancer receiving chemotherapy in China.

Methods: A multicenter randomized controlled trial was conducted in 2 university-affiliated hospitals in China. A total of 168 Chinese patients with gynecologic cancer were recruited and randomized to receive routine care or MGCS program plus routine care for 24 weeks. The Mishel uncertainty in illness theory guided the development of MGCS program, which has 4 modules: weekly topics, emotional care, discussion center, and health consultation. The primary outcome of this program was the assessment of the uncertainty in illness. The secondary outcomes were quality of life, symptom distress, and social support. All health outcomes were evaluated at baseline (T0), 12 weeks (T1), and 24 weeks (T2). Repeated measures analysis of covariance was used to assess the efficacy of the MGCS program.

Results: In this trial, 67 patients in the control group and 69 patients in the intervention group completed 2 follow-up assessments (response rate, 136/168, 81%). At 12 weeks, no significant differences were observed in any of the health outcomes between the 2 groups. At 24 weeks, compared to patients in the control group, those in the intervention group reported significant decreased uncertainty in illness (*P*<.001; *d*=–0.60; adjusted mean difference –7.69, 95% CI –11.31 to –4.07) and improved quality of life (*P*=.04; *d*=0.30; adjusted mean difference 4.77, 95% CI 0.12-9.41).

Conclusions: The MGCS program demonstrated efficacy in supporting patients with gynecologic cancer receiving chemotherapy. This trial illustrates that an app-based program can be incorporated into routine care to support patients with cancer and suggests that allocation of more resources (grants, manpower, etc.) to mobile health in clinics is warranted.

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Effects of a 12-week exercise-based intervention on weight management in overweight or obese breast cancer survivors: A randomized controlled trial

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Purpose: Breast cancer survivors face dual challenges: long-term sequelae of treatment and the risk of recurrent disease. Furthermore, obesity and a sedentary lifestyle can complicate both challenges. We aimed to assess the effect of a 12-week exercise-based weight-management program in overweight/obese breast cancer survivors.

Methods: A two-arm, single-blinded, randomized controlled trial was conducted among 60 overweight/obese, stage 0–III breast cancer survivors. During the 12-week program, the intervention group received weekly information support, fortnightly exercise prescriptions, including aerobic and resistance exercises to perform at home, and one dietary instruction. The control group received information support only. Weight, body composition, and physical fitness data were collected at baseline, postintervention, and the 3-month follow-up.

Results: The intervention group showed significant improvements in body weight and all adiposity indices, including body mass index, waist circumference, and %body fat, in comparison with baseline ($P < 0.001$) and the control group ($P < 0.05$). Both groups showed no significant changes in fat-free mass during the 6-month period ($P > 0.05$). International Physical Activity Questionnaire scores and left grip strength increased significantly in the intervention group in comparison with the baseline ($P < 0.01$) and the control group ($P < 0.05$). Right grip strength, lower-body strength, and aerobic endurance showed no significant intergroup differences ($P > 0.05$).

Conclusions: A combination of exercise prescription and weight-loss interventions yielded clinically meaningful weight loss in overweight/obese breast cancer survivors. These findings may facilitate the incorporation of home-based exercise and weight management into breast cancer treatment and survivorship care.

Keywords: Breast cancer, Exercise, Weight, Obesity, Randomized controlled trial

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Effect of a mHealth-based Supportive Care Program on Health-Related Quality of Life among Postoperative Esophageal Cancer Survivors: A Pilot Randomized Controlled Trial

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Background: Esophagectomy is a primary treatment for esophageal cancer (EC), but it leads to various unmet supportive care needs in EC survivors. These unmet needs have a negative impact on health-related quality of life (HRQoL) and other health-related outcomes. Supportive care interventions that focus on physical, psychological, social, and information needs have shown a great potential to improve HRQoL in cancer survivors.. This study aimed to evaluate the feasibility, acceptability, and preliminary effects of a mHealth-based Supportive Care Program (mHSCP).

Methods: In this two-arm pilot randomized controlled trial, participants were randomized either to the intervention group receiving a 12-week mHSCP or the control group receiving usual care. The recruitment, attrition, attendance, response, and satisfaction rates were summarized using descriptive statistics to evaluate feasibility and acceptability. Twelve participants from the mHSCP group were invited to join individual semi-structured interviews after program completion and qualitative data were analyzed using content analysis. HRQoL and other health-related outcomes were assessed at baseline, three and six months, and preliminary effects in terms of Cohen’s d effect sizes were estimated.

Results: Twenty-four postoperative EC survivors were recruited. The mHSCP was deemed feasible (recruitment rate = 77.4%; attrition rate = 0%; attendance rate = 75.0%; response rate = 100%) and acceptable (satisfaction rate = 91.7%). Qualitative findings revealed satisfaction with the intervention but a need for finetuning the intervention schedule. Small to moderate effects were noted across HRQoL (Cohen’s d = 0.16 – 0.37) and other health-related outcomes (Cohen’s d = 0.03 – 0.82).

Conclusions: This study suggests that this 12-week mHSCP is feasible and acceptable in postoperative EC survivors. The effect sizes indicate potential improvements in HRQoL and other health-related outcomes. Based on the comments, the intervention schedule will be synchronized with the chemotherapy cycles. A full-scale RCT study with sufficient statistical power is warranted.

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Integrating Music and Progressive Muscle Relaxation for Psychological Management in Women Undergoing Chemotherapy for Female Reproductive Cancer: A Pilot Study

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Purpose: Beneficial effects of music intervention or progressive muscle relaxation alone on psychological issues were reported, however, studies evaluating their combined effects are limited. This study aimed to investigate the feasibility, acceptability and preliminary effects of music intervention combined with progressive muscle relaxation (MCP) on anxiety, depression, stress, and quality of life among breast and gynaecological cancer patients receiving chemotherapy**.**

Methods: A single-blinded randomized controlled trial was conducted among 24 women with breast and gynaecological cancer undergoing chemotherapy in an oncology hospital in Vietnam. The intervention group (n=12) received a face-to-face training program about MCP, and self-practice daily at home for three weeks. The control group (n=12) received standard care, including health assessment, regular health advice and nutrition consultation. Outcomes were measured at baseline (T0), post-intervention (3rd week, T1) and follow-up (6th week, T2). Ten participants in the intervention group were interviewed to explore the acceptability of the intervention. The preliminary effects of the intervention on the outcomes were estimated by the bias-corrected Hedges'g effect sizes (g), together with 95% confidence intervals, while content analysis was adopted to analyse qualitative data.

Results: Greater reductions in anxiety, depression and stress were observed in the intervention group than in the control group at T1, with g= 0.57 (95% CI: -0.20 to 1.35), 0.21 (95% CI: -0.55 to 0.97) and 0.32 (95% CI: -0.44 to 1.08), respectively. Greater improvements in quality of life were found in the intervention group than in the control group at T1 with respect to T0 (g=0.43, 95% CI: -0.33 to 1.20). Similar trends were also noted in outcomes at T2. The content analysis supported the acceptable intervention through two themes, perceived beneficial effects on psychological and physical health and willingness to keep practising in the future.

Conclusions: Implementing MCP is feasible and has desirable effects in reducing anxiety, depression and stress levels and improving quality of life. A larger scale randomized controlled trial is needed to confirm the effects of the intervention on outcomes.

Keywords: Music therapy, autogenic training, stress Psychological, neoplasms, antineoplastic Agents

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Death Anxiety in Adolescents and Young Adults with Cancer and Its Associated Factors Based on Terror Management Theory: A Cross-Sectional Study

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Objective: Terror management theory (TMT) is the leading and most influential theoretical approach to death anxiety, which contains two defense processes: distal defense which includes self-esteem and cultural worldview, and proximal defense which includes disease cognition and self-efficacy. The aim is to investigate death anxiety in adolescents and young adults with cancer (AYAC) and to identify its associated factors based on TMT in the Chinese context.

Methods: In this cross-sectional study, we used an anonymous questionnaire comprising the distress thermometer, the family adaptation-partnership-growth-affection-resolve questionnaire, and the Chinese version of the M.D. Anderson symptom inventory, brief illness perception questionnaire, Rosenberg's self-esteem scale, and Templer's death anxiety scale in 239 AYAC from four tertiary hospitals. Data were analyzed in SPSS 26.0 using independent-sample t-test, one-way ANOVA test, Spearman correlation test, and linear regression.

Results: Respondents returned 226 (94.56%) of the 239 questionnaires. The average score of death anxiety was 44.31 ± 5.871. A positive correlation was observed between psychological distress, illness perception, nausea, distress, and death anxiety scores ($p<0.05$). A negative correlation was observed between self-esteem and death anxiety scores ($p<0.05$). Associated factors of death anxiety ($R^2 = .057$, $F = 7.788$, $p< .001$) were nausea and self-esteem determined by multiple linear regression.

Conclusions: It is noteworthy that the prevalence of death anxiety among AYAC was higher in China. Self-esteem, as a psychological mechanism for individuals to adapt to a cultural context, alleviates death anxiety through their own sense of value and meaning in the distal defense process. The symptoms of cancer cause AYAC to generate death information at the conscious level through cognitive strategies, increasing death anxiety. Reducing the impact of nausea on AYAC through appropriate nursing measures can directly provide a proximal defense against death.

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Community-based interventions to improve lung cancer screening knowledge, beliefs, and uptake among highrisk individuals: A literature review

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Objective: Lung cancer is the second most common cancer and the leading cause of cancer-related deaths worldwide. Despite screening high-risk individuals for lung cancer can detect early-stage disease and reduce mortality, the uptake rate remains low. Community-based interventions refer to the community-wide approach to health behavior change, which may have advantages to address multiple barriers to health services, and improve cancer screening knowledge, beliefs, and uptake rate among highrisk individuals, however there is a dearth of published literature reviews focused on community-based interventions of lung cancer screening. Therefore, this literature review is to examine the existing evidence pertaining to community-based interventions of lung cancer screening, and to identify the effectiveness of community-based interventions on lung cancer knowledge, beliefs and uptake rate.

Methods: A systematically search was conducted through PubMed, Web of Science, Scopus, Cochrane Library, China National Knowledge Infrastructure and Wan Fang Databases from the establishment of the database to 31 October 2023. Study selection, data extraction and synthesis, and quality evaluation were conducted by two reviewers independently.

Results: A total of six studies conducted in the United States were included, published from 2007 to 2023. The main contents of community-based interventions included education, patient navigation and shared decision making. The interventions were delivered via face-to-face sessions or online methods, including email, phone calls and electronic messages. The results showed that community-based interventions could improve lung cancer knowledge scores, beliefs, and uptake rates among highrisk individuals compared with those of baseline and the control group.

Conclusions: Community-based interventions may have shown good effectiveness to improve lung cancer screening knowledge, beliefs, and uptake rate by providing lung cancer screening related education, addressing multilevel barriers to access healthcare services. However the delivery mode, content, and duration of community-based interventions were different, which need further exploration.

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Well-being experience in patients with advanced cancer: a qualitative study

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Background: Compared to physical symptoms and medical treatments, little attention has been paid to understanding the well-being experience of patients with advanced cancer.

Objective: To deeply understand the well-being experience of patients with advanced cancer in the disease-coping process, and to provide a reference for identifying their positive resources and formulating effective well-being intervention strategies.

Methods: Using the PERMA happiness model as theoretical framework to construct the interview outline, this descriptive qualitative study conducted semi-structured interviews with 23 hospitalized patients with advanced cancer at the oncology center of a public hospital in mainland China from May to October 2023 by purposive sampling. The content analysis method was used to summarize and extract the main themes.

Results: A total of five themes were summarized, including experiencing positive emotions (gratitude for having luck, keeping a hopeful outlook towards treatment, maintaining an optimistic attitude, building coping confidence, and maintaining inner peace); engaging in the surrounding environment (returning to an authentic life, developing hobbies, and practicing religious belief activities); developing positive relationships (receiving love and support from family, getting encouragement and assistance from medical staff, gaining strength and confidence from peers, and accepting support and care from relatives and friends); living a meaningful life (controlling disease progression, sharing family responsibilities, returning to work, engaging in public welfare activities, and planning for the best way to pass away); reviewing life accomplishments (sense of job achievement and sense of family pride). Besides, inadequate social support systems, insufficient economic security systems, and personal disease stigma were identified to influence the ability to experience well-being in patients with advanced cancer.

Conclusion: Healthcare professionals should emphasize the evaluation of the well-being experience of patients with advanced cancer during their disease-coping process, explore potential positive traits, and support and assist their adaptation to the patient role, to promote personal growth and enhance well-being. In addition, influencing factors to the well-being experience of patients with advanced cancer should be given attention.

Keywords: PERMA; well-being; patients with advanced cancer; qualitative study

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Perceptions of pediatric cancer survivors and their parents related to an instant messaging-delivered brief motivational interviewing program in promoting survivors’ physical activity: A qualitative study

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Purpose: Physical inactivity is a profound public health problem with widespread health consequences. A 6-month mobile instant messaging-delivered brief motivational interviewing program has demonstrated its effectiveness in promoting regular physical activity among 161 pediatric cancer survivors. Our nested qualitative study aimed to explore the perceptions and experiences of pediatric cancer survivors and their parents to determine the acceptability and perceived benefits of this mobile health-supported physical activity intervention, and suggestions for intervention improvements.

Methods: We conducted individual semi-structured interviews on a purposive sample of 30 pediatric cancer survivors (17 girls and 13 boys; aged 9-16 years) and their parents (20 mothers and 10 fathers) recruited from our previous randomized controlled trial. All interviews were audiotaped and transcribed. Two investigators independently analyzed the transcripts using content analysis.

Results and discussions: Four major themes emerged from the interviews: (i) the acceptability of the intervention, (ii) the perceived benefits of the intervention, (iii) the appropriateness and feasibility of using mobile instant messaging applications (i.e., WhatsApp/WeChat) as a delivery medium, and (iv) recommendation for intervention improvement. In general, the parents supported the use of instant messaging applications to deliver the brief motivational interviewing and supported it as a feasible and acceptable strategy to motivate them to encourage their children to engage in regular physical activity. Both parents and children reported that the intervention improved their awareness of the significance of physical activity and enhanced their understanding of the specific health benefits thereof.

Conclusions: The mHealth-supported brief motivational interviewing appears to be acceptable and feasible to both the survivors and their parents in promoting regular physical activity. Findings from this study informed the design of future physical activity interventions using the mobile health approaches.

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A Pilot Trial of a Patient-Centered Digital Self-Management Support Program for Advanced Lung Cancer Patients with mix-method evaluations

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Purpose: This study assesses the effectiveness of digital self-management support programs (SMS) as a cost-effective adjunct to traditional medical treatments to empower advanced lung cancer (ALC) patients to manage their conditions better and improve their self-efficacy in coping with the disease.

Methods: The study was conducted in two phases. A needs assessment survey first identified the informational preferences of ALC patients, informing the design of a digital SMS (Part A). A pilot digital SMS was then developed, implemented and evaluated for feasibility and acceptability among this patient group (Part B).

Results: During the needs assessment (Part A), 72 patients (49% male, mean age: 63 years) highlighted a demand for information on diet (75%), exercise (61%), weight management (24%), and emotional support (21%). All had mobile phones (100%), and 84% and 80% used popular WhatsApp and WeChat, respectively. 80% showed interest in a supportive digital program.

The pilot program (Part B) involved 20 patients (50% male, mean age: 61 years) and included personal interviews and six weeks of themed video messages. The feedback indicated that the content was useful, tailored to their age, health literacy, technological literacy, and health expectation and well-adapted to their needs, resulting in high satisfaction and usability scores (mean 4.6 and 4.7 out of 5). Initial results suggested improvements in physical and emotional health. The qualitative feedback corroborated the quantitative findings.

An ongoing randomized controlled trial, spurred by the pilot's success, an ongoing randomized controlled trial is currently being conducted in three hospitals, funded by the Health Medical Research Fund.

Conclusion: The pilot trial supports the feasibility and acceptability of digital SMS for advanced lung cancer patients. The program provides tailored, continuous support, potentially improving patients' quality of life through enhanced self-efficacy in self-managing their care journey.

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Improving communication between cancer patients and their underage children: A systematic review

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Background: Parental cancer conditions have an impact on physical, social and emotional wellbeing of underage children. Open supportive communication around illness-related issues may be particularly essential for both parents and underaged children.

Objective: To systematically identify and summarize the characteristics of interventions that improve communications between cancer parents and their underage children based on PICOS framework.

Design: A three-step review process included a preliminary review of literature, a comprehensive search, and manual searching of reference lists and forward citations of selected reviews. The review protocol was registered with Prospero (CRD42023478107).

Data sources: Reviewers searched 6 databases for article published in English-language between 2000 and 2023: CINAHL, Web of Science, PubMed, Embase, the Cochrane Library and PsycoINFO.

Review methods: Endnote 21.0 software was used to manage screening and eligibility. Two reviewers independently screened titles and abstracts, reviewed full texts of articles for eligibility, and appraised the quality of reviews using the JBI Critical Appraisal Checklist.

Results: The preliminary search resulted in 9409 articles, 22 articles met the inclusion criteria and a total of 14 various interventions be described. Fourteen interventions used multi-component interventions including family meetings, psychosocial support, education counselling, booklet resources, and multimedia interventions. Given the heterogeneity of interventions, participants, and study designs included in the selected articles, we were unable to perform Meta-analyses of outcomes. However, these interventions impact on parent with cancer, underage children, and family. It promoted positive parent-child communication about the disease and alleviated cancer parents' stress about parenting.

Conclusion: Improving communication interventions results in improvements in psychosocial outcomes for patients with cancer and their underage children. Several priorities for future research were identified, including developing validated tools to measure the communication experience of parents with cancer and underage children, and providing parents with the opportunity to practice their communication skills through VR after the intervention.

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Financial Toxicity and its Risk Factors among Patients with Cancer in China: A Multisite Study

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Purpose: To assess the prevalence of financial toxicity (FT) among Chinese patients with cancer and systematically investigate the associated risk factors, guided by a multilevel conceptual framework.

Methods: A multicenter cross-sectional study was conducted among 1,208 patients with cancer from February to October 2022, involving six tertiary and six secondary hospitals in six cities across three economically diverse provinces in China. FT was measured using the Comprehensive Score for financial Toxicity, and a conceptual framework guided the selection of 27 potential risk factors. These included demographics, socioeconomics, clinical characteristics, social support (via Medical Outcomes Study Social Support Survey), perceived stress (via Perceived Stress Scale), hospital level, healthcare provider-patient discussion regarding cancer care costs, and social and commercial health insurance. Multivariate regression analysis was employed for risk factor identification.

Results and Discussions: The study revealed an alarming FT prevalence of 82.6%. Significant risk factors included younger age at cancer diagnosis, being unmarried, low education, low annual household income, negative impact of cancer on participants' or family caregiver's work, coming from a region with low economic level, advanced cancer stage, long hospital stay for cancer treatment or treatment-related side effects, high perceived stress, low emotional/informational support, lacking social medical insurance or having urban and rural resident basic medical insurance, lack of commercial medical insurance, tertiary hospital treatment, and inadequate cost discussions with healthcare providers (all $p<0.05$). The identified risk factors at various levels—patient/family, provider/practice, and payer/policy—highlight the complexity of FT.

Conclusions: This study underscores the urgent need to address cancer-related FT in China. The findings call for targeted interventions, including FT screening, policy improvements, enhanced health insurance benefits, and support networks for patients. Collaborative efforts among stakeholders, including patients, healthcare providers, policymakers, and insurers, are crucial to mitigate FT among individuals affected by cancer.

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Status and Influential factors of Cognitive Impairment in Cancer Children: A Cross-Sectional Study from Western China

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Background: Cancer-Related cognitive impairment is a common complication in cancer children. However, the risk factors for Cognitive Impairment in this population are not well understood. The purpose of this study was to investigate and assess the risk factors for cognitive function decrease in cancer children in western China.

Methods: A cross-sectional study was conducted in a tertiary hospital in western China. A total of 105 cancer children and adolescents were enrolled in the study. Cognitive function was assessed using the Six-subtest short-form of Wechsler Intelligence Test for Children(WISC-IV). Demographic and clinical data were collected using a questionnaire. Binary logistic regression analysis was used to identify the risk factors for cancer-related cognitive impairment.

Results: The mean age of the patients was 10.04 years, and 60% were male. The overall prevalence of Cancer-Related cognitive impairment was 39%. Binary logistic regression analysis showed that disease duration (OR=3.74, 95% CI: 1.70-8.24), sleep duration (OR=0.43, 95% CI: 0.26-0.73), gender (OR=0.07, 95% CI: 0.01-0.45), chemotherapy (OR=20.21, 95% CI: 1.16-353.50), father's education level (OR= 0.04, 95% CI: 0.01-1.28), disposition (OR=3.24, 95% CI: 0.78-13.35) were independent risk factors for Cancer-Related cognitive impairment.

Conclusions: Disease duration, sleep duration, gender, chemotherapy, father's education level and disposition were identified as independent risk factors for cognitive function decline in cancer children and adolescents in western China. These findings highlight the need for early intervention and support for this vulnerable population.

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Mechanisms of Cardiovascular Toxicities Induced by Cancer Therapies and Promising Biomarkers for their Prediction: A Scoping Review

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Background/objective: With the advancement of anti-cancer medicine, cardiovascular toxicities due to cancer therapies are common in oncological patients, resulting in increased mortality and economic burden. Cardiovascular toxicities caused by cancer therapies include different severities of cardiomyopathy, arrhythmia, myocardial ischaemia, hypertension, and thrombosis, which may lead to left ventricular dysfunction and heart failure. The objective of this review is to summarise the mechanisms of cardiovascular toxicities following various anti-cancer treatments and potential predictive biomarkers for early detection.

Design: Scoping Review

Methods: The PubMed, Cochrane, Embase, Web of Science, Scopus, and CINAHL databases were searched for original studies written in English related to the mechanisms of cardiovascular toxicity induced by anti-cancer therapies, including chemotherapy, targeted therapy, immunotherapy, radiation therapy, and relevant biomarkers. The search and title/abstract screening were conducted independently by two reviewers, and the final analysed full texts achieved the consensus of the two reviewers.

Results: A total of 240 studies were identified based on their titles and abstracts. In total, 107 full-text articles were included in the analysis. Cardiomyocytes and endothelial cells apoptosis caused by oxidative stress injury, activation of cell apoptosis, blocking of normal cardiovascular protection signalling pathways, overactivation of immune cells, and myocardial remodelling are the main mechanisms. Promising biomarkers for anti-cancer therapies related to cardiovascular toxicity include placental growth factor, micro RNAs, galectin-3, and myeloperoxidase for the early detection of cardiovascular toxicity.

Conclusion: Understanding the mechanisms of cardiovascular toxicity following various anti-cancer treatments could provide implications for future personalised treatment methods to protect cardiovascular function. Furthermore, specific early sensitive and stable biomarkers of cardiovascular system damage need to be identified to predict reversible damage to the cardiovascular system, and improve the effects of anti-cancer agents.

Keywords: Cardiovascular toxicity, Cardio-oncology, Biomarker, Mechanism

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Helping smokers with cancer quit smoking: A need for novel strategies

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Purpose: Despite evidence that smoking increases all-cause mortality, reduces treatment responses and survival time, and increases the risks of cancer recurrence and second primary cancers, approximately one third of patients with cancer continue to smoke after being diagnosed. This study aimed to develop a novel strategy to help people with cancer quit smoking.

Methods: A randomized controlled trial was conducted on 528 patients who continued smoking and had medical follow-up at the five out-patient clinics in Hong Kong. A total of 268 subjects were randomly assigned into the intervention group receiving health warnings on smoking and 260 subjects into the control group receiving usual care. All were followed up by telephone at 1week, 1 month, 3 months, 6 months and 12 months to assess smoking status.

Results and discussions: The biochemically validated quit rate at the 6-month follow-up was higher in the intervention group than in the control group (5.2% vs 3.8%; OR 1.38, 95% CI 0.60–3.16). The rate of at least 50% self-reported reduction of smoking at 6 months, was higher in the intervention group than in the control group (16.8% vs 12.3%; OR 1.43, 95% CI 0.88–2.35).

The results showed that many smokers diagnosed with cancer believed that it was too late to quit. Many participants claimed that it was extremely difficult to overcome cigarette cravings and, thus, felt that the barriers to quitting outweighed the perceived benefits.

Conclusions: It is crucial to proactively implement novel and effective smoking cessation interventions for smokers with cancer. Most importantly, in addition to using risk communication to inform patients of the health risks posed by continued smoking, the health benefits of quitting smoking should also be emphasized in such interventions.

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Experiences of home-based weight management during rehabilitation in breast cancer patients: a qualitative study

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Purpose: Weight gain is commonly observed during and after breast cancer treatment and is associated with poorer survival outcomes. This research aimed to (1) gain insight into the current state of home-based weight management experiences and behaviors of breast cancer patients (BCPs) on their rehabilitation journey and to (2) provide a basis for the development of weight management programs.

Methods: This study used purposive sampling, 26 BCPs in the rehabilitation stage from a tertiary hospital in Shanghai from April 2023 to September 2023 were selected as the research subjects, while conducting the semi-structured interview, the phenomenological research method was applied and the Colaizzi 7-step method is also utilized to analyze the data and refine the themes using the Colaizzi 7-step method.

Results and discussion: The research was extracted into Four themes and 12 subthemes (1) Challenges in Health Journey, Seeking Solutions (Knowledge without action, Avoiding illness and inactivity, Emphasizing on diet), (2) Revitalize, transcend reality(Health Above All,Role Model Power, Identity Liberation), (3) New Life, Surpassing Oneself (Responsibility Oriented, The Value of Life, Spiritual Growth), and (4) Endure Trials, Embrace Rebirth (Spirituality of Life, Self-acceptance and Resist Inner Struggle, Sublimation and Transcendence). The weight management experience of BCPs in the rehabilitation stage has complex characteristics in personal experiences and preferences. Multiple facilitating and hindering factors are existed in the practical process.Moreover, patients commonly have a clear desire for symptom management and tend to adopt weight management to achieve a healthy lifestyle behavioral change, then using it as a starting point for symptom management.

Conclusions: The study yielded novel insights into factors influencing weight management experience and behaviours amongst overweight BCPs. In the future, healthcare professionals can provide BCPs with personalized and professional support for the whole process of weight management based on this foundation. The goal is to improve the patient experience of weight management and enhance the quality of cancer care delivery.

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Feasibility of virtual reality-based intervention for children with cancer receiving their first chemotherapy

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Purpose: To examine the feasibility of virtual reality (VR)-based intervention on anxiety, chemotherapy-induced nausea and vomiting (CINV) and anticipatory nausea and vomiting among children with cancer receiving their chemotherapy.

Methods: An assessor-blinded, randomized controlled trial. Children with cancer aged between 6 and 12, chemotherapy naïve who scheduled to receive first chemotherapy were recruited from a public hospital and randomly allocated to intervention or control groups. The intervention group received the VR-based intervention for three sessions, whereas the control group received standard care only. Feasibility parameters such as screening, eligibility, consent and withdrawal rates during recruitment, and attrition rate were investigated.

Results and discussions: A total of 75 potential participants and their parents were screened for eligibility. However, 47 failed to meet the inclusion criteria, mainly because they were underage (n=22), overage (n=17), had received chemotherapy (n=7), and not understand Chinese (n=1), resulting in an overall eligibility rate of 37.3%. Therefore, 28 eligible patients and their parents were approached. An accompanying parent declined to participate because he did not want his child to try. Therefore, the consent rate was 96.4%. The remaining 27 eligible patients were randomly assigned to either the intervention group (n=13) or the control group (n=14). All participants in the intervention group received the intervention. However, two participants in the control group withdrew from the study because they fell asleep before baseline data collection, so their accompanying parents preferred to let them have more rest and refused to complete the upcoming assessments. Therefore, the withdrawal rate was 7.4%. Based on the intention-to-treat principle, an analysis of data from 27 recruited subjects provided preliminary results on the effectiveness of the intervention.

Conclusion: This study supports the feasibility of VR-based intervention for children with cancer receiving their first chemotherapy. A full-scale study with a larger sample will be carried out.

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The cancer and cardio-toxicity symptoms, and hemodynamic characteristics among breast cancer patients: a cross-sectional study

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Objective: Cardiotoxicity is a common complication of breast cancer treatments, leading to increased incidence of heart failure (HF) in this population. The current study investigated the cancer and cardio-toxicity symptoms, as well as hemodynamic characteristics among breast cancer patients.

Methods: Breast cancer patients were recruited from three hospitals in Shenzhen. The cardio-toxicity symptoms were assessed by the Chinese version of M.D. Anderson Symptom Inventory-Heart Failure (MDASI-HF, 27 items), including the core symptoms, HF symptoms, and interference. Hemodynamic characteristics of stroke volume and ejection fraction were measured through the impedance cardiography method by PhysioFlow® PF07 Enduro^{TM}. The SPSS (V25.0) was employed to describe the symptoms and hemodynamic characteristics, and to explore their correlation.

Results: A total of 188 breast cancer patients were recruited, with a mean age of 47.87 ± 10.01 years (range: 23-74). The mean score of MDASI core symptom, heart failure symptom, and interference was 20.54 ± 19.59 (0-91), 6.70 ± 8.19 (0-35), 6.72 ± 9.76 (0-45), respectively. Sleep problem (2.92 ± 2.96) and forgetfulness (2.56 ± 2.45) were the most common core symptoms, while lack of energy (1.44 ± 2.15) and abdominal floating (1.11 ± 1.93) were the top-two HF symptoms. The interference for emotion (1.48 ± 2.15) and work (1.21 ± 2.34) were rated higher. The stroke volume was 80.46 ± 13.70 (50.7-123.5) ml, and ejection fraction was 74.76 ± 8.81 (51.1-92.0)%, which were all normal. Significant negative correlation was indicated between the HF symptom score and ejection fraction ($r = -0.243$, $p = 0.024$).

Conclusion: The breast cancer patients in Shenzhen had low levels of cardio-toxicity symptoms, with normal hemodynamic characteristics. The ejection fraction was significant correlated with HF symptoms, which could be a reliable variable indicating cardio-toxicity symptoms. During breast cancer treatment, special attention should be paid to the possible cardio-toxicity symptoms like abdominal floating and lack of energy.

Keywords: breast cancer patient, cardio-toxicity, cancer symptoms, hemodynamic characteristics.

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Psychosocial interventions of cancer-related fatigue in gastrointestinal cancer patients: a literature review

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Aim: This literature review aimed to identify, summarize and critically appraise the current evidence regarding the effects of psychosocial interventions on cancer-related fatigue (CRF), sleep disturbance, anxiety, depression and quality of life (QoL) in gastrointestinal (GI) cancer patients.

Methods: A comprehensive search of eight electronic databases was conducted from database inception until October 2023, including MEDLINE, EMBASE, Web of Science Core Collection, CINAHL Ultimate, Cochrane Central Register of Controlled Trials, APA PsycInfo, China National Knowledge Infrastructure and WANFANG Data. Studies were limited to peer-reviewed RCTs with full-text available in English or Chinese. Studies had to be psychosocial interventions in GI cancer patients that included CRF or any aspect of CRF such as severity, daily pattern, frequency and interference as an outcome measure (primary outcome), with or without any of the following indicators such as sleep disturbance, anxiety, depression and QoL (secondary outcomes).

Results and discussions: A total of 12 studies were included in this review. The psychosocial interventions of CRF in GI cancer patients could be categorized into three types, namely psychotherapy (n = 8), psychoeducation (n = 3) and peer support (n = 1). In general, the findings indicated that psychosocial interventions could improve CRF, sleep disturbance, anxiety, depression and QoL in GI cancer patients. Psychotherapy was the main category of psychosocial interventions, however, the number of studies about each psychotherapy was limited, and it was worthwhile to conduct more rigorous RCTs to evaluate the effectiveness of different psychotherapies on CRF in GI cancer patients.

Conclusions: Psychosocial interventions could improve CRF in GI cancer patients. However, more rigorous RCTs about psychotherapy are still needed to improve CRF in GI cancer patients.

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Effectiveness of invitation strategies of offering HPV self-sampling kits to increase screening coverage: An updated systematic review and meta-analysis

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Human papillomavirus (HPV) self-sampling is recognized as a feasible option to increase screening coverage of cervical cancer, especially for hard-to-reach women. Nevertheless, substantial effect on participation of HPV self-sampling under different invitation strategies were reported. This review aims to compare the efficacy of invitation strategies on increasing screening coverage in different socioeconomic setting. The included studies compared women receiving self-sampling kits by different invitation strategies with those receiving standard care. Literature search was conducted in Embase, MEDLINE and PubMed in 2023. Seventeen trials were included. Invitation strategies of HPV self-sampling kits in all studies included opt-out (direct mail, door-to-door approach) and opt-in (delivery upon request). Participation of HPV self-sampling among women in intervention arm was found significantly greater than those in control arm (OR 3.33, 95% CI 1.75-6.35), regardless of the invitation strategies. Door-to-door was found as the most effective (OR 9.23 ,95% CI 3.8-22.43), following by direct mail (OR 2.25 ,95% CI 1.00-5.08) and delivery upon request (OR 1.90 ,95% CI 0.42-8.58), compared to the control arms. Among invitation strategies, opt-out strategy was consistently found to be more effective in reaching women than opt-in. Opt-out strategy is a promising way to improve participation of cervical cancer screening for women in high-income setting. Socioeconomic factors of individual setting should be taken into consideration when deciding invitation strategy.

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Case management of pulmonary rehabilitation based on Internet+Omaha system in a patient with advanced lung cancer

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Objective: To describe the method and effect of applying the Internet + Omaha system to implement pulmonary rehabilitation in a patient with advanced lung cancer receiving chemotherapy.

Methods: After the patient was admitted to the hospital, a comprehensive assessment was conducted to determine the problem based on the Omaha system. The statistical method of self-control before and after was used. Guided by the Omaha system intervention plan, the patient was admitted to the hospital for the first time before chemotherapy was implemented. After discharge, pulmonary rehabilitation intervention was continued through the Internet. Readmission to the hospital was after chemotherapy was administered. Compare patients' exercise capacity, symptom assessment, physical activity assessment, depression assessment, and quality of life.

Results: After the intervention, the patients' 6-minute walking distance, MMRC index, SGRQ scale, Beck Depression Scale, and Cancer Patient Quality of Life Scale FACT-G were all better than those before the intervention ($P<0.05$).

Conclusion: The case management model based on the Internet + Omaha system as a framework can clearly analyze the main problems of patients with advanced lung cancer receiving chemotherapy, can effectively promote the recovery of patients' physical functions and improvement of their mental state, and greatly improve their quality of life. It is worthy of clinical promotion and application.

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Mediating effects of family functioning between social support and social adjustment in children with acute leukemia

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Objective: To explore the relationship between family functioning of children with acute leukemia in social support, social adaptability and the intrinsic mechanism of action, and to provide a basis for the development of precise interventions for social adaptability of children with acute leukemia.

Methods: Convenience sampling was used to select 202 children with acute leukemia and their caregivers in the Department of Hematology of a tertiary children's hospital in Chongqing City from August 2022 to January 2023 as survey respondents, and the caregivers completed the General Information Questionnaire, Child Adaptive Behavior Scale, Family Functioning Scale, and Social Support Scale, and family function was analyzed using SPSS26.0, Social Support and the correlation between social adjustment of children with acute leukemia; AMOS 26.0 was used to test the mediation hypothesis.

Results:25.25% of children with acute leukemia had impaired social adaptive capacity, with a total social adaptive capacity score of (81.77±17.05), a total family functioning score of (128.16±19.53), and a total social support score of (36.96±5.32); the correlation analysis showed a negative correlation between the total family functioning score and social adaptive capacity ($r=0.432$, $P<0.05$); social support was positively correlated with social adaptability ($r=0.235$, $P<0.05$). Family functioning in children with acute leukemia plays a fully mediating role between social support and social adaptability.

Conclusion: In clinical practice, appropriate social support should be provided in terms of medical insurance and social care to improve the family function of children with acute leukemia, with a view to promoting the development of social adaptive capacity of children with acute leukemia.

Keywords: Acute leukemia; Children; Family function; Social support; Social adaptability; Mediation effect

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A pilot study on a carer's needs-oriented intervention on the caregiving self-efficacy of informal carers of community-dwelling older people with life-limiting illnesses

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Background: As the demand for palliative home care services grows in the community, more older people with life-limiting illnesses are cared for by their informal carers at home. Because of the physically and emotionally demanding nature of the caregiving role, many of these informal carers are experiencing caregiving burden. Existing palliative home care services are centred around the needs of people with life-limiting illnesses; less is oriented towards the needs of their carers. The Carer Support Needs Assessment Tool (CSNAT) was a validated instrument to identify carers' support needs and has been advocated to guide holistic and person-centred palliative care services. Guided by the CSNAT, an integrated palliative home care service for community-dwelling older people with life-limiting illnesses and their carers (CSNAT-I) was newly implemented in Yang Memorial Methodist Social Service in Hong Kong.

Method: This was a quasi-experimental study. A convenience sample of 67 informal carers of older people with life-limiting illnesses was recruited from two service centres in the Kowloon district. The experimental group (n = 28) recruited from one centre received CSNAT-I and usual home care services, while the control group (n = 39) recruited from another centre received usual care only. Outcomes were evaluated before and immediately after the intervention. The primary outcome was the caregiving self-efficacy measured by the Chinese version of Caregiver Inventory. Other outcomes included the number of caring skills acquired by the carers and the average length of hospital stay of the care recipients. The data were analysed by a generalised estimating equation (GEE). As a process evaluation, a convenience sample of carer participants and frontline social workers were invited to join focus group interviews to devise modifications to the programme.

Results: The GEE model revealed that there was no significant difference in caregiving self-efficacy between groups. However, more than 60% of the carers in the experimental group increased their caregiving self-efficacy, and 74.1% of them acquired two or more new caring skills after the CSNAT-I, respectively. The care recipients in the experimental group also reported a 0.94 day decrease in the average length of hospital stay after receiving the CSNAT-I. The findings of the focus-group interviews revealed that the capacity building of a multidisciplinary palliative care team composed of social workers, health workers, and allied health professionals is warranted; regular reassessment and multidisciplinary collaboration meetings are needed to address the ever-changing needs of carers. Lastly, the provision of home-based or centre-based respite care services was emphasised.

Conclusion: The CSNAT-I was a feasible palliative home care service model to support community-dwelling old people with life-limiting illnesses and their informal carers in Hong Kong. Its effectiveness has yet to be proven via a more rigorous study design and a larger sample size. The findings of the process evaluation highlighted several modifications to be addressed in future studies.

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Knowledge, attitudes, and practices regarding cancer screening and prevention among ethnic minorities in mainland China: A literature review

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Introduction: Cancer screening and prevention are effective strategies for addressing the burden of cancer. However, cancer health disparity exists in accessing cancer screening services among ethnic minorities in mainland China. Exploring knowledge, attitudes, and practices regarding cancer screening and prevention is an effective way to understand minority groups' participation in these activities and the barriers to their participation. However, no review has summarized the relevant evidence.

Purpose: This literature review explored the evidence on cancer screening and prevention among ethnic minorities in mainland China, including their knowledge (knowledge level and awareness rate), attitudes (positive/negative attitudes, beliefs, and perceptions), and practices (uptake and participation rate).

Methods: Five online databases were searched to identify literature. Data on knowledge, attitudes, and practices regarding cancer screening and prevention among ethnic minority groups and the influential factors were extracted and summarized.

Results and discussion: Twelve articles on studies with a total of 36,464 participants were included. Most of the studies focused only on breast and cervical cancer, women, and Uyghurs. The ethnic minority groups in the reviewed studies had a low level of knowledge about cancer screening and prevention and insufficient practices (cancer screening and prevention service uptake rate < 40.0%) but moderate to highly positive attitudes. The mechanism of KAP model needs further investigation as lack of model testing results. Low education levels, economic burdens, lack of access to professional medical services, language barriers, and acculturation may be the factors hindering KAP regarding cancer screening and prevention among ethnic minority groups in mainland China.

Conclusion: This review revealed the insufficient knowledge and practices of cancer screening and prevention among ethnic minority groups in mainland China, whose members hold generally positive attitudes toward screening. More evidence pertaining to diverse ethnic minority groups and other cancer types is needed.

Keywords: Cancer screening, cancer prevention, ethnic minority, Mainland China, knowledge, attitude, practice

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Effect of Decision Aid on Decisional Conflict and Cervical Cancer Screening uptake among Young Working Women: a Pilot Randomised Controlled Trial

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Purpose: To preliminarily examine the effects of a web-based decision aid for cervical cancer screening on decisional conflicts and cervical cancer screening uptake in young Chinese working women.

Methods: This was a pilot randomised controlled trial. Chinese working women aged 25 to 44 years and had not undergone Pap test or HPV test in the past three years were recruited. They were randomly allocated to either the intervention group or control group. The intervention group participants received a web-based decision aid with information about Pap test and HPV test while the control group participants received usual care –a factsheet on healthy lifestyle. Data on participants' characteristics and decisional conflicts were collected at baseline and two weeks after the intervention. Cervical cancer screening uptake was collected three months after the intervention. Participants' characteristics and outcomes between the groups were compared using independent t-test, chi-square test, or Fisher's exact test, as appropriate. Hedge's g effect sizes were calculated for the decisional conflict scores. A rate ratio of 95% CI was calculated for the screening uptake.

Results and discussion: A total of 140 women completed the study. The participants in the intervention group showed greater improvement in decisional conflicts (effect size:0.90, $p<0.001$) than those in the control group after the intervention. Participants in the intervention group had better improvement concerning the certainty about the best choice, feeling informed and supported about the screening option, clear personal values and were more effective in decision-making (effect size:0.71-0.99, $p<0.001$) after the intervention than those in the control group. More intervention group participants had undergone cervical cancer screening when compared to the control group (31.9% vs 6.1%).

Conclusion: The preliminary findings suggested that the web-based decision aid could help in reducing decisional conflicts and enhance cervical cancer screening uptake. Full-scale studies are needed to confirm its effects.

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The effectiveness of virtual reality technology interventions on cognitive function, depression, and quality of life in clinical populations: A systematic review and meta-analysis of randomized controlled trials

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Objectives: To evaluate the effectiveness of interventions employing virtual reality technology on cognitive function, depression, and quality of life within clinical populations.

Background: Virtual reality technology has garnered extensive utilization within the domain of cognitive rehabilitation and has shown promise in ameliorating mental health conditions and augmenting the quality of life for clinical populations, but the research results are inconsistent, and the overall effectiveness is inconclusive.

Methods: An exhaustive search was systematically performed across multiple databases, including EMBASE, PubMed, Medline, Cochrane Library, and Web of Science, spanning from their commencement until July 2023. The Cochrane tool for evaluating bias risk in randomized controlled trials was employed to appraise the methodological rigor of the studies incorporated in the analysis. Review Manager 5.3 was utilized to conduct the integration of effect sizes. Subgroup analyses were employed to probe potential sources of heterogeneity, while sensitivity analyses were executed to evaluate the robustness of the overall effect.

Results: The review encompassed thirteen randomized controlled trials encompassing a total of 513 participants. The outcomes of the meta-analysis indicated that interventions utilizing virtual reality technology could exhibit a statistically significant enhancement in cognitive function(SMD = 0.61, 95% CI [0.25 ~0.97], p= 0.0010), but not depression(SMD = -0.04, 95% CI [-0.39 ~0.31], p = 0.82) and quality of life (SMD = 0.06, 95% CI [−0.21 ~0.33], p = 0.67) within clinical populations. The sensitivity analysis demonstrated the robustness of the results for all three outcomes.

Conclusion: Virtual reality technology interventions are innovative strategies to improve nursing clinical practice, which could enhance the cognitive function of clinical populations, but may have no significant effect on their depression and quality of life.

Keywords: Clinical populations, Virtual reality technology, Cognitive function, Depression, Quality of life, Meta-analysis, Systematic review

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Efficacy of Decision Support Interventions on Decision Knowledge, Conflict and Satisfaction among Cancer Survivors: A Meta-Analysis of Randomized Controlled Trials

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Purpose: To evaluate the efficacy of decision support interventions on decision knowledge, conflict and satisfaction among cancer survivors and to explore the effects of different delivery modes, cancer types and study regions.

Methods: Databases (PubMed, Web of Science, Cochrane Library, Embase, PsycInfo, CINAHL) were retrieved to identify randomized controlled trials published before September 25, 2023. The quality of the methodology and evidence were assessed by the revised Cochrane risk-of-bias tool and the Grading of Recommendations, Assessment, Development, and Evaluation framework. All the data were analysed using Stata, version 16.0 software, and the outcomes were merged using the SMD and 95% CIs. Subgroup and sensitivity analyses were performed, and publication bias was assessed by using Egger's test.

Results and discussion: Twenty-three randomized controlled trials with 3,287 cancer survivors were included. The results indicated that decision support interventions improved decision knowledge and reduced decision conflict, but did not enhance decision satisfaction. Subgroup analysis revealed that all three delivery modes were effective at improving decision knowledge, and the results were similar across all cancer types. With regard to decision conflict, interventions are only effective when they are implemented via multiple delivery modes and targeted at individual cancer types. Additionally, interventions are effective when conducted in Europe and the United States but inefficacy in Asia. Sensitivity analysis indicated that the results were stable when excluding individual studies from each forest plot. The quality of the methodology and evidence was moderate.

Conclusions: Current evidence suggests that decision support interventions are conducive to improving decision knowledge and reducing decision conflict, but are ineffective in enhancing decision satisfaction. Hence, nurses are encouraged to facilitate this process by creating tailored interventions on the basis of survivors' cancer types, educational levels and health literacy, thereby emphasizing the significance of regional culture norms and involving social support systems.

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Effect of tele-exercise interventions on quality of life in cancer patients: A meta-analysis

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Purpose of the study: To evaluate the impacts of tele-exercise intervention with cancer patients' quality of life for the first time, taking into account the influence of the duration of tele-exercise intervention, type of intervention, and sex of cancer patients on quality of life.

Methods: 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.

Results and discussions: 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 (SMD=0.38, 95% CI: 0.11 to 0.65, I2=0%). Furthermore, tele-exercise was found to have a stronger advantageous effect with quality of life among female cancer (SMD=0.83, 95% CI: 0.46 to 1.19, I2=14%). 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.

Conclusions: 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.

Poster Abstracts

004

Lessons learned in developing health educational materials to promote cervical health and human papillomavirus vaccination for secondary school girls

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Purpose: To identify challenges during the development of educational materials to promote cervical health and human papillomavirus (HPV) vaccination for secondary school girls, and develop strategies to overcome these challenges.

Methods: Health educational materials were developed using a multi-step process. First, an outline of the content was produced. Second, various formats for the materials were selected to aid content presentation. Third, meetings were held with a graphic designer to discuss the design of graphics tailored to girls of secondary school age. Fourth, meetings were held with project team members to discuss the integration of relevant life skills and positive values and attitudes towards cervical health and HPV vaccination into the educational materials.

Results and discussion: Several challenges were encountered during the development of the educational materials. First, the literacy level of our target participants had to be considered, as this impacted the scope of the health educational content. Second, the content needed to be presented in a way that stimulated students' interest in learning. Third, the users' experience of health educational materials needed to be considered. To address the first challenge, medical jargon was avoided, and simple words and a pictorial approach were used to present the contents. To address the second challenge, discussions about the presentation sequence of the educational materials were held with project team members to help students' learning and their application of the knowledge gained. The final sequence was: 1) video and PowerPoint presentations, 2) the use of a booklet, 3) an interactive matching exercise, and 4) a scenario-based discussion. To address the third challenge, three secondary school girls were invited to read the materials and their feedback was collected. Based on their feedback, modifications were made to the sections related to myths and misconceptions about HPV vaccines.

Conclusion: The appropriate use of words and pictures, close communication with the project team, and a consideration of users' experiences improved the quality of health educational materials and facilitated their development.

005

Effects of cancer rehabilitation interventions on health-promoting behaviours, psychological distress, and health-related quality of life in women treated for gynaecological cancers: A systematic review and meta-analysis

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Background: Health-promoting behaviours have a significant impact on the health-related quality of life (HRQoL) of women treated for gynaecological cancers (GCs). However, there is insufficient practice of health-promoting behaviours by women treated for GCs, and thus cancer rehabilitation interventions targeting health-promoting behaviours are needed to improve their physical health and alleviate their psychological distress.

Aim: To analyse and synthesise current evidence on the effectiveness of cancer rehabilitation interventions in improving physical activity, encouraging healthy dietary habits, reducing psychological distress, and enhancing HRQoL in women treated for GCs.

Methods: A systematic search of 13 databases was performed. The quantitative results from comparable studies were pooled and meta-analysed using ReviewManager 5.4 software. For clinically heterogeneous studies for which statistical pooling of the results was not feasible, a narrative summary was utilised to present the findings in a descriptive manner. The methodological quality of all the included studies was assessed using Version 2 of the Cochrane risk-of-bias tool for randomised trials.

Results: Eight randomised controlled trials met the inclusion criteria and comprised a total of 797 patients. The cancer rehabilitation interventions had significant effects on physical activity levels at post-intervention (standardised mean difference [SMD] = 0.32, 95% confidence interval [CI] [0.02, 0.63], $p = 0.04$, $I^2 = 32\%$), 6-month follow-up (SMD = 0.59, 95% CI [0.22, 0.96], $p = 0.002$, $I^2 = 0\%$), and 12-month follow-up (SMD = 0.50, 95% CI [0.13, 0.88], $p = 0.008$, $I^2 = 4\%$), and on overall HRQoL at 6–9 month follow-up (SMD = 0.28, 95% CI [0.05, 0.50], $p = 0.01$, $I^2 = 0\%$). Three pilot studies were excluded, and a subsequent subgroup analysis showed a significant change in overall HRQoL (SMD = 0.50, 95% CI [0.04, 0.96], $p = 0.03$, $I^2 = 83\%$). However, the rehabilitation interventions had not resulted in significant improvements in self-efficacy in healthy dietary habits or significantly alleviated anxiety or depression (all $p > 0.05$).

Conclusion: Rehabilitation interventions effectively increase physical activity and HRQoL among women treated for GCs, leading to sustainable effects. However, there remains limited evidence on the effectiveness of interventions in encouraging healthy eating and alleviating psychological distress. Implications for intervention design have been identified, and rigorous trials are warranted to examine the effectiveness of cancer rehabilitation programmes to support healthy eating and psychological well-being in women treated for GCs.

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Research Progress and Implications of Epigenetics in Precision Nursing

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Purpose: To introduce the basic concept of precision nursing and the fundamental principles of epigenetics; to summarize the current research progress of epigenetics in precision nursing; to discuss the necessity of nursing biologg research based on epigenetics and its implications for clinical nursing practice and nursing education; and to summarize the challenges and development trends of epigenetics in precision nursing.

Methods: Based on epigenetics researches in the field of nursing, this article analyzes the current status and research progress of epigenetics applications in precision nursing through literature search, classification, and evidence summary.

Results and discussions: Precision nursing emphasizes individual genetic, environmental, social, and psychological factors, utilizing advanced biotechnology to provide patients with lifelong precision nursing services. Epigenetic research involves data-driven analysis of how lifestyle and other environmental factors can cause genetic changes, highlighting the importance of biological behavioral factors in precision nursing researches. Epigenetics in the field of precision nursing is in its infancy and currently involves areas such as precision prevention, early screening and recurrence monitoring, precise medication management, precise symptom management and monitoring, precise evaluation of the environment and lifestyle, etc. Epigenetics-based nursing biology has practical significance for precision nursing research and future nursing education.

Conclusions: Epigenetics explains the regulatory mechanisms of reversible genetic activity and provides more comprehensive theoretical foundations for nursing practice, enriching and perfecting the connotation of precision nursing. Nurses conducting epigenetics-based precision nursing research are likely to deepen the patient-centered nursing concepts in the context of lifestyle, social, economic, cultural, and environmental influences. This approach can provide more effective comprehensive nursing care for patients; it is also of great significance for the cultivation of innovative nursing talents with application-oriented multidisciplinary backgrounds.

026

Training program of lay navigators for promoting the colorectal cancer screening uptake for average risk older adults in the community

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Purpose: Early screening for colorectal cancer (CRC) reduces the mortality and morbidity rate. However, average risk older adults encounter different barriers of screening, including lack of knowledge about CRC screening and lack of access to the screening test. Lay navigator program, which focused on tackling barriers of care, had a promising effect on promoting CRC screening uptake. A training program was developed and older adults who were familiar with the resources and the environment of the community were recruited and trained to be the lay navigators. This study was to assess the effectiveness of the program in preparing the older adults to be the lay navigators for promoting CRC screening uptake in the community.

Methods: The development of the program was based on the Health Belief Model, the Empowerment Model and the Principles of Patient Navigator Intervention. PowerPoint slides, video clips, recapitalization, role-plays and return demonstration were implemented to reinforce the learning of the lay navigators. Pre and post-training test related to CRC knowledge, general self-efficacy and role-plays were used to assess the competencies of the lay navigators in performing their roles.

Results: Five older adults were recruited. Compared with pre-test, all attained a higher score and got at least 80% in CRC knowledge, general self-efficacy and role-plays assessment after the training. Although reassurance and more role-plays were needed to facilitate their memory and confidence, the trained lay navigators were competent in promoting the uptake of CRC screening in the community.

Discussion: Due to the aging process, older adults needed more support and reassurance in preparing their roles as lay navigators.

Conclusion: With appropriate strategies and considering the need of the older adults, the lay navigator-training program was effective in preparing the older adults to be the lay navigators in promoting CRC screening uptake in the community.

042

The 3-2-1 Model of Family Caregiving for Persons with comorbid dementia and cancer: An interpretative Phenomenological Analysis of end-of-life caregiving experience

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Purpose: The phenomenon of dying with comorbid dementia and cancer is increasingly prevalent. Family caregivers of persons with comorbid dementia and cancer (PwDnC) face significant distress and encounter unique challenges due to the intertwined complexity of these conditions and the imminent nature of death. The study aimed to address the lack of attention given to this unique group and develop an understanding of their challenges and resilience during end-of-life caregiving in this context.

Methods: This study employed an interpretative phenomenological analysis (IPA) to explore the experiences of providing care for PwDnC. Through purposive sampling, 18 semi-structured interviews were conducted with 21 family caregivers recruited from a palliative care unit in Hong Kong. The interviews were transcribed and analysed thematically guided by the philosophical principles of IPA.

Findings and discussions: The analysis revealed three key themes. The first theme, "Grieving Thrice," highlighted the caregivers' experience of enduring multiple losses as they witnessed the progressive decline of their loved ones from dementia to cancer, and ultimately death. The second theme, "Suffering Dually," illuminated the hidden challenges faced by caregivers, encompassing the intricate interplay between dementia and cancer symptoms, the emotional toll of witnessing the silent suffering of their loved ones, and the impact on their own well-being. The third theme, "Becoming One," emphasized the caregivers' ability to find meaning and purpose in their caregiving role, experiencing personal growth and a sense of fulfilment through their commitment to compassionate care, and the unity and bonding within the family.

Conclusions: The 3-2-1 Model of Family Caregiving for PwDnC provides a comprehensive understanding of the caregiving process, encompassing the experience of cumulative losses, the suffering faced by caregivers, and the transformative journey of finding meaning and unity within the family in their caregiving role. The findings underscore the need for tailored support and interventions that address the specific challenges faced by family caregivers in this population.

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Enhancement in Cytotoxic Spillage Management

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Purpose: Cytotoxic spillage may cause unnecessary exposure to patients, staffs or visitors. However, due to rareness of this incident, inexpediency of staff, lack of up-to-date guideline & regular training, and limitation of pre-set cytotoxic spill kit, it could be difficult to deal with.

This project aimed to update departmental guideline, refine the cytotoxic spill kit and enhance nursing staff's competency.

Methods: Guideline- Departmental guideline was updated according to HA Safety Manual Cytotoxic Drugs Safety from HAHO and OSH Manual -Cytotoxic Drugs Safety from HKEC.

Cytotoxic spill kit- The old kit was reviewed by the standard of new guideline and new items were added- spill signage, warning labels, alkaline detergent, full face shield, appropriate respirator, clean-up operation procedure. On the other hand, unqualified respirator & eye protector were removed.

Staff competency- 5 identical seminars (including a self-filmed video, PowerPoint presentation and 1-on-1 practice) were held in Sep 2021. A spillage drill was held in Oct 2021.

Results: Seminars: 28 nurses were included in the training. Pre-seminar quiz scored from 4.81/8 while post-seminar quiz scored 7.63/8.

Drill: The drill was performed by a RN and completed with 100% compliance. The refined spill kit was up to the task. Nurse's competency was improved after the structured training. Other significant findings included: 1) Recommendation of 2 nurses to participate in a spillage cleanup. 2) Sequence of wearing PPE can be altered for convenience. 3) Larger signage should be available to warn other personnel.

Conclusion: Cytotoxic spillage is a rare and difficult incident to handle. Structured seminar and training materials enhanced our staff's knowledge and skill to handle spillage while regular drill helped to validate our staff's competency.

The demonstration video was then used by HKEC chemical safety group for training purpose.

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Can nurses taking up the role of genetic counselling in Hong Kong?

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Background: The first clinical genetics service unit was established under Hospital Authority, Hong Kong in 2023. With various large scale sequencing projects in local and surrounding area, there is a rapidly increased demand of healthcare professional including genetic counsellor. However, currently there is no formal training and registration system for genetic counsellor in local context. As a part of the healthcare team, nurses sound to be potential candidates to share or even take up the role of genetic counselling. The current review aims to critically appraise the existing evidence over the role of genetic counselling by nurses and inform the development of genetic counsellors in local setting.

Methods: This review includes studies published in English, through the literature search using Ovid Medline, Pubmed and PsycInfo (January 2003 to August 2023). Searching terms included 'genetic counselling'/ 'genetic counsellor', 'role','responsibility', 'nurse' and 'nursing profession' etc. Totally eight studies were included after the full review process.

Results: Some successful experiences over the registration and curriculum development of genetic counsellor could be seen in western countries, though the number of registrations was still limited. The roles of genetic counsellor were widely discussed in previous literatures, including family history taking, patient education and psychosocial assessment etc. Nurse genetic counsellors were already recognised in some countries, likely benefit from the high proportion of the health workforce and their professional skills which enable them work well in the multidisciplinary team or even as sole practitioners. Yet, some studies also raised the concerns from nurses to take up the genetic counselling role. This includes fair understanding towards genetics diseases, lack of support and lack of confidence.

Conclusion/Discussion: In view of the core competencies, it is a potential for nurses to transform themselves from usual role in clinical practice: work as a cultural broker or mediator of during genetic counselling. Indeed, further education is required. Clear identification of the role and scope of practice for genetic nurses would also facilitate the development of the team under genetic medicine, which could ultimately solve the needs in the forthcoming future.

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Translation and Psychometric Evaluation of Chichewa Version of Brief COPE among the Caregivers of Children with Cancer

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Background and purpose: Brief Coping Orientation to Problems Experienced (COPE) is a brief and widely used measures validated tool for assessing coping strategies. This study aimed to validate the culturally appropriated Chichewa version of Brief COPE, assess the psychometric properties, and identify the coping strategies used by caregivers of children with cancer.

Methods: The World Health Organisation process of translating the questionnaires was used to translate the Brief COPE into Chichewa and assess content and face validity. The translated and validated tool was then administered to 100 caregivers of children with cancer. The ways of coping checklist (WCC) scale, brief COPE and sociodemographic data questionnaire were administered to the participants together. Pearson correlation coefficient and Cronbach's alpha were calculated to determine the convergent validity and internal consistency of the Chichewa version of Brief-COPE, respectively.

Results: The results showed that the S-CVI score for the Brief COPE-C was 0.98, whereas the I-CVI for the items ranged from 0.8 to 1.0. Additionally, the analysis showed a positive small to strong correlation between the Brief COPE and WCC subscales (=.242 to .832, p <.001 to <.005). The internal consistency of the Chichewa Version of Brief COPE is .80. The most commonly utilised coping was emotional-focused coping, including religion, acceptance, emotional support, and self-distraction.

Conclusion: Based on these findings, the Chichewa version of Brief COPE is a valid and reliable tool for measuring coping among caregivers of children with cancer. Nurses and other health professionals may use this tool to measure the coping strategies of Malawian caregivers of children with cancer. Further, nurses must reinforce and teach the caregivers positive coping strategies.

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Psychosocial interventions for improving mental health in families with parental cancer: A systematic review

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Purpose: Parents diagnosed with cancer often face mental health challenges and psychosocial interventions tailored to families with parental cancer are essential. However, there is a dearth of reviews about the effects of psychosocial interventions on their mental health outcomes. This review aims to identify the key characteristics of such interventions and their effects on the mental health of parents and children, with the goal of guiding future practice.

Methods: A systematic search was conducted on Ovid MEDLINE, PubMed, and the Cochrane Central Register of Controlled Trials, covering studies from inception up to April 2022. The methodological quality of the studies was assessed using the Effective Public Health Practice Project tool. The characteristics of the identified interventions were thoroughly analyzed.

Results and Discussion: This review identified ten studies of moderate and weak quality, which included five interventions: Enhancing Connections (EC), Cancer PEPSONE Program (CPP), Culturally Adapted Family Intervention, Struggle for Life (SL), and Preventive Counselling (PC). Common objectives included supporting children's mental health and fostering open communication. The majority of them were delivered to parent-child pairs over multiple sessions. Additionally, three studies (CPP, SL, PC) aimed to enhance family functioning. Comparing these interventions to standard care, the results indicated significant improvements in depressive symptoms among parents and children, parenting stress, externalizing problems and anxious/depressive moods in children. Healthcare providers should consider actively supporting parents in open communication with children to manage their mental health needs. Given the predominant inclusion of mothers with breast cancer in these studies, future research should encompass a more diverse participant pool, including male patients and those with different cancer types.

Conclusions: Despite some positive findings, the overall quality of the studies limited the ability to draw definitive conclusions. Further research with improved study designs and selection processes is warranted.

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Safeguarding the rights of patients with hereditary cancers and rare diseases: The Hong Kong Genome Project and the development of ethical guidelines

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Purpose: Approximately 10% of cancers and 80% of rare diseases are genetic in origin. Recognising the diagnostic potential of whole-genome sequencing (WGS), the Hong Kong Genome Project (HKGP) was launched to apply WGS to study hereditary cancers and rare diseases. Since large amount of patient data is obtained for genomic analyses, this study reports the ethical considerations of HKGP via expert discussion at the Ethics Advisory Committee (EAC) meetings.

Methods: The EAC was set up as one of the six advisory committees overseen by the Board of Directors to govern HKGP. It consists of representatives from the Health Bureau and Department of Health, as well as experts in the field of genetics, medicine, bioethics, law, and patient rights advocacy. Bi-annual EAC meetings were conducted to identify, examine, and respond to ethical issues in the HKGP to ensure its delivery is in the interest of the participants and the public.

Results: A total of six EAC meetings were conducted from January 2021 to May 2023. Key areas being discussed include the development and implementation of the three-tier informed consent/assent model, formulation of Data Sharing Policy, and ethical considerations arising from secondary findings and reconsenting. In particular, the unique three-tier consent/assent model was designed to delineate the consent and assent rationale, which aims to recognise and maximise the autonomy and best interests of adolescents by allowing them to co-sign the consent form with their parents/legal guardians. Opinions from the Equal Opportunities Commission, Privacy Commission for Personal Data, and legal advisers were also gathered to ensure concerns from stakeholders are well-addressed to develop ethical guidelines for the HKGP.

Conclusion: This study gathers expert opinions and recommendations from the EAC and other participating local bodies to guide the preparation and development of ethical guidelines for the HKGP to safeguard patient autonomy and data privacy.

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Correlation between psychological resilience and social support in gynecological cancer patients undergoing chemotherapy

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Objective: To explore the relationship between mental toughness and social support level in patients with chemotherapy of gynecologic tumor.

Methods: 132 patients with chemotherapy of malignant tumor were selected as the study subjects from March 2018 to September 2020 in a third class hospital. The general data questionnaire, social support scale and psychoelastic questionnaire were prepared by our hospital to analyze the factors influencing the mental resilience of patients with gynecologic tumor chemotherapy and the correlation with social support level.

Results: The level of mental toughness was significantly correlated with age, marital status, educational level, place of residence, number of chemotherapy and type of diagnosis, the difference was statistically significant ($P＜0.05$). There was no significant correlation between monthly income and pain degree and mental toughness level. Family support for chemotherapy patients with gynecological malignant tumor (40.78±9.80) scores, the support outside the family was (22.63±4.50) scores, social support level is (63.41±14.01) scores. The results of pearson single factor analysis showed that the level of social support was positively correlated with the level of mental toughness in chemotherapy patients with gynecologic tumor ($P＜0.05$). Logistic multivariate analysis showed that age, chemotherapy frequency, diagnosis type and social support level were the factors influencing the mental toughness of chemotherapy patients with gynecologic tumor.

Conclusion: The level of mental resilience is significantly related to age, marital status, education, residence, chemotherapy frequency and diagnosis type, and the level of mental resilience is positively correlated with social support level. In clinical work, nursing staff should pay attention to the importance of early detection of psychological crisis and psychological intervention, as well as factors affecting the mental resilience of patients with gynecologic tumor chemotherapy, and improve the level of social support of patients.

Keywords: Gynecological tumor chemotherapy patients, Mental toughness, Social support

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Effectiveness of a Theory-based Mobile Health Physical Activity Intervention for Breast Cancer Patients during Chemotherapy

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Purpose: To construct a theory-based mHealth PA intervention program, and to determine whether this intervention would improve PA behavior change during chemotherapy for breast cancer patients.

Methods: Social cognitive theory (SCT), self-efficacy theory (SET) and the theory of planned behavior (TPB) were referred to construct mHealth intervention strategies. "Breast care" smartphone app guided by agile development model, the interface was formalized with five main pages covering 6 functions. The effectiveness was measured by a quasi-experimental mobile health physical activity intervention during three months.

Results: 60 participants were recruited, control group and intervention group were 30 participants each. After three-month intervention, the total PA increased 890.6 MET-min/wk with a significant improvement (P=0.002). Walking displayed a significant improvement (694.27 MET-min/wk) (P=0.011). Compared with the control group, walking, moderate physical activity intensity and overall physical activity were significantly improved in the intervention group (P<0.011).

Conclusion: The theory-based mHealth PA intervention has great potential to enhance breast cancer patients' PA awareness and engagement, meanwhile to facilitate their PA behavior change.

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Practice of Nurses-led Model on the Risk Assessment and Management of Cancer

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Objective: To explore the application effects of risk assessment and management model of cancer led by nurses.

Methods: From January 2023 to September 2023, the model was led by specialist nurses,combined with cancer medical experts,risk assessment, testing guidance, cancer risk management and follow-up care were provided.

Results: A total of 765 people were screened. Cancer risk knowledge scores at the one-month follow-up stage were higher than those at the cancer risk assessment stage and the cancer risk management stage ($P<0.05$). Hospital Anxiety and Depression Scale scores were all in the normal range ($P>0.05$). The compliance rate of cancer risk management at the six-month follow-up stage was higher than that at the one-month follow-up stage. The overall satisfaction of patients was 98.64%.

Conclusion: The risk assessment and management model of cancer led by nurses is beneficial to the improvement of cancer risk knowledge level and the compliance rate of cancer risk management plan without anxiety, depression and other negative psychological effects,which is worthy of clinical promotion.

Keywords: Advanced Practice Nurse, cancer management, risk assessment, anxiety, depression

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Common Symptoms of Patients with Malignant Tumor Care and Management of Collaborative Prevention and Treatment Program

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Malignant tumor, also known as cancer, is a major chronic disease that threatens human life and health. According to the latest estimates of the Global Cancer Burden released by the International Agency for research on cancer (IARC), an arm of the World Health Organization (WHO), the incidence and mortality of Chinese 2021 are the highest in the world. Cancer patients from the diagnosis, treatment and other different stages, will face different symptoms of the puzzle, including disease and treatment-related symptoms, such as pain, fatigue, nausea, vomiting, anxiety, depression, radiation dermatitis, oral mucositi and skin reactions. The quality of life and survival time of the patients were seriously affected. Symptom management is a dynamic and multi-dimensional process, which changes with the influence of people, environment, health and individual. To this end, the project team is planning to carry out cancer patients' symptom care and management of collaborative prevention and treatment system, which mainly involves symptom assessment, non-drug management and drug management. The aim of this project is to establish a standardized model of cancer symptom care and management in Nanning, focusing on accelerating the rehabilitation process and improving the quality of life of patients.

Keywords: symptom management, care toolkit, cancer patients, platform

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Rehabilitation exercise for breast cancer survivors with musculoskeletal symptoms：A scoping review

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Objective: Musculoskeletal symptoms of postmenopausal breast cancer patients undergoing endocrine therapy seriously affect their medication compliance and quality of life. Some evidence indicates that arthralgia declines during rehabilitation exercise, which has made it the subject of much research. Given the chronicity of these outcomes, the increasing number of survivors, and the positive results obtained by rehabilitation exercise, the specific program, intensity, frequency, indications, and contraindications of exercise rehabilitation should be considered for this population. We aimed to map the currently available evidence about exercise rehabilitation for BCS.

Methods: Medline, Embase,CINAHL, Web of Science, and Cochrane databases were searched for primary literature. Scoping review methodological frameworks were used to tackle the heterogeneity of the topic. Studies investigating exercise rehabilitation interventions prescribed to BCS were included.

Results: Twenty-three studies were included. Information was systematically collected in tables displaying study design, exercise prescription,type of rehabilitation, duration and recommended frequency, and strategies used to help patients integrate physical activity into their daily lives. Tables were produced for each study focused on outcome measures and evaluation tools.

Conclusions: This scoping review provided a comprehensive and easy-to-consult overview of rehabilitation exercise in breast cancer survivors with endocrine therapy. Follow-up studies also need accurate sports rehabilitation programs and the addition of objective indicators as outcome indicators， such as grip strength. We also provided recommendations for future primary studies and secondary synthesis.

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A Strive to Mitigate the Risk of Catheter Damage of Implanted Venous Access Port by Evidence-based Approach

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Introduction: Although rare, catheter damage of implanted venous access port (IVAP) with serious consequence of catheter fracture and fragment migration has been reported in literature. Unfortunately, a series of incidents of catheter damage were reported recently in three local oncology centers. Therefore, it is vital to identify the root causes and formulate remedial measures to mitigate the risks.

Objectives: To identify the risk factors of IVAP catheter damage and make recommendations for practice change by evidence-based approach.

Methods: A small nursing group was set up in our department. The Johns Hopkins Evidence Based Practice (JHEBP) Model was adopted. Literature search was conducted in various databases from inception of individual database to 15th January of 2023. Irrelevant, duplicated and poor quality papers were excluded. Findings were extracted to synthesize recommendations for practice change.

Results: Total 30 relevant papers were identified. The following salient risk factors were identified: (i) Acute angulation of IVAP catheter during implantation; (ii) stress resistance of the two catheter materials (polyurethane versus silicone); (iii) distinctive damage risks associated with the two common choice of vein (internal jugular vein versus subclavian vein); and (iv) external pressure onto the catheter by patient.

Recommendations included: (i) Improvements in IVAP implantation technique; (ii) selection of catheter material and insertion approach; and (iii) precaution on patient’s daily activities, like avoiding external pressure onto the catheter by the strap of backpack.

Consequently, patient education was enhanced with the use of a new pamphlet. Our report was also submitted to the Head Office’s Investigation Panel for their consideration.

Conclusions: The initiative has successfully provided critical information on the risk factors of IVAP catheter damage and recommendations for practice change. They are conducive to the risk mitigation.

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Lesson learned in supporting pre-registration nursing students to develop an innovative health education programme in the promotion of colorectal cancer screening

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Background: Colorectal cancer (CRC) is the second leading cause of cancer death in Hong Kong. Early detection through CRC screening can significantly reduce mortality rates and improve treatment outcomes. However, the screening compliance in Hong Kong remains low. Nurses play a crucial role in primary healthcare as professionally trained individuals. The objectives of this paper are to identify the challenges encountered in supporting pre-registration nursing students (PRNS) in developing an innovative health education (HE) program to promote CRC screening.

Methods: Ten PRNS from the Chinese University of Hong Kong were recruited. They were divided into two groups. The development of the HE programme consisted of six steps: 1) design the health assessment tool with the application of Health Belief Model (HBM); 2) conduct a survey for the clients with average risk of CRC; 3) identify the barriers for behaviour change; 4) plan the innovative teaching strategies; 5) prepare the teaching materials; 6) design the programme evaluation methods. Finally, two HE programmes were developed.

Results: Five meetings were conducted with the students to discuss project planning, modification of assessment tools, and customize teaching materials for the target population. Ideas pertaining to the application of Model and learning theories into the program planning were discussed. Several challenges were encountered during the development of the HE programme. Firstly, the students lacked experience in formulating assessment tool questions related to CRC and screening and had limited knowledge regarding the application of the HBM. To address this, additional examples were provided, and the question contents were validated by teacher before implementing the survey. Secondly, due to self-financed projects, there were limited resources available for preparing teaching materials. To tackle this challenge, all educational videos, gamification activities, and virtual reality games were either self-prepared or utilized free download apps. Thirdly, the clients' feedback on HE materials was taken into consideration. Students were advised to invite one or two clients to watch the videos and participate in the games, and then collect their feedback. The teaching materials were further modified based on their input.

Conclusions: This project supported students in understanding the barriers of behaviour change of the clients and preparing good quality of teaching materials to enhance the CRC screening for the clients with average risk of the disease.

Keywords: colorectal cancer screening, health education programme, pre-registration students

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Summary of best evidence for enhanced recovery after surgery for patients undergoing lung cancer operations

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According to the cancer burden report released by the International Agency for Research on Cancer (IARC) in 2020, the mortality rate of lung cancer is 18%, ranking first in the world, and its morbidity and mortality rates are highest in China. Pneumonectomy is the preferred treatment for lung cancer patients, but surgery carries a significant risk of perioperative complications, which may affect the patient's functional recovery and quality of life. So, the rehabilitation of the large number of lung cancer patients in China requires greater attention. A number of studies have shown that the enhanced recovery after surgery (ERAS) protocol can reduce the risk of death, readmission rate, adjuvant chemotherapy time, postoperative pain level, anesthesia medication amount, length of stay, and hospitalization expenses. Foreign literature has successively issued guidelines to improve recovery among lung cancer patients, but Chinese-specific literature for patients undergoing lung cancer surgery or thoracic surgery remains inadequate. Some Chinese expert consensus have only considered part of the content of ERAS in thoracic surgery. To summary the evidence of the ERAS program for lung cancer surgery patients at home and abroad basing on evidence-based medicine is necessary. Therefore, this study used evidence-based practical thinking as a guide to (1) evaluate, integrate, and summarize relevant evidence guidelines and data resources at home and abroad so as to construct an enhanced recovery program for lung cancer patients suitable for Chinese national conditions and (2) provide a scientific basis for future research and practice in related fields.

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Breast Cancer Risk Assessment Evaluation of Screening Tools for Genetics Referral for Women in Taiwan

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Objectives: Risk screening tools recommended by United States Preventative Services Task Force (USPSTF) are used for screening potential BRCA1/2 mutation carriers. The purpose of this study was to identify an appropriate breast cancer risk screening tool for genetic referral among women with family history of breast cancer in Taiwan.

Methods: Both of the Tyrer-Cuzick (IBIS) and BRCAPRO were used as a Gold standard to evaluate the accuracy of 5 screening tools. Sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and the areas under the receiver operating curve (AUC) were compared to identify the most accurate one to determine women with elevated risk as defined by IBIS and BRCAPRO calculations with lifetime risk over 15%.

Results: One-hundred and twenty-four women with family history of breast cancer were recruited in this study. When the Tyrer-Cuzick (IBIS) was used as the standard, AUC for the tools ranged from 0.490 to 0.562. When the BRCAPRO was used as the standard, the p values of Ontario-FHAT ($p=.003$) and PAT ($p=.016$) were significant and AUC were 0.938 and 0.854 for Ontario-FHAT and PAT respectively. Since the sensitivity of Ontario-FHAT was 100 that higher than PAT, we considered using Ontario-FHAT in Taiwanese women would be better than PAT.

Conclusion: Ontario-FHAT would be an appropriate screening tool for evaluate the BRCA1/2 mutation carriers in Taiwan.

Keywords: Family history, Hereditary breast cancer, Genetic Counseling, Cancer risk assessment

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Effectiveness of Discharge Education and Support for Parents of Children Newly Diagnosed with Cancer: A Systematic Review

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Background: Adequate discharge education and support play a crucial role in enhancing parental knowledge and skills in providing care for their child with newly diagnosed cancer. However, in Hong Kong, there is a service gap in comprehensive discharge education, leaving parents being ill-prepared and anxious, and lacking guidance in navigating their child's care journey.

Purpose: This review aims to evaluate the effectiveness of discharge education support provided to parents of children recently diagnosed with cancer. Additionally, it seeks to identify the effective components and strategies employed in these programs.

Methods: A systematic search was conducted in the Ovid and CINAHL databases, covering the period from 2010 to 2023, in accordance with the PRISMA guidelines. Publications were included if they are randomised controlled or cohort or quasi-experimental studies of discharge education program for parents of children with cancer. Two independent reviewers conducted a rigorous quality appraisal of the included studies to ensure validity and reliability of the evidence.

Results and Discussions: The initial search yielded 1897 articles, of which 5 studies met the inclusion criteria and were included in the data synthesis. Sample sizes ranged from 39 to 283 participants across these studies. The educational approaches employed encompassed written guidelines, checklists, and mobile platforms. The education program involved systematic teaching sessions, teach-back sessions, and telephone follow-up sessions. Outcome measures varied but commonly assessed parental knowledge and self-efficacy. Overall, most studies reported positive outcomes, indicating improvements in parental knowledge and self-efficacy in post-discharge care management for their child.

Conclusion: These findings underscore the importance of implementing comprehensive discharge education programs to better support parents in Hong Kong and contribute valuable insights for the development of effective parental education and support program within the local setting. Further study is recommended to evaluate the feasibility of these interventions in the local context for their successful integration into routine care practices.

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Advances in the study of pain catastrophizing in patients with breast cancer

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Based on the 2022 Global Cancer Incidence and Mortality Report, breast cancer holds a significant proportion within the global cancer landscape, particularly in China mainland, where it emerges as the most prevalent cancer among women. Despite notable advancements in nursing, leading to a significant extension of the survival period for breast cancer patients, pain-related issues have become a primary concern for afflicted individuals. Studies indicate a close correlation between pain catastrophizing in breast cancer patients and their pain experiences. Elevated levels of pain catastrophizing adversely impact both the psychological and physiological well-being of patients, severely compromising their overall quality of life. This article provides a comprehensive review of relevant studies on pain catastrophizing in patients with breast cancer, introducing the concept, theoretical models, and influencing factors of pain catastrophizing. Furthermore, it proposes interventions specifically tailored for addressing pain catastrophizing in breast cancer patients, including pain neuroscience education, pain coping skills training, mindfulness-based cognitive therapy, and Chinese traditional medicine Qigong mind-body exercise. In conclusion, there is a call for domestic scholars to intensify research on the issue of pain catastrophizing in breast cancer patients, aiming to formulate more effective management strategies that enhance the patients' pain conditions, psychophysical well-being, and overall quality of life.

Keywords: breast cancer, pain, pain catastrophic, interventions, review literature

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Effectiveness of nurse-led swallowing exercise in managing dysphagia among head and neck cancer patients undergoing radiotherapy

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Purpose: Head and neck cancer (HNC), the seventh most common cancer worldwide, has a high cure rate with first-line radiotherapy and surgery. Because of the tumor location, treatments not only destroy malignant cells but also injures oral cavity, throat, and neck. The injuries to normal tissues may cause dysphagia, which impairs swallowing. Nurses are vital in the multimodal management of HNC-related dysphagia because they provide comprehensive care to patients regardless the setting. This review aimed to examine efficacy of nurse-led swallowing exercise programs and identify effective elements for managing dysphagia in HNC patient undergoing radiotherapy± surgery.

Methods: A systematic review of randomized controlled trials (RCTs), quasi-experimental studies, and observational studies was conducted between 2000 and 2023. Seven English electronic databases were used to identify studies. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and Critical-Evidence-Based-Medicine (CEBM) were used to present and evaluate, respectively. Findings from the included studies were synthesized narratively.

Results and Discussions: In total, 7 RCTs, 1 quasi-experimental, 1 pre/post-test, and 1 pilot study referring to 9 nurse-led swallowing exercise programs were identified and can be classified into: 1) direct skills-based and 2) indirect rehabilitation exercises. Direct skills-based exercise emphasizes swallowing skills, whereas indirect exercise focuses swallowing ability through training. Exercise sections were conducted 2-3 times per day for 3-6 months. Effectiveness was shown at 3 months and reached its peak at 6 months. Findings support nurses including both types of swallowing exercises following the modalities described in previous studies in future interventions. Limitations in the studies include imbalanced demographic composition and the predominant inpatient settings, raising concerns about their applicability in outpatient settings.

Conclusion: Findings from this review support the effectiveness of nurse-led swallowing exercises. Combining both direct and indirect exercises can provide better support for restoring swallowing function after HNC treatments.

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Daily self-health management and the role of Nurses of Diabetic patients during the COVID-19 pandemic: A review

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Aims: The study aims to take the COVID-19 pandemic as an example to provide a scientific reference for diabetic patients' self-health management and nurses' work for these patients when facing future pandemics.

Design: A literature review.

Methods: It conducted a comprehensive literature search and analysed relevant texts. This article reviews the daily health management of diabetic patients in the context of the COVID-19 pandemic and the role that nurses should play in this process.

Data Sources: Data came from PubMed and Google Scholar (Searched on 21st September 2023).

Results: Diabetic patients face challenges in self-health management during the pandemic, including disruptions in healthcare access, increased mental problems, and unhealthy lifestyles. Nurses serve as the front-line interface between these patients and the healthcare system. Adopting telehealth and remote consultation has effectively bridged the gap created by social distancing measures.

Conclusion: Daily self-health management can significantly improve glycemic control and reduce the risk of diabetes-related complications, which is vital during the pandemic when patients may be experiencing disruptions to their routine care. Moreover, empowering patients through educational initiatives led by nurses can bring better self-monitoring, medication adherence, and lifestyle modifications, all of which are crucial in mitigating the effects of diabetes on the body's immune response, thus reducing the severity of COVID-19 if contracted.

Implications for the profession and patient care: 1. Help develop strategies for self-health management of diabetes. 2. Confirm the role of nurses in the above process.

Impact: Incorporating robust daily self-health management routines, coupled with the dedicated support of nurses, can be profound in maintaining and improving the health outcomes of diabetic patients during the COVID-19 pandemic. As the healthcare landscape evolves, these insights can help inform best practices and shape interventions to safeguard patients' well-being with chronic conditions amidst future public health threats.

Keywords: COVID-19; Diabetes; Health management; Nurses, Nursing education.

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Effects of cancer patient self-management led by nurse on self-efficacy and quality of life: a systematic review and meta-analysis

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Aim: The researchers aimed to quantitatively summarize the findings through a systematic review of published original studies to explore the impact of nurse-guided self-management on the quality of life (QoL) and self-efficacy of cancer patients.

Design: A meta-analysis and systematic review.

Methods: All original English-language studies examining the impact of a nurse-directed self-care program on the QoL and self-efficacy of cancer patients were included. Subgroup analyses were conducted for possible sources of heterogeneity along with the tests for publication bias. In addition, we assessed the stability of the studies using sensitivity analyses. All statistical analyses were conducted using STATA 15.1.

Data Sources: Data were retrieved from relevant publications published up to 13 March 2023 in 4 electronic online databases.

Results: The meta-analysis included 13 trials with a total of 1598 participants. The results showed that quality of life (SMD: 0.69, 95% CI: 0.19 to 1.18, $p < 0.001$) and self-efficacy (SMD: 0.22, 95% CI: -0.05 to 0.49, $p = 0.001$) improved in cancer patients who received nurse-led self-management therapy.

Conclusions: This review showed that cancer patients who used nurse-led self-management had positive impacts on their QoL and self-efficacy. Subgroup analyses showed that the effect was better in the Asian population than in the non-Asian population.

Keywords: Cancer; Self-efficacy, Quality of Life, Self-management behaviors, Systematic review, Meta-analysis

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Artificial Intelligence-Driven Deep Learning and Augmented Reality of Oncology Care in Qualitative Research

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Objective: Cancer patients confront significant physical and emotional burdens throughout the diagnosis and treatment stages, highlighting the pronounced need for humanistic care. The combination of Deep Learning (DL) and Augmented Reality (AR), which fuses artificial intelligence's data processing prowess with virtual augmentation of the real world, offers immersive interactive experiences. This study delves into the fusion of humanistic care with DL and AR within the context of smart healthcare, aiming to improve the nursing experience and satisfaction for cancer patients.

Methods: Within a oncology department in a Guangzhou hospital, 26 participants (nurses n=14, patients n=12) who has experienced DL and AR were selected. Semi-structured in-depth face-to-face interviews were used to gain insights and experiences with DL and AR. Data were encoded, analyzed, and theme-refined using the Colaizzi's seven-step method.

Results: Three core themes emerged as follows: 1. Balance Between Technology and Humanistic Care: Participants acknowledged the efficiency improvements from DL and AR, emphasizing the irreplaceable value of genuine human interaction and compassion. Especially for cancer patients, there is a persistent desire for sincere care amidst the efficiency of technologically-enhanced care. 2. Empowerment Through Technology and Humanistic Care: DL and AR not only freed up time for nurses but also facilitated training sessions on how best to address the psychological needs of cancer patients. 3. Challenges and Opportunities in Technological Application: Despite the positive shifts brought about by DL and AR, practical challenges such as technological complexity, specialized training requirements, and high costs were identified.

Conclusion: This study highlights the innovative application of DL and AR technologies in cancer care within the context of digital health. While these technologies offer new possibilities, the core value of humanistic care remains indispensable. Future advancements in cancer care should further explore the synergies between technological innovation and humanistic care, aiming to provide cancer patients with a superior and more personalized digital health experience.

Keywords: Deep Learning, Augmented Reality, Humanistic Care, Cancer Care

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A Literature Review on the Effectiveness of Digital Pain Diary for Cancer Patients Receiving Palliative Care in Out-patient Setting

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Purpose: The lack of standardized and continuous pain assessment in palliative outpatient clinics in Hong Kong has resulted in suboptimal pain control and reduced quality of life. Digital pain diaries, utilizing healthcare technology, is an innovative way to empower patients to self-report their pain experiences. Thus, a literature review was conducted to evaluate the effectiveness of digital pain diary for cancer patients receiving palliative care in outpatient settings in reducing pain and improving quality of life and its effective components.

Methods: A comprehensive search of databases including MEDLINE, Embase and CINAHL was conducted to identify relevant studies published between 2010 to 2023. The inclusion criteria encompassed randomized controlled studies, clinical controlled trial or cohort studies that implemented digital pain diary through mobile applications or websites for cancer patients. The selected studies underwent critical appraisal by two independent reviewers to assess their methodological quality.

Results and Discussion: The search yield 6 studies, four of them were rated as strong or moderate quality. The reviewed studies examined the use of digital pain records or pain diaries in oncology outpatient clinics, with simple sizes ranging from 25 to 202 participants. The digital pain diaries included daily and breakthrough pain assessment using numerical rating scales, detailed pain information input, reminder notification, evaluation of quality of life and overall well-being using the Karnofsky performance scale, and education materials on analgesics. Four studies demonstrated that digital pain diaries significantly reduced the pain intensity of participants and resulted in remarkable improvement in quality of life.

Conclusion: The findings from this review supports the development of digital pain diary for use in palliative outpatient clinics to enhance current pain assessment practices, leading to improved pain control and quality of life for palliative patients. Further study is needed to assess the feasibility and effectiveness of implementing digital pain diaries in the local context.

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Scoping Review of Shared Decision-making in Genetic Counseling

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Background: It is challenging to make informed decision in genetic counseling. Shared decision-making provides a chance in balancing the information and preferences between counselors and counselees. However, the status and prescriptions of shared decision-making have not been extensively studied in genetic counseling. Aim: To develop an up-to-date literature review of the shared decision-making in genetic counseling, identify knowledge gaps, and provide inspiration and suggestions for the development and practice of genetic counseling. Methods: "Genetic Counseling" and "Shared decision-making" were used to search in PubMed, Web of Science, Embase, Wanfang, CNKI and CBM databases. The search deadline was March 26, 2021. Results: A total of 22 articles were included, and four themes were identified: how people involved in genetic counseling, different stakeholders involved in SDM, multiple facilitators and barriers to SDM and the effectiveness of SDM in genetic counseling. Conclusion: Each participant needs to recognize their boundaries and make the best effort to involve in the shared decision-making. In the future, multinational studies should be considered for bringing shared decision-making to the global scale and well-designed studies are required to explore the long-term impact of shared decision-making in genetic counseling.

Keywords: genetic counseling, shared decision-making, influence factors, scoping review

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Nurse-Driven Genetic Counselling in Genomic Healthcare: An Integrative Literature Review

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Purpose: The demand for nurse-driven genetic counselling services is on the rise. Studies reported most of the clients were satisfied with the genetic counselling by nurses. However, some studies addressed concerns about nurses' genomic competency and to provide comprehensive health care to people with genetic conditions. This study aims to explore the advantages and disadvantages of nurse-driven genetic counselling in various aspects, so as to explore the potential initiatives and limitations of the comprehensive application of nurse-led genetic counselling in clinical settings around the world.

Methods: A literature overview was completed using computerized databases such as Cumulative Index to Nursing and Allied Health (CINHAL), MEDLINE, and PubMED. Publications from 2013 to 2023 were searched for most updated practice and evaluation.

Results and discussions: All articles identified nurses demonstrate important roles and functions. Most articles investigated genetic literacy among nurses in various countries and shared similar conclusions. More than a half of studies reported the needs of development and improvement of genetic and genomic curriculum and training. The majority of research indicates that nurse-driven genetic counselling services are highly rated and beneficial for clients. The major advantages included better patient experience, lower costs, as well as improved access to specialist healthcare services with a decreased waiting time. At the same time, competency frameworks or curriculum guidelines for nurses have not been well established internationally. Research has revealed that most nurses are not knowledgeable about genetics risk assessment and testing and are uncertain about genetic competence. Several frontline nurses considered that genetic counselling was not within the norm in current clinical practice.

Conclusions: Modern medicine is increasingly influenced by genetics and genomics. The future is bright with the continued combination of clinical nursing and genetic counselling through clear roles identification, knowledge assessment and measurement tools validation, and pre- and post-registration educational support.

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Investigation of hereditary risk knowledge, attitude, behavior status and influencing factors of breast cancer patients

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Objective: To investigate the current situation and influencing factors of hereditary risk knowledge, attitude, behavior in breast cancer patients.

Methods: From May 2023 to July 2023, breast cancer patients were investigated by self-designed questionnaire. The statistical methods included two independent sample t-test, single factor analysis and multiple linear regression analysis.

Results: Of 195 breast cancer patients, 84.6% knew that patients with ovarian cancer and breast cancer in the same family might be hereditary high-risk families for breast cancer, but only 44.1% knew that total mastectomy for breast cancer gene mutation carriers could prevent hereditary breast cancer; through multiple linear regression analysis, education level, marital status, gender and family membership are the main influencing factors on hereditary risk knowledge, attitude, and behavior ($P<0.05$)

Conclusion: The knowledge, attitudes, and behaviors of breast cancer patients about hereditary risk still need to be improved. Increased public awareness of the hereditary risk for breast cancer, promotion of the three-level hereditary breast cancer prevention strategy, and scientific application of health education knowledge and skills to patients with different educational backgrounds, marital statuses, gender and family membership are all important steps towards improving breast cancer patient care.

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Educational interventions for nurses regarding breakthrough cancer pain management: A literature review

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Background: Nurses are involved in early identification, assessment and management of breakthrough cancer pain (BTCP) among advanced cancer patients. Poorly managed BTCP is associated with poorer quality of life and higher cost on the healthcare system compared to other oncological pain. Most oncology and hospice nurses had poor knowledge, fair attitudes and inadequate assessment towards BTCP management. In Hong Kong, there is no BTCP-related education provided to oncology and hospice nurses in clinical settings. This literature review aims to examine existing nursing educational interventions of BTCP management, and to identify an evidence-based intervention to improve nurses' knowledge, attitude and assessment regarding BTCP management.

Methods: A systematic literature search was conducted in four databases, including CINAHL, Embase, and Ovid MEDLINE and PubMed. The keywords used in literature search included breakthrough pain, cancer pain, breakthrough cancer pain, education, training, nurse, healthcare professional, healthcare worker, knowledge, attitude and assessment.

Results: Two randomized controlled trials and five controlled clinical trials were reviewed by Effective Public Health Practice Project (EPHPP). The qualities of these studies were moderate to strong. Evidence-based interventions were identified in these six selected studies with significant results of improving nurses' knowledge, attitude and assessment regarding BTCP management. Essential components of the educational program include a pocket-size guide of BTCP guidelines, a single session of individual clinical instruction and two workshops at the first and around fourth to sixth week. Each workshop lasts for two to four hours. Content of workshops include definition, assessment, pharmacological and non-pharmacological management of BTCP, misconceptions and barriers towards opioid use and opioid side effects management.

Conclusion: The existing educational interventions for oncology and hospice nurses towards BTCP management are insufficient. The literature review provides an evidence-based approach that presents a comprehensive view towards effective components of nursing educational interventions regarding BTCP management.

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Dietary structure influences breast cancer-associated lymphedema through the mediating effect of BMI

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Purpose: 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.

Methods: 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.

Result and discussion: The proportion of high BMI, high-fat diets and high-carbohydrate diets was higher in the BCRL group than in the no-BCRL group ($\chi2=23.549$, $p < 0.01$; $\chi2=5.416$, $p < 0.05$; $\chi2=18.847$, $p < 0.01$), the proportion of high-protein diets was lower in the BCRL group than in the no-BCRL group ($\chi2=17.958$, $p < 0.01$). 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 （$\beta=0.2092$, $p < 0.01$）.

Conclusion: 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.

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Behind every child with health problems, there lives an innocent soul; behind every caregiving parent, there exists a vulnerable heart

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The Nethersole School for Nursing, CUHK partnered with Jockey Club Community Support Project for children with medical complexity to host “Youth FUN Together” (童來樂繽 FUN), where families can find some breathing room in their lives. In this half-day program, parents and children come together to enjoy quality family time and spend time apart participating in different activities.

The “FUN” began with family arts and crafts. Parents joined in as well and pairs of hands conversed in the language of creativity. In no time, blank photo frames were transformed into delicately decorated masterpieces in each artist’s eyes.

After blissful family time, children took part in a series of music and game activities to practise “loosening up” and to share their feelings. May each child find solace in shared experiences with their peers, knowing that they are not taking on this journey alone.

Parents stayed in the auditorium for music breathing exercises. For the time being, they can finally let go of their identity as caregiver, to focus on their own inner voice. “How heavy is your breathing? What shape does your breathing take on?” After breathing exercises, the atmosphere in the room shifted as parents gathered to chat and share stories.

When it was time to go, parent and child held their hands in each other’s grasp once again, waving goodbye to our volunteers. How wonderful it would be if, even for just one instant in those few hours, they were able to surrender their identity of “the ill” and “the caregiver”, to voice out their emotions without restraint, to laugh or cry when they wished, no matter if it were from pain or from release — how wonderful it would be.

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Skin Self-care Behavior Scale for patients with cancer receiving targeted therapy：Instrument development and cross-sectional validation study

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Background: Skin self-care behavior of patients with cancer receiving targeted therapy plays an indispensable role in the prevention and treatment of skin toxicity.

Objective: This study aimed to develop a skin self-care behavior scale for patients with cancer receiving targeted therapy and to evaluate its psychometric properties.

Design: An instrument development and cross-sectional validation study was conducted.

Settings: A hospital in Guangzhou, China

Participants: A total of 300 patients with cancer receiving targeted therapy (mean age=61.48±11.30,female=60.7%,spouse=94%) participated in the study.

Methods: This study was conducted in two steps: (1)instrument development and (2)psychometric tests(N=300).After item generation and the evaluation of content validity, a total of 30 preliminary items were tested.For the psychometric tests, item analysis using the corrected item-to-total correlations and construct validity with exploratory factor analysis and confirmatory factor analysis were performed.The predictive validity of the scale was tested according to the actual occurrence of skin toxicity.Reliability was evaluated with Cronbach's α.IRT parameters were estimated using the degree of discrimination and difficulty.

Results: The exploratory and confirmatory factor analyses yielded a five-factor solution with 19 items.The five factors were oral care, facial care, trunk care, sunscreen care and hand and foot care.Skin self-care behavior was negatively correlated with the severity of skin toxicity.The reliability was demonstrated to be acceptable(Cronbach's α =0.73).The results of IRT parameter estimation show that all items have a good degree of discrimination, the difficulty coefficient accords with the trend of monotonically increasing, and the difficulty of most items is appropriate.

Conclusions: The skin self-care behavior scale for patients with cancer receiving targeted therapy has good validity, reliability, discrimination and difficulty, and can be used to measure the level of skin self-care behavior of patients with cancer receiving targeted therapy.

Keywords: Molecular Targeted Therapy, Skin Self-care, Dermal Toxicity, Classical Test Theory, Item Response Theory

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A qualitative study of caregivers' experience and management of cognitive impairment in children with cancer from the perspective of symptom management theory

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Objective: To explore the caregivers' experience and management of cognitive impairment in children with cancer, and to provide evidence for the formulation of precise intervention and support strategies for this group.

Methods: Objective sampling method was used to select 18 caregivers of children with cancer for face-to-face semi-structured in-depth interviews from August to October 2023, and Colaizzi phenomenological analysis was used to analyze the original data. Apply symptom management theory to design research and identify themes.

Results: Three research topics are summarized: a. Cognitive impairment experience, b. Cognitive impairment management strategies, c. Cognitive impairment management effect. Cognitive impairment is one of the most worrying symptoms in the treatment of children with cancer, which will have a great negative impact on children's learning, life, mental health and quality of life. Caregivers often choose to self-manage or seek out-of-hospital help, but the results are not good due to the poor compliance of children, lack of professionalism and treatment decision-making ability.

Conclusion: Through strengthening education and education, we should meet the information needs of caregivers for cancer-related cognitive impairment, improve self-efficacy to establish positive disease coping styles, and strengthen the multi-party support of professionals and society. Meanwhile, it is necessary to identify the symptoms related to cognitive impairment in children with cancer as early as possible, and conduct professional and effective intervention to meet their diverse needs for prevention and treatment of cognitive impairment. Timely and effectively improve the cognitive function and quality of life of children.

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The trajectory of Self-Reported Physical Activity and Sedentary Behavior at surgery and after chemotherapy in Chinese Breast Cancer Patients:A Latent Transition Analysis

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Purpose: The purposes of this study are to demonstrate the application of latent transition analysis (LTA) on the changes in patterns of self-reported physical activity and sedentary behavior for Chinese breast cancer patients from surgical treatment to three months after chemotherapy.

Methods: Participants who recently had breast cancer surgery were recruited from 3 hospitals in Shanghai.Cross-sectional latent profile analyses were conducted on breast cancer patients self-reported physical activity(included moderate-to-vigorous physical activity, light physical activity, and total physical activity) and sedentary behavior indicators of exercise self-efficacy. Self-reported physical activity was collected by the Chinese version of the short form International Physical Activity Questionnaire. Changes in latent classification over 2 time points (baseline, and follow-up) were analyzed using LTA.

Results and Discussions: A total of 146 female patients (age: M ± SD = 54.95 ± 10.61 years) participated this study from baseline to follow-up. Based on the model classification of latent class analysis(LCA) at baseline and follow-up, Latent transition analysis finally identified two typologies characterized by (1) Actives (baseline: N=0; follow-up: N=112), and (2) In-actives (baseline: N=146; follow-up: N=34). 75.0% In-actives were more likely to transition to actives typology,and other 25.0% actives would be stable in the same typology. Changes in class membership represent longitudinal changes in the course of physical activity management. LTA overcomes the problem of multiple statistical testing that separately addresses each form of physical activity.

Conclusions: The unstable trajectory of physical activity over the transition period suggests that health promotion behavior interventions are required to improve activity-related behavior typologies during the recovery of breast cancer.

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Psychometric properties of the Chinese version of Quality of Communication questionnaire for cancer patients and their family caregivers with physicians

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Background: Given the lack of valid and reliable instruments for evaluating the quality of communication between physicians and cancer patients and their family caregivers in China, this study translated and culturally adapted the Quality of Communication questionnaires for cancer patients (QOC-P) and their family caregivers (QOC-F) for use in the Chinese context and evaluated their psychometric properties.

Methods: The QOC-P and QOC-F were translated following an adapted version of Brislin's translation model and culturally adapted according to a Delphi expert panel. We pretested and refined the Chinese versions of the QOC-P and QOC-F among 16 dyads of patients and their family caregivers. Subsequently, we administered the questionnaires to 228 dyads of patients and their family caregivers who were recruited from six tertiary hospitals. The content validity, construct validity, convergent validity, and reliability of the QOC-P and QOC-F were examined.

Results: Through exploratory factor analysis, The QOC-P and QOC-F were divided into two dimensions: general communication and end-of-life communication. The Cronbach's coefficients ranged from 0.905 to 0.907 for the two subscales of the QOC-P and from 0.908 to 0.953 for the two subscales of the QOC-F. The two-week test-retest reliability was acceptable for both the QOC-P and QOC-F, with intraclass correlation coefficients of 0.993 and 0.991, respectively. The scale content validity index (QOC-P: 0.857, QOC-F: 1.0) and split-half reliability (QOC-P: 0.833, QOC-F: 0.935) were satisfactory. There was a negative correlation with anxiety and depression for both the QOC-P ($r = -0.233$ & -0.241, $p < 0.001$) and QOC-F ($r = -0.464$ & -0.420, $p < 0.001$). The QOC-P showed a negative correlation with decision regret ($r = -0.445$, $p < 0.001$) and a positive correlation with shared decision-making ($r = 0.525$, $p < 0.001$), as hypothesized.

Conclusion: The QOC-P and QOC-F show desirable psychometric properties for evaluating the quality of communication between physicians and cancer patients and their family caregivers in both clinical and research contexts.

Keywords: communication, cancer patients, family caregivers, cultural adaptation, psychometric property, validation

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Implementing patient-centred cancer care: using experience-based co-design to produce weight management services for patients recovering from breast cancer

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Purpose: Numerous studies have demonstrated the importance of weight management for breast cancer patients (BCPs), yet currently available intervention programs are ineffective. The purpose of this research is to use experience-based co-design (EBCD) to identify and improve weight management experiences in BCPs during rehabilitation.With the combination of health professionals (HPs)and BCPs, HPs and BCPs work together to design tailored weight management programs for recovery to help BCPs achieve and sustain a healthy lifestyle and pursue the meaning of life.

Methods: There are three stages in the ongoing EBCD project, (1) stage I includes understanding the experiences and perceptions of weight management among BCPs, Cares and HPs and then capturing touch points; (2) stage II involves a round of co-design workshop to identify and prioritize final touch points; (3) stage III involves using the Patient Health Engagement model (PHE) as a theoretical guide and combining with evidence-based and Delphi method to construct a weight management program.

Results and discussion: Stage I and II have been completed and Stage III is under way, including 7 filmed narrative BCPs interviews, an interview movie, 26 BCPs interviews , 6 Cares interviews, and 15 HPs interviews, as well as a round of BCPs-HPs Co-design workshop (n=10), including presentations and interactive activities (e.g. viewing and discussing the film, four boxes, experience journey map, empathy mapping, voting, designing options and evaluating the activity). Touch points were captured and prioritized as: (1) personalized management; (2) companionship and supervision; (3) elimination of the fear of cancer recurrence; and (4) the desire to be removed from the label of 'patient'. Guide by PHE, combining four stages of psychological engagement into Touch points, a theoretically-informed weight management program was developed on the basis of co-designed strategies to overcome physical and emotional barriers.

Conclusions: The EBCD project was able to construct a patient-centered weight management program for rehabilitation that increased BCPs experience and engagement, and the intervention has the potential to increase acceptance and adherence to the intervention. Future studies are needed to evaluate the effectiveness of the intervention.

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The Exercise Self-efficacy of Children and Adolescents with Cancer During Treatment

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Purpose of the study/project: Children with cancer experiences limited physical activities. self-efficacy is identified as a key component of social cognitive theory as it can influence healthy behaviors, including physical activity. The aims of this study were to investigate exercise self-efficacy(ESE) level of children and adolescents with cancer during treatment and to explore whether the demographic characteristics influencing their exercise confidence.

Methods: Children with cancer aged 10-18 and who were in treatment status were eligible and recruited in two tertiary hospitals which were still in progress. The Exercise Self-efficacy Scale(ESES) were reported by child and the demographic information questionnaires were reported by parents.Univariate analyses and multiple linear regression analyses were performed to analyze the demographic factors affecting exercise self-efficacy.

Results and discussions: A total of 125 valid questionnaires were collected until December 2023. More than half of them were boys(N=77, 61.6%) and diagnosed with leukemia(N=42, 33.6%),brain tumor(N=32, 25.6%) and lymphoma(N=23, 18.4%).The level of exercise self-efficacy was low(32.63±14.30).Demographic factors influencing ESE included therapy types experienced(P=0.002),clinical classification(P=0.006) and other chronic diseases(P=0.032),the influence of age, gender, type of disease on SES was not significant in this initial analysis.

Conclusions: The SES level of children and adolescents with cancer was low, the treatment factors have great impact on the SES level, the health clinical workers should pay attention to the treatment factors(i.e., therapy types, clinical identification and other chronic disease the patients experienced) when they conduct the program to improve the ESE and/or physical activity.

Keywords: self-efficacy, cancer, child, adolescent, physical activity

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Information needs of breast cancer patients during the early stages of treatment

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Purpose: explore the need for information of breast cancer patients in the early stages of treatment.

Methods: This study was descriptive research design. Purposive sampling was used to recruit 124 participants with relevant to inclusion criteria for this study. The instrument for collecting data was the Information Needs Assessment Questionnaire (Thai version) which were translated and adapted from the Sri Lankan Information Needs Assessment Questionnaire – BC (SINAQ-BC) by Kuruppu, Wijeyaratne, Gunawardane & Amarasinghe (2020). Data was analyzed by using descriptive study.

Results: The overall of information need was at high level. When considering each aspect, it was found that 5 aspects at a high level: aspect of disease, diagnosis, treatment, physical care and psychosocial service.

Conclusions: The most challenging period of the cancer experience is normally the early stages of treatment. Meeting the information needs of patients is a requirement capacity of health care providers that provide suitable information for promoting handling the disease.

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Knowledge and Attitudes Toward Cancer Pain Management Among Vietnamese Nurses: A Cross-sectional Study

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Purpose: Cancer pain management is a vitally critical goal since pain without treating has detrimental effects on the patients as desperation, impede their response to treatment and negatively affect their quality of life. Therefore, requiring accurate knowledge, attitudes, and assessment skills to oncology nurses who take care of them directly every single day in a healthcare setting is very necessary. The purpose of the present study was to explore information about and compare the knowledge and attitudes regarding cancer pain management between oncology nurses who had different years of experience, qualification, book reading, and use of pain assessment tool.

Design: A cross-sectional survey was used.

Methods: The sample was registered nurses at the Oncology hospital in Ho Chi Minh City. They were selected by simple random sampling technique. A questionnaire “Knowledge and Attitudes Survey Regarding Pain (KASRP)” related to the knowledge and attitudes about pain management and participants’ demographic questions were used for data collection. Descriptive statistics (frequency, percentage) and Independent Sample t-test were used this study.

Main findings: The average rate of giving correct answers through the KASRP questionnaire were three groups: the number of true/false, multiple-choice received over 70% and the group of case study was nearly 50%. Nurses with less than seven years of experience and those who read books/journals had on average more correct answers than nurses with more than seven years and those who did not read books/journals ($p < .05$), respectively.

Conclusion and recommendations: Research results have showed that the participants have sufficient knowledge to identify pain in cancer patients. And, nurses with less than seven years of experience and reading habits of cancer pain have relation with their knowledge and attitudes about cancer pain management. It is necessary that hospital’s policies should be included such as free courses and books in their internal library. There should be further study of applying the knowledge related to pain management among oncology nurses in Viet Nam.

Keywords: attitude, cancer pain, knowledge, management, nursing

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The Effectiveness of Virtual Reality-based Interventions on Pain, Anxiety, Depression and Quality of Life among Cancer Survivors: A Meta-Analysis of Randomized Controlled Trials

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Purpose of the study: To determine the effectiveness of VR-based interventions on pain, anxiety, depression and quality of life among cancer survivors and to probe the effectiveness of different topics and duration.

Methods: Results denoted that VR-based interventions could soothe pain (SMD = -0.80, 95% CI: -1.27 to -0.32, I2 = 83.27%, P = 0.0009) and anxiety (SMD = -0.97, 95% CI: -1.43 to -0.51, I2 = 87.96%, P < 0.01) but were ineffective at alleviating depression and quality of life. Subgroup analysis displayed that interventions' topic targeted on game were effective at reducing pain; Interventions with landscape and video were effective at reducing anxiety; and short-term (≤ six week) interventions were effective at relieving pain.

Results and discussion: Results denoted that VR-based interventions could soothe pain and anxiety but were ineffective at alleviating depression and quality of life. Subgroup analysis displayed that interventions' topic targeted on game were effective at reducing pain; Interventions with landscape and video were effective at reducing anxiety; and short-term (≤ six week) interventions were effective at relieving pain.

Conclusions: VR-based interventions are effective at decreasing pain and anxiety but ineffective at alleviating depression and quality of life. The interventions' topics and duration had an impact on their effectiveness. Nurses are encouraged to integrate VR-based interventions into daily oncology care and consider the appropriate setting, such as immersion, interactivity, adaptation period, duration and cooperation. Symptoms management is a paramount aspect of clinical cancer care. In daily oncology nursing, we encourage nurses to utilize the benefits of VR-based interventions and establish an optimal adaptation time and duration. Hence, improve cancer patients' medical experience.