

# Abstract Book for Oral Presentations

Organisers:



Pi Iota at-Large Chapter

ASIA REGION

# SIGMA ASIA REGIONAL CONFERENCE 2025

## Digital Health and AI in Nursing: Transforming Care Through Innovation

5-6 December 2025 @ Hong Kong, China



Hosts



Co-hosts



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## Concurrent Sessions

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### Feasibility, acceptability and preliminary efficacy of a WeChat-based intervention to reduce internet addiction among university students

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- AIMS** Internet addiction (IA), a new form of behavioral addiction, is associated with numerous negative impacts and lacks standardized treatment. This study aimed to evaluate the feasibility, acceptability and preliminary efficacy of a WeChat-based intervention to reduce internet addiction among university students.
- METHODS** In this two-arm pilot randomized controlled trial (ClinicalTrials.gov: NCT05906108), Hong Kong University students aged 18 to 25 years with an Internet Addiction Test (IAT) score of >50 were recruited and randomized (1:1) into either intervention or control group. The intervention group received a 3month WeChat-based intervention including self-learning articles, scheduled informative messages on IA, and personalized behavioral support from a live counselor. Control group received general health messages. Outcomes included IAT scores (0 – 100, higher scores indicate greater addiction), weekly screentime (minutes), satisfaction (0-10, higher scores indicate greater satisfaction) and perceptions at posttreatment. Linear mixed effect models were used. Covariates included sex, age and intention to reduce internet use.
- RESULTS** Between January 26 to June 2, 2023, 120 (79.2% female, mean age 21.2 years) eligible out of 437 participants were randomized (60 per group). Retention rates were 86.7% in intervention group and 88.3% in the control group. At posttreatment, the intervention group reported significantly lower IAT scores than the control group (adjusted B = -9.9, 95% CI: -15.0 to -4.8), while between-group difference in weekly screentime was not significant. Intervention group reported significant within-group reductions in IAT scores (-26.9, 95% CI: 30.4 to -23.4) and weekly screentime (-77.8, 95% CI: -140.5 to -9.4). Participants reported satisfaction with chat-based support (mean [SD] score: 8.0 [1.8]) and self-learning materials (7.0 [1.7]). The intervention schedule and format were considered suitable with participants willing to continue participating (6.8 [2.2]) and recommend the program (7.1 [2.1]).
- CONCLUSIONS** This WeChat-based intervention is feasible, acceptable, and showed significant potential for reducing internet addiction among university students.

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### Osteoporosis Risk in Hemodialysis Patients: The Roles of Digital Health Literacy, Health Literacy, and Biochemical Parameters.

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- AIMS** This study aimed to investigate the associations between digital health literacy (DDL), health literacy (HL), and biochemical parameters with osteoporosis among hemodialysis patients.
- METHODS** A cross-sectional study involving 675 hemodialysis patients was conducted in eight hospitals in Vietnam. Data were obtained using the Osteoporosis Self-Assessment Tool for Asians (OSTA), digital healthy diet literacy questionnaire (DDL), and the 12-item short form of the health literacy questionnaire (HLS-SF12). Unadjusted and adjusted multinomial logistic regression models were employed to examine the associations.
- RESULTS** The proportion of patients at low, medium, and high levels of osteoporosis risk was 39.6%, 40.6%, and 19.8%, respectively. In the adjusted models, higher DDL and HL were associated with lower odds of having medium osteoporosis risk (DDL: OR = 0.96, 95% CI: 0.93–0.99, p = 0.017; HL: OR = 0.92, 95% CI: 0.88–0.96, p < 0.001) and high osteoporosis risk (DDL: OR = 0.95, 95% CI: 0.91–0.99, p = 0.008; HL: OR = 0.89, 95% CI: 0.84–0.94, p < 0.001), compared to low risk. Additionally, higher levels of hemoglobin (OR = 0.79, 95% CI: 0.66–0.95, p = 0.014), hematocrit (OR = 0.95, 95% CI: 0.92–0.99, p = 0.041), and albumin (OR = 0.91, 95% CI: 0.83–0.99, p = 0.030) were significantly associated with a reduced likelihood of high osteoporosis risk.
- CONCLUSIONS** Enhancing DDL, HL, maintaining optimal albumin, hemoglobin, and hematocrit levels may help prevent osteoporosis in this population.

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- AIMS** Central obesity is a global public health concern linked to increased cancer risks, including breast cancer. While technology-based interventions have been effective in reducing central obesity and cancer risk, the integration of biomarkers to assess outcomes remains limited but crucial. This study evaluates the preliminary efficacy of a WeChat-based intervention on biological and biochemical markers related to breast cancer risk in Chinese women with central obesity. It also explores the relationships between changes in waist circumference, body mass index (BMI), and biomarker outcomes.
- METHODS** This randomized controlled trial was conducted from February 2022 to July 2023, with a six-month follow-up, at two community health centers in Changsha, Hunan Province, China. A total of 102 premenopausal women with central obesity (waist circumference >80 cm) were randomized into an intervention group (n=52) and a control group (n=50). The intervention group received a smartphone-based program via WeChat, incorporating Fitbit monitoring, weekly educational modules, and personalized biweekly messages. The control group was provided with non-tailored general health information via WeChat. Primary outcomes included changes in waist circumference (WC), body mass index (BMI), and biomarker levels, which were assessed at baseline and six months.
- RESULTS** Over six months, the intervention group showed significant improvements in BMI (p=.001), WC (p=.001), CRP (p=.02), systolic blood pressure (p=.01), and telomere length (p=.05) compared to the control group. Changes in WC were associated with decreases in CRP (p=.05), triglycerides (p=.03), and systolic blood pressure (p=.047), as well as an increase in telomere length (p=.01). A significant association was also found between the interaction of BMI and WC with a reduction in high-density lipoprotein and triglycerides.
- CONCLUSIONS** This intervention effectively reduced central obesity and inflammation, mitigating breast cancer risk factors. The findings underscore the potential of targeting central obesity to improve health outcomes and support cancer prevention strategies.

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- AIMS** Incontinence-associated dermatitis (IAD) is a prevalent complication among older patients, adversely affecting their quality of life and increasing healthcare costs. Accurate early prediction is essential for identifying highrisk individuals and implementing timely, targeted nursing interventions. This study aimed to develop an interpretable machine learning (ML) model to predict the risk of IAD in elderly patients, thereby supporting clinical decision-making and improving nursing practices.
- METHODS** The study was conducted in three parts. (1) Existing IAD prediction models were systematically evaluated using the PROBAST and TRIPOD checklists, and a meta-analysis was conducted to synthesize common predictors and pooled AUCs. (2) A meta-analysis of IAD risk factors and prevalence in elderly patients was performed, with study quality assessed using the NOS and AHRQ tools. (3) In the third part, 505 older patients were included. Based on prior findings, a candidate predictor pool was established, and LASSO regression was used for variable selection. Four ML algorithms were applied to construct predictive models. Model performance was assessed in terms of discrimination, calibration, and clinical utility. SHAP was employed to enhance model interpretability and individual case predictions.
- RESULTS** The systematic review revealed that existing models had a high risk of bias, and poor applicability. The meta-analysis of risk factors identified 11 significant predictors. Among the 505 older patients included, the IAD incidence rate was 38.0%, occurring most frequently in the perineal and perianal regions. Among the four ML models, the XGBoost model exhibited the best discrimination and calibration, along with a high net clinical benefit. SHAP waterfall and swarm plots were used for model visualization.
- CONCLUSIONS** This study developed an ML-based risk prediction model for IAD in older patients. Among the algorithms, XGBoost demonstrated superior predictive performance and provided reasonable interpretability. This model may assist nursing staff in early risk identification and intervention planning. External validation is required before clinical implementation.

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- AIMS** Childhood obesity is strongly influenced by family environments, yet heterogeneity within parent-child dyads remains underexplored. This study aimed to construct user personas of families to inform tailored digital health strategies for obesity prevention and management.
- METHODS** A cross-sectional survey was conducted among 653 parent-child dyads. Families were classified into four groups: overweight child + overweight parent, overweight child + normal-weight parent, normal-weight child + overweight parent, and normal-weight child + normal-weight parent. A structured 71-item questionnaire assessed demographic information, weight-related knowledge, dietary and physical activity behaviors, parental perceptions, family and school support, use of digital health tools, and expectations for chatbot-based interventions. Statistical analyses included descriptive statistics, Chi-square tests, and Kruskal–Wallis comparisons across dyads.
- RESULTS** Significant differences were observed across dyads. Parents of overweight children, especially when both parent and child were overweight, showed limited recognition of obesity, with 34% relying on appearance-based judgment rather than objective standards. Misperceptions were frequent: 42.8% of parents underestimated their child’s weight status, while 2.8% overestimated. Major barriers to weight management included time constraints (47.6%), child resistance (45.0%), and financial burden (18.8%). Only 23% of families had used mobile health apps, yet over 77% expressed willingness to adopt chatbot-based solutions. Preferred chatbot functions included exercise guidance (66.8%), dietary advice (65.7%), goal-setting reminders, and emotional support, while concerns centered on privacy (63.7%) and accuracy of information (47.0%).
- CONCLUSIONS** Distinct user personas emerged across dyads, reflecting variations in knowledge, confidence, and barriers. Parents of overweight children with overweight parents demonstrated the highest need for professional guidance, whereas normal-weight dyads showed stronger protective behaviors. Embedding these personas into digital health design, particularly chatbot-based interventions, may enhance family engagement, address contextual barriers, and provide more personalized and effective obesity management strategies.

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- AIMS** This study aims to comprehensively examine the key factors influencing the learning process of nursing students in the Pediatric and Adolescent Nursing course in the digital era.
- METHODS** This mixed-methods study, conducted at Boromarajonani College of Nursing, Changwat Nonthaburi, employed a sequential explanatory design. Quantitative data from 131 randomly selected second-year students and qualitative data from 20 purposively selected students were collected in three phases: preparation, data collection (online surveys and interviews), and analysis. Quantitative analysis included descriptive statistics, Pearson's correlation, and multiple regression, while qualitative data were analyzed through content analysis. The integration of both data types provided comprehensive insights into the factors affecting the learning process and clinical decision-making.
- RESULTS** The results revealed that factors influencing the learning process of nursing students in the Pediatric and Adolescent Nursing course in the digital era included personal characteristics, such as psychological readiness and prior knowledge, as well as teaching-related factors, including case-based teaching methods and the use of modern instructional media. Additionally, environmental factors significantly influenced the learning process. A comparison of academic achievement revealed that students who learned in environments supported by digital technology-based teaching methods demonstrated substantially higher academic performance and confidence than those who did not utilize digital technology-based teaching methods. In particular, the use of virtual simulation programs and interactive learning platforms enhanced students' deep understanding of the content, strengthened the connection between theory and clinical practice, and effectively developed clinical skills.
- CONCLUSIONS** The integration of quantitative and qualitative findings highlights that nursing students' learning in the Pediatric and Adolescent Nursing course is influenced by a combination of personal, instructional, and environmental factors. The use of digital technology-based and interactive teaching methods significantly enhances students' academic performance, confidence, and clinical competence. These findings underscore the importance of adopting innovative, student-centered approaches to strengthen learning outcomes in the digital era.

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- AIMS** Nursing informatics, as an emerging discipline, faces challenges such as the fragmented distribution of knowledge resources and insufficient systematic integration in nursing education. This study aims to construct a knowledge base to empower a large language model in developing an intelligent Q&A system for nursing informatics. This system will assist students in acquiring, managing, and applying professional knowledge, thereby contributing to the digital transformation of nursing education.
- METHODS** The data were sourced from three literature databases and 17 professional association websites. Web scraper technology was used to collect information on nursing informatics-related research papers, news, conferences, research updates, and educational training published in the past five years, ensuring the knowledge base remains cutting-edge and scientifically accurate. Based on the fastGPT platform, a nursing informatics intelligent Q&A system was created to enhance the general large language model with a specialized knowledge base. The application of the intelligent Q&A system was evaluated through experimental testing, questionnaires, and semi-structured interviews.
- RESULTS** Experimental test results showed that compared to DeepSeek-V3, the nursing informatics intelligent question-answering system improved answer accuracy by 15.39% and semantic similarity by 3.08%. From April to May 2025, 30 students were recruited to evaluate the system's usability. Students expressed a positive attitude and consistent opinions regarding interface clarity, system ease of use, answer accuracy, and reliability, with an average satisfaction score of  $4.33 \pm 0.48$ . Interviews with some students indicated that the system improved the efficiency of knowledge acquisition and helped them better understand nursing informatics research trends and academic exchange information. However, there is still room for improvement in the knowledge base content and system functionality.
- CONCLUSIONS** This study addresses the challenges of fragmented learning resources and insufficient knowledge systematization in nursing informatics courses by constructing a nursing informatics knowledge base and designing an intelligent Q&A system, providing students with professional and accurate knowledge support.

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- AIMS** This study assessed feasibility, acceptability, and preliminary efficacy of a web-based gamified auditory-cognitive dual-task training (ACDT) for improving everyday listening abilities, including auditory perceptions, cognition and self-reported hearing in communitydwelling older adults with age-related hearing loss (ARHL).
- METHODS** We conducted a prospective, single-blinded, two-arm parallel pilot randomized controlled trial with individual semi-structured interviews. Sixty older adults with mild to moderate ARHL, and normal cognitive function were recruited and randomly allocated to either the ACDT group (n=30) or a waitlist control group (n=30). Participants in the ACDT group received a 12-week training comprising five 60-minute sessions weekly, integrating auditory training (speech-in-noise, rapid speech, competing speaker) with cognitive training (executive function, memory, attention, perceptual-motor). The difficulty levels were automatically adjusted based on the participant's performance on the preceding activity. Feasibility and acceptability were assessed. Hearing abilities, cognition, social isolation and loneliness were measured at baseline, week 6, and week 12.
- RESULTS** ACDT demonstrated high feasibility and acceptability. Adherence was excellent (mean 95% sessions completed). Participants reported the training was user-friendly, manageable, and easily integrated into routines, increasing ARHL awareness and reducing cognitive decline concerns. Quantitative analysis revealed a significant improvement in hearing abilities measured by PTA in the ACDT group at week 12 ( $F(2, 117.0) = 4.470, p = 0.013$ ). MoCA-HK scores significantly increased from baseline to week 6 ( $p = 0.027$ ) and were maintained at week 12, while controls declined from week 6 to 12 ( $p = 0.021$ ). A mild but significant group difference favored ACDT for 5-min recall ( $F(1, 81.2) = 3.997, p = 0.049$ ). No significant changes in loneliness or social isolation were found.
- CONCLUSIONS** Web-based gamified ACDT is feasible, highly acceptable, and shows promising preliminary efficacy for improving everyday listening abilities in older adults with ARHL. This scalable intervention warrants further investigation in a definitive randomized controlled trial.

**Xivi WANG<sup>1</sup> & Yun HU<sup>1</sup>**

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- AIMS** In recent years, artificial intelligence (AI) innovations, particularly chatbots—conversational agents utilizing natural language processing and machine learning—have attracted increasing attention across various domains. The 'AI-Dance' Chatbot (version 1.0), developed by our research team, is specifically designed to enhance disaster awareness and crisis education. The chatbot aims to improve students' literacy in emergency preparedness, with a particular focus on public health emergencies. This study seeks to assess students' perceptions and utilization of the 'AI-Dance' Chatbot.
- METHODS** A mixed-methods approach was employed, combining quantitative surveys and qualitative interviews to evaluate user experiences. A cross-sectional study using convenience sampling was conducted. The QUIS-7 measurement tool was utilized to measure key outcomes, including user satisfaction, learning outcomes, and system performance. In-depth structured interviews were conducted to gather detailed feedback and suggestions for system improvement. Descriptive data analysis was performed on the collected data.
- RESULTS** A total of 674 undergraduate nursing students from Shanghai, Zhejiang, Jiangsu, Anhui, and Yunnan provinces participated in the study. Additionally, 20 students provided qualitative feedback through interviews to inform future improvements to the system. The results indicated that the 'AI-Dance' system performed well across several key metrics, such as user satisfaction, learning outcomes, and overall system performance. Notably, the system received high ratings in areas including screen design, system information, terminology, and overall learning experience, reflecting strong user appreciation for its functionality and interactive features.
- CONCLUSIONS** The 'AI-Dance' system demonstrates significant feasibility for integration into undergraduate education, particularly in enhancing public health emergency preparedness. Based on student evaluations, future research will focus on optimizing AI-human interactions and refining the system for broader educational application.

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- AIMS** The rapid and increasing deployment of Artificial Intelligence (AI) in healthcare settings presents both opportunities and profound ethical challenges for the nursing profession. Simultaneously, the 2025 International Council of Nurses' (ICN) definition of 'nursing' necessitates a reframing of the profession's value systems and axiological commitments, a shift that has significant implications for nursing informatics practice. This paper addresses two key research questions: 1) What are the emerging axiological commitments based on a critical reading of the 2025 ICN definition of 'nursing'? and 2) How can the functions of nursing informaticists be reappraised to accommodate these axiological shifts?
- METHODS** Using a critical lens and guided by the principles of emancipatory knowing in nursing, this study employs targeted strategies of Fairclough's Critical Discourse Analysis (CDA) with the 2025 ICN nursing definition as the main corpus. Critical reading included the analyses of implicit-explicit values gleaned from lexical choices, transitivity, modality, discursive/ideological deconstruction, and intertextuality within the ICN report, other global health policy documents, and older 'nursing' definitions.
- RESULTS** The CDA reveals four core emerging axiological commitments: a) health as a universal right and equitable access, b) people-centered, collaborative, and safe care, c) global responsibility and environmental stewardship, and d) professional authority and transformative leadership. Based on these findings, the study proposes expanded, axiology-driven roles for nursing informaticists in an AI-driven healthcare landscape. These roles include functioning as an *AI Equity and Access Strategist*, a *Patient-Centered AI Architect*, a *Judicious and EcoConscious AI User*, and an *Activated Stakeholder in the AI Governance Ecosystem*.
- CONCLUSIONS** By reappraising their functions, nursing informaticists can become instrumental in ensuring that AI-integrated nursing practices are aligned with the profession's contemporary values and ethical obligations, thus steering technological innovation towards a more humanistic, equitable, and sustainable future for nursing.

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- AIMS** To evaluate the effectiveness and implementation of digital health interventions (DHIs) versus usual care for glycaemic control in culturally and linguistically diverse populations living with prediabetes.
- METHODS** Experimental and quasi-experimental studies that compared digital health interventions to usual care, waitlist, or active control were eligible. The primary outcome was glycaemic control as measured by HbA1c. A comprehensive search was conducted in CINAHL, Cochrane Library, Embase, MEDLINE, three trial registers, and grey literature databases, along with reference lists for additional studies. Studies published in English and published since the inception of each database were included. Statistical analyses included metaanalysis, sensitivity analyses, subgroup analyses, meta-regression, and publication bias assessments. The methodological quality was assessed using the JBI critical appraisal tools, and the quality of evidence was evaluated using GRADE to create Summary of Findings tables.
- RESULTS** From 14 included studies with 5,714 participants, the meta-analysis showed DHIs led to a reduction in HbA1c ( $P < .01$ ); however, evidence certainty was low (MD = -0.14, 95% CI [-0.24, -0.05]). Effects on fasting blood glucose (FBG) and body weight remain uncertain. Implementation outcomes demonstrated high uptake (>78.8%), engagement (>80%), and intention rates (89.1%) among culturally and linguistically diverse populations with prediabetes. Significant heterogeneity was observed in both RCTs and pre-post studies. Subgroup analyses indicated reduced heterogeneity in 12month interventions ( $I^2 = 0.00\%$ ) and waitlist controls ( $I^2 = 0.01\%$ ). Meta-regression identified comorbidity status as a significant contributor to heterogeneity ( $P < .05$ ). Sensitivity analyses and publication bias assessment were conducted and will be reported in the presentation.
- CONCLUSIONS** The evidence suggests that DHIs demonstrate potential for improving glycaemic control in culturally and linguistically diverse populations living with prediabetes, but the certainty of evidence is low. The observed heterogeneity could be attributed to intervention duration, control type, and participants' comorbidity status.

**Yan LI<sup>1</sup>, Yushen DAI<sup>1</sup>, Yufei LU<sup>1</sup>, Frances WONG<sup>1</sup>, Mengqi LI<sup>1</sup>, Chen Richard LI<sup>1</sup> & Janelle YORKE<sup>1</sup>**

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- AIMS** This study aims to assess the feasibility, acceptability, and preliminary efficacy of a "Digital Strolling" intervention for people with Severe Mobility Impairment (SMI).
- METHODS** A 'Digital Strolling' virtual reality (VR) system was developed and evaluated in a pilot randomized controlled trial (RCT) for people with SMI. Twenty-four participants with SMI were recruited in Hong Kong from March to July 2025 and randomized to the intervention group (n=12, 10day digital strolling) or control group (n=12, passive video viewing). The primary outcomes were depression and chronic pain; secondary outcomes included sleep quality and quality of life, measured at baseline and postintervention. Mann-Whitney U tests were used for between-group comparisons. Focus-group interviews conducted after the intervention were analyzed using content analysis.
- RESULTS** The 'Digital Strolling' program demonstrated satisfactory retention and adherence rates, both at 100%, with no dropouts. The only side effect was mild fatigue (tracked from intervention onset to completion of data assessment), reported by a few participants. Statistically significant improvements were observed in pain (Cohen's  $d = -1.13$ ,  $p = 0.033$ ). Positive trends were observed in depression, sleep quality, and quality of life. Qualitative data identified three themes: innovative experience of digital walking; perceived improvements in mood and physical activity; and facilitators and barriers influencing virtual walking.
- CONCLUSIONS** The "Digital Strolling" program is highly feasible and acceptable for people with SMI. Pilot results suggest preliminary efficacy in reducing pain among 24 individuals with SMI in Hong Kong. This study also indicates potential benefits in mood improvement, although effect sizes are limited by the small sample size. Larger RCTs are warranted to confirm efficacy and further explore the mechanisms of virtual walking interventions.

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<b>AIMS</b>	The aim of this study was to prospectively investigate the implementation of patient-reported outcome measures (PROMs) in an outpatient medical oncology service.
<b>METHODS</b>	Randomisation was done at the clinic level. Patients from randomized intervention clinics, who consented to participate, completed symptom ePROMs via a touchscreen computer prior to clinical review. Those in the control group continued usual care. Outcomes measured included symptom detection analysed using binary logistic models, and clinical response to symptom information using multiple regression models. Health service outcomes were analysed descriptively. Australian New Zealand Clinical Trials Registry ACTRN12618000398202
<b>RESULTS</b>	A total of 461 patient encounters were included (222 in the intervention group and 242 in the control group). The proportion of symptoms detected in the intervention group increased (odds ratio 1.05, 95% CI 0.99-1.11; $p=0.08$ ). Non-routine supportive care interventions increased from intervention patient encounters compared with control patient encounters (odds ratio 3.54, 95% CI 1.26-9.90; $p=0.02$ ). Unplanned hospital admissions and emergency presentations decreased in the intervention group.
<b>CONCLUSIONS</b>	Symptom detection does not appear to significantly increase when symptom ePROMs are completed by patients prior to systemic cancer treatment. It appears that the use of symptom ePROMs increased the likelihood of supportive care for patients in medical oncology outpatient care. Larger studies are needed to investigate health service outcomes.

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<b>AIMS</b>	To identify the extent and type of literature and to gain insights into nurses' and nursing students' experiences of using GenAI.
<b>METHODS</b>	Scoping review using Arksey and O'Malley framework, which adhered to PRISMA-Scr. CINAHL, Medline, Scopus and Web of Science were searched for peer-reviewed journal articles, while ProQuest Dissertations & Theses Global was searched for grey literature (thesis and dissertation). Search was limited to January 2020 and February 2025.
<b>RESULTS</b>	18 studies were included in this scoping review. This review highlighted that nurses' experiences of using GenAI were mainly positive, while nursing students reported mixed perceptions of using GenAI, though more centred towards positive feelings. Thematic analysis revealed that the factors influencing nurses' and nursing students' experiences of using GenAI were represented by three overarching themes: (1) perceived attitude toward using GenAI, (2) perceived norms of using GenAI, and (3) perceived ability to use GenAI.
<b>CONCLUSIONS</b>	This is the first review study to explore and gain a collective insight into the experiences of nurses and nursing students using GenAI. This scoping review revealed how various factors that underpin their attitudinal beliefs, normative beliefs, and control beliefs are critical determinants that influence nurses' and nursing students' overall experiences of using GenAI and behavioral intentions to use them. This review identifies research gaps, particularly regarding nurses, generational differences, and demographic factors, urging further exploration of diverse GenAI experiences.

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- AIMS** Virtual reality (VR) technology in nursing education offers innovative opportunities for developing clinical reasoning skills in a hazard-free environment. This study evaluated the effectiveness of VR simulation in training nursing students' clinical reasoning and assessment capabilities.
- METHODS** A quasi-experimental design randomly assigned nursing students to either observer or participant roles during a 5-minute postoperative VR scenario. Based on experiential learning theory and the clinical reasoning cycle, the simulation included interactive features including pop-up quizzes, metacognitive prompts, and 14 critical tasks, including vital signs assessment and wound evaluation. Students demonstrated clinical reasoning by completing tasks including identifying low oxygen saturation and implementing interventions. Observers watched partners via tablet projection before performing the scenario themselves. The VR platform served as an innovative data collection tool, automatically recording detailed metrics on task completion, sequencing, timing, and decision-making.
- RESULTS** Analysis of 197 undergraduate nursing students' data showed most activities had over 70% task completion. Critical tasks like blood pressure measurement (98%), SpO<sub>2</sub> assessment (98%), and oxygen delivery (96%) had high completion. Routine tasks including hand hygiene (49%) and providing call bells (38%) were lower. Both groups performed similarly in SpO<sub>2</sub> assessment and positioning ( $p = .483$ ), but observers excelled in wound assessment and drain labeling ( $p < .001$ ,  $RR = 1.292$ ). Student feedback was positive: 95% said embedded questions improved reasoning, and 94% found VR simulation and debriefing helpful. Observers' better performance suggests structured observation in VR education could be beneficial. Findings highlight the potential for streaming VR platforms to enhance learning outcomes by allowing students to observe peers before practicing themselves.
- CONCLUSIONS** The integration of VR simulation with structured observation phases shows promise for enhancing nursing students' clinical reasoning skills, particularly with observers demonstrating superior performance. These findings suggest that incorporating streaming VR technology with observation periods could become a valuable standard in nursing education.

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- AIMS** To pilot the efficacy of AI technology in Objective Structured Clinical Examination (OSCE) assessments for nursing students.
- METHODS** This study employed a descriptive exploratory design to pilot AI-powered OSCE assessments in a second-year Bachelor of Nursing simulated laboratory course. The project was conducted in two stages. In the development stage, a multidisciplinary team created custom OSCE case studies using the OSCELab platform, which supports interactive, scenariobased assessments and automated feedback delivery. In the implementation stage, the case studies were trialed with a single student cohort. Unlike traditional OSCEs, which provide immediate pass/fail results and delayed feedback, OSCELab enabled instant, AI-generated feedback via email upon completion.
- Following the assessments, students were invited to complete an online survey to explore their experiences and perceptions of the AI-driven process. As the study is ongoing, only preliminary data are currently available.
- RESULTS** A total of 87 students were enrolled in the course, with 33 participants completing the survey. Among the 22 domestic and 11 international students, 30 were female, 2 male, and 1 non-binary. Two-thirds of respondents (61%) were aged between 18 and 24 years (range 18 to 54). Students indicated a generally positive attitude toward the use of AI in clinical assessments, with 69% expressing confidence in AI's ability to objectively evaluate OSCE performance. Most (79%) believed AI-generated feedback may support their development, and 81% were open to the idea of using AI to assess clinical competencies. However, perceptions of AI's accuracy and usefulness were more reserved, with 63% indicating AI feedback was as accurate as a human assessor, with AI-generated feedback to be sufficiently detailed and helpful.
- CONCLUSIONS** Second-year nursing students show measured optimism toward AI in clinical education, acknowledging its potential to enhance feedback and assessment. However, concerns about its accuracy, depth, and objectivity persist, reinforcing the need for continued refinement to meet clinical training standards.

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<b>AIMS</b>	Early identification, ongoing monitoring, and timely intervention are critical for preventing pressure injury progression. However, the existing manual reporting system fails to effectively support these objectives. To address this limitation, Alice Ho Miu Ling Nethersole Hospital adopted Lewin's 3-Stage Change Theory to guide the transition from a paper-based to an electronic pressure injury reporting system, ensuring improved efficiency and proactive care.
<b>METHODS</b>	<p>This project was implemented at Alice Ho Miu Ling Nethersole Hospital, a 19-ward acute care facility, from 4Q2024 to 2Q2025 to enhance pressure injury (PI) reporting and monitoring. Lewin's 3-Stage Change Theory guided the transition from a manual to an electronic PI reporting system.</p> <p>Unfreeze: Stakeholder feedback was gathered through nursing meetings and forums, addressing concerns to prepare for change. Collaboration with IT ensured the development of a user-centered electronic system, incorporating input from frontline nurses.</p> <p>Change: A transparent rollout plan was communicated, including demonstrations of system features such as automated CAPI/HAPI classification. Quick reference materials were provided, and a trial with PI Workgroup champions validated the system's functionality. The system was launched hospital-wide in April 2025.</p> <p>Refreeze: Proactive interventions were reinforced using the system's functionalities. Enhanced data accessibility supported nursing leaders in driving quality improvement initiatives, solidifying the practice change.</p>
<b>RESULTS</b>	Satisfaction Survey: Among 61 nurse respondents, 93.9% agreed the system reduced errors; 86.9% agreed streamlined communication; 95.1% agreed ward-level PI overview informs quality improvement initiatives. Resources Evaluation: 622 PIs were reported electronically in 2Q2025, saving an estimated 1244 paper sheets, 1,866 minutes, 207 calls.
<b>CONCLUSIONS</b>	Lewin's Change Theory has facilitated improvements through the new PI system. The timely notifications generated by the system enhance communication between PI workgroup members and ward managers, allowing for early follow-up and intervention. This change has reduced nursing care times and empowered nursing leaders to engage in proactive quality enhancement initiatives.

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- AIMS** Individuals with non-suicidal self-injury (NSSI) exhibit elevated suicide ideation (SI) risk. As speech encodes rich emotional and psychological state information, leveraging vocal biomarkers to capture these states holds substantial promise for the prediction of both NSSI and SI risk. This study aimed to build voice-biomarker models for discrimination and longitudinal prediction of NSSI and SI risk.
- METHODS** A total of 417 college students meeting DSM-5 NSSI criteria and 94 healthy controls were recruited. Neutral, positive, and negative emotional voice were recorded at baseline and 1-year follow-up, as well as assessment of NSSI behavior and SI risk by standard scales. Participants were dichotomized into no-SI-risk and SI-risk groups. Using openSMILE, 1152 acoustic features in IS09 feature set were extracted per voice task. Acoustic features and its longitudinal changes were used as input variables for the cross-sectional discrimination model and longitudinal prediction model, respectively. Random forest (RF), Support vector machine (SVM), Artificial neural network (ANN) and Feed-forward neural network (FFNN) were trained. Performance of models was assessed via accuracy, precision, recall, F1 and AUC.
- RESULTS** At baseline, the mel-frequency cepstral coefficient<sub>8</sub> (MFCC<sub>8</sub>) skewness in neutral voice differed significantly between NSSI and controls ( $P_{FDR} < 0.05$ ). The Fundamental frequency (F0), MFCC, voicing probability, root mean square energy and zero-crossing rate also differed between no-SI risk and SI-risk groups among NSSI individuals ( $P_{FDR} < 0.05$ ). The ANN achieved the best discrimination from NSSI and controls (AUC = 0.696, accuracy = 0.805), whereas RF best identified SI risk among NSSI individuals (AUC = 0.660, accuracy = 0.698). Longitudinally, ANN predicted NSSI worsening (AUC = 0.609, accuracy = 0.868) and RF predicted SI risk escalation (AUC = 0.636, accuracy = 0.721).
- CONCLUSIONS** Cross-sectional and longitudinal voice features enable early identification of NSSI and SI-risk subgroups, though SI-risk accuracy remains modest and warrants larger samples and imbalance-tuned algorithms.

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- AIMS** Mobile phone use in rural Indonesia is increasing among mothers, but few use them to access health information, particularly information on stunting prevention. The objective of this study is to evaluate the feasibility of the GENC Application, focusing on aspects such as perceived feasibility and acceptability, as well as the initial effects it may have on enhancing mothers' knowledge and skills related to preventing stunting in children under two years of age.
- METHODS** A mixed-methods approach was employed to assess the feasibility and acceptability of the study design and procedures, involving a cohort of 30 mothers with children under the age of two. This study took place in the rural area of Pamekasan, Indonesia. Android users (n = 15) tested the app while the remaining (n = 15) formed a comparison group. Mothers in the app group participated in a follow-up focus group to discuss the usefulness and ease of use of the app. A follow-up questionnaire was administered after the intervention to assess the preliminary effects of the intervention and the usability of the app.
- RESULTS** The stunting prevention program, utilizing the GENC Application, demonstrated a high level of acceptability among participants, who reported an average usefulness score of 79.0% and a satisfaction score of 82.5%. These findings suggest that the intervention was perceived as relevant, practical, and well-received by mothers, indicating its potential for broader implementation within the community. Notes gathered from focus group discussions identified four primary themes: perceived usefulness and empowerment, barriers and challenges, suggestions for improvement, and preferences for the learning process and delivery methods.
- CONCLUSIONS** The app evaluated in this feasibility study was regarded as both useful and satisfactory by participants. Several areas for enhancement were identified, indicating opportunities for improvement. The findings demonstrate potential for further efficacy testing in an upcoming randomized controlled trial.

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- AIMS** This study aims to evaluate the effects of the Intelligent Home Rehabilitation Care Platform on quality of life, self-management, and functional impairment in patients with oral and maxillofacial tumors, comparing its efficacy against traditional post-discharge care methods.
- METHODS** In this study, postoperative patients with oral and maxillofacial tumors from hospitals in the Yangtze River Delta were assigned to an experimental group (n=138) and a control group (n=123), receiving either the Intelligent Home Rehabilitation Care Platform intervention or conventional care, respectively. The 3-month intervention was followed by assessments of quality of life, self-management efficacy, and functional improvement at 1 week (Baseline), 1 month (T1), and 3 months (T2) after surgery. Data were analyzed using chi-square, rank sum, t-tests, repeated measures ANOVA, and generalized estimating equations in SPSS.
- RESULTS** Using generalized estimating equations, we analyzed the effects on quality of life and self-management efficacy. The GEE results showed that after adjusting for age, sex, pathological histology, cancer stage and primary site, the intervention group had a significantly higher improvement in quality of life than the control group at the T2 (regression coefficient,  $\beta = -68.020$ , 95 % CI: -116.639, -19.412,  $P = 0.006$ ) stage. The degree of improvement in self-management efficacy was significantly higher in the T1 (regression coefficient,  $\beta = -7.030$ , 95 % CI: -9.540, -4.520,  $P < 0.001$ ) and T2 (regression coefficient,  $\beta = -13.245$ , 95 % CI: -16.923, -9.566,  $P < 0.001$ ) stages than in the control group. Repeated measures ANOVA and rank sum tests indicated improvements in shoulder function, dysphagia, and trismus after the mHealth intervention, though differences were not significant.
- CONCLUSIONS** The Intelligent Home Rehabilitation Care Platform effectively improves self-management, enhances quality of life, and aids functional recovery in patients. Thus, mHealth can serve as a smart home-based self-care solution in oncology rehabilitation.

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- AIMS** The study was to assess the effects of an at-home monitoring device and remote nursing protocol (early warning system) for children undergoing nephrostomy.
- METHODS** This observational, descriptive, and retrospective study recruited 58 children who underwent nephrostomy between January 2023 and December 2024 at Xinhua Hospital, Shanghai Jiao Tong University School of Medicine. The patients were divided into an early warning system group (n=32) and a conventional nurse group (n=26), according to the catheter monitoring method. The primary endpoint was catheter-associated complications, whereas the secondary endpoints included parental satisfaction and the Pediatric Renal Caregiver Burden Scale (PR-CBS).
- RESULTS** Patients in the early warning system group were associated with a reduced risk of catheter-associated complications compared to those in the conventional system group (OR, 0.019; 95% confidence interval (CI): 0.0040-0.092; P<0.001). For specific catheter-associated complications, the risk of catheter detachment (OR, 0.060; 95% CI: 0.004-0.991; P=0.048), poor drainage (OR: 0.061; 95% CI: 0.007-0.523; P=0.011), and retrograde infection (OR: 0.195; 95% CI: 0.046-0.822; P=0.026) in the early warning system group was lower than that in the conventional nurse group. Furthermore, overall parental satisfaction was higher in the early warning system group than in the conventional nurse group (P=0.016). The PR-CBS score for each domain in the early warning system group was lower than that in the conventional nurse group (P<0.001).
- CONCLUSIONS** Using an early warning system could improve catheter-associated complications, parental satisfaction, and PR-CBS in children undergoing nephrostomy during continuous nursing.

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- AIMS** With the global population aging, dementia has emerged as a public health concern. Traditional diagnostic gold standards, such as neuroimaging and cerebrospinal fluid puncture, are often prohibitively expensive and not easily accessible. Language deterioration, a core symptom of cognitive impairment, is highly correlated with pathological changes in the brain. This study aims to develop a multidimensional interpretable machine learning model to differentiate between normal cognitive function, mild cognitive impairment, and dementia in older adults through speech analysis.
- METHODS** This is a multicenter, cross-sectional observational study involving older patients from two tertiary A hospitals in Beijing and Shanghai from January 2023 to December 2024. Cognitive function will be assessed using the Montreal Cognitive Assessment (MoCA), while recordings will be made using the iFLYTEK S702 voice recorder. Speech features will be extracted using the open-source analysis toolkit OpenSmile, focusing on frequency, timing, spectral, and textual features. Seven machine learning algorithms (including Random Forest, Support Vector Machine, and XGBoost) will be employed, and SHAP will be used to clarify the contributions and directions of various speech features within the model.
- RESULTS** A total of 2,944 elderly individuals were included in the study, comprising 1,854 normal elderly, 792 with mild cognitive impairment, and 298 with dementia. The Random Forest algorithm demonstrated good classification performance, achieving an accuracy of 82.1%, precision of 81.9%, recall of 82.2%, and an F1 score of 81.9%. Features such as voiced length, unvoiced length, pause duration, and loudness were identified as effective indicators for distinguishing between normal aging, mild cognitive impairment, and dementia.
- CONCLUSIONS** This study confirms that multimodal speech features can serve as an effective screening tool in community settings, demonstrating significantly better sensitivity and cost-effectiveness compared to traditional assessment scales. The potential for widespread application of speech analysis in communities may enhance early detection and intervention for cognitive impairment.

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- AIMS** To investigate the current status of nurses' acceptance of a Mobile Nursing Information System (MNIS) in a Shanghai tertiary hospital and identify the key determinants influencing acceptance through Structural Equation Modeling (SEM).
- METHODS** Using a convenience sampling method, 400 nurses from a tertiary hospital in Shanghai were recruited as participants between October and December 2023. Data were collected via a self-designed general information questionnaire and a Nursing Information Acceptance Scale, which included six dimensions: perceived usefulness, perceived ease of use, information quality, system quality, service quality, and intention to use. The questionnaires were distributed and collected via the Wenjuanxing. Guided by DeLone and McLean Information Technology System Success Model, path analysis and covariance estimation among variables were performed using SEM.
- RESULTS** The mean MNIS acceptance score was  $12.88 \pm 2.25$ , reflecting moderate acceptance. Dimension scores indicated comparatively higher levels for perceived usefulness ( $12.68 \pm 2.53$ ), perceived ease of use ( $12.56 \pm 2.17$ ), and information quality ( $12.46 \pm 2.15$ ), whereas system quality scored lower ( $10.13 \pm 2.80$ ). SEM path analysis identified perceived usefulness ( $\beta = 0.411$ ,  $p < 0.01$ ) and perceived ease of use ( $\beta = 0.521$ ,  $p < 0.01$ ) as the strongest direct predictors of acceptance ( $R^2 = 62.8\%$ ). Additionally, system quality ( $\beta = 0.293$ ,  $p < 0.01$ ) and service quality ( $\beta = 0.183$ ,  $p < 0.01$ ) exerted indirect effects on acceptance through perceived usefulness. Information quality ( $\beta = 0.152$ ,  $p < 0.05$ ) influenced acceptance indirectly via perceived ease of use. The SEM model exhibited good fit (IFI = 0.947, CFI = 0.947, SRMR = 0.084) and explained 75.2% of the total variance.
- CONCLUSIONS** Nurses' acceptance of the MNIS demonstrates potential for improvement. To foster active adoption of the MNIS., nursing managers should prioritize enhancing the system's perceived usefulness and ease of use, while concurrently strengthening system stability and technical support.

**Zehui XUAN<sup>1</sup>, Yirou NIU<sup>1</sup>, Ruifu KANG<sup>1</sup>, Qian XIAO<sup>1</sup>, Shuai JIN<sup>1</sup>, Jie ZHAO<sup>2</sup>, Yanling WANG<sup>1</sup> & Hong CHANG<sup>2</sup>**

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- AIMS** To explore the heterogeneity of intrinsic capacity (IC) and matching psychological intentions of digital IC monitoring and to develop a set of customized personas that support personalized IC monitoring.
- METHODS** An explanatory sequential mixed-methods was adopted in this study, which was conducted in fourteen community committees, one nursing home, and one community health service center across six districts of Beijing, China. In the quantitative phase, 481 older adults aged  $\geq 60$  years in community settings participated. Subsequently, 25 participants were interviewed. A questionnaire survey was completed using convenience sampling, including demographic information, five domains of IC, and related outcomes. Latent profile analysis (LPA), descriptive statistics, and logistic regression analysis were performed using Mplus and SPSS. A subsample of participants ( $n=25$ ) from each profile was stratified purposively sampled for semi-structured interviews. A combined inductive and deductive content analysis was adopted to identify similar attributes and affirmed the personas gradually. A joint statistical and thematic visualization method was employed to integrate the customized personas.
- RESULTS** Three profiles of IC pattern emerged: 'Multi-subdomain decline-IC imbalance group', 'Multi-subdomain moderate-sensory deficit group' and 'Multi-subdomain robust-whole balance group'. The distribution of latent profiles was influenced by age, education, monthly per capita household income, self-rated health, and number of chronic diseases, while positively impacting older adults' functional ability. The following customized personas were captured regarding established themes: 'Affects my mood- Anxious evader', 'Capitalize on what comes- Accommodative adopter', and 'More autonomy- Active improver', mapping the distinct digital monitoring beliefs of IC.
- CONCLUSIONS** Identifying and respecting group heterogeneity among older adults with IC, health goals, digital skills, and social support are critical for adopting personalized strategies for digital monitoring of IC. Three customized personas provide an actionable framework for person-oriented ICOPE, enabling tailored digital health strategies aligned with distinct psychosocial intentions.

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- AIMS** Emerging evidence indicates that immersive virtual reality can be utilised therapeutically and has demonstrated efficacy in promoting the mental health of older adults. Nevertheless, there remains a paucity of qualitative research examining the specific experiences underpinning these benefits. Objective This study aimed to explore the perspectives of older adults who received the Immersive Virtual Reality Therapeutic Programme (IVRTP) intervention and undergraduate students in health sciences who delivered it, within the context of residential homes. The IVRTP incorporated therapeutic elements of tourism, natural scenes, and reminiscence.
- METHODS** A descriptive qualitative study was conducted as a part of a qualitative exploration for a randomised controlled trial evaluating the effects of IVRTP in promoting the mental health of older adults with disabilities living in residential homes. Data was collected through focus group interviews and analyzed using thematic analysis.
- RESULTS** Seven groups of older adults (n=28) and three groups of interventionists (n=9) participated in the study. Five themes emerged: IVRTP contributes to broadening horizons through embracing new technology, learning new things, and engaging in new activities. Participants noted that the IVRTP experience felt so real that it provided them with an immersive escape from their residential home environment and mobility issues. They expressed that the IVRTP evoked memories from the past and were amazed at the observed changes in tourist destinations over time. The interviews were filled with laughter and affirmations of positive emotions related to participation, although a few participants mentioned discomfort, such as eye soreness and dizziness, from wearing the head-mounted devices.
- CONCLUSIONS** Providing an IVRTP in residential homes, especially for older adults with mobility issues, is highly valued as an affordable, accessible, and reliable alternative for achieving psychosocial benefits.

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- AIMS** The influence of digital engagement on cognitive function is significant, yet effects direction remains inconsistent. Few studies examine how multifaceted characteristics of digital engagement collectively shape cognitive performance. This study aims to identify heterogeneous patterns of digital engagement and estimate their effects on cognitive function in middle-aged and older adults.
- METHODS** This study used data from the nationally representative database, China Health And Retirement Longitudinal Study. Cognitive function was assessed with executive function and episodic memory. Digital engagement was assessed with self-reported frequency, device diversity, and online activities. Latent class analysis was used to identify the digital engagement patterns. Through overlap weighting, multiple balanced comparison groups including digital engagement groups and non-digital engagement group were created. The effects of digital engagement on cognitive function were assessed over a two-year observation period using generalized autoregressive linear models.
- RESULTS** This study analyzed 8,337 participants (59.9±8.8 years; 45.3% female), comprising 1,682 with and 6,655 without digital engagement. Participants with digital engagement were divided into four engagement groups: communication and content-dominated (51%, Group 4), news consumption-dominated (24%, Group 3), multi-device and high-engagement (15%, Group 2), and communication-dominated (10%, Group 1). Compared to the non-digital engagement group, Groups 2 (B=0.65 [95%CI, 0.30 to 1.00]), 3 (B=0.48 [0.23 to 0.73]), and 4 (B=0.38 [0.20 to 0.55]) showed significant effects on the sum cognitive score and score of executive function, with Group 3 enhancing episodic memory (B=0.20 [0.05 to 0.36]).
- CONCLUSIONS** This large-scale study identified four digital engagement patterns among middle-aged and older adults, with three showing cognitive benefits within two years. The multi-device and high-engagement pattern had the strongest protective effects, despite representing only 15% of participants with digital engagement. Developing interventions to promote specific engagement patterns is essential for preserving cognitive function among middle-aged and older adults.

**Benling HU**

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- AIMS** This study aimed to develop and validate an AI-integrated MEWS-SBAR early warning system to improve timeliness and accuracy in detecting perioperative clinical deterioration among breast cancer surgical patients.
- METHODS** A multidisciplinary team comprising breast surgery clinicians and information technology specialists collaboratively developed and implemented the system. The system integrated with the Hospital Information System (HIS) and featured: AI-powered intelligent decisionmaking; automated capture of patient vital signs leading to real-time AI calculation of MEWS scores and dynamic generation of risk profiles; automatic triggering of an SBAR report generator (incorporating key electronic health record data) upon detection of MEWS scores  $\geq 4$ ; automated push of tiered alerts to clinician mobile terminals; and concurrent initiation of a nursing intervention tracking timer. The system underwent clinical validation involving 200 breast cancer surgery patients enrolled between January and December 2024. Key evaluation metrics included: alert response time, SBAR-based standardized handover compliance rate for patients with MEWS  $\geq 4$ , clinical deterioration reversal rate (defined as MEWS reduction to  $\leq 3$ ), ICU transfer rate, and clinician satisfaction with the system.
- RESULTS** System accuracy in identifying MEWS abnormalities ( $\geq 4$ ) was 98.2% (AI vs. manual verification). Alert response time significantly decreased to  $8.2 \pm 2.1$  minutes, compared to  $32.5 \pm 10.4$  minutes under traditional methods. SBAR handover compliance reached 100%. Clinician satisfaction with system-facilitated collaboration improved to 96.4%. The clinical deterioration reversal rate following alerts was 82.7%.
- CONCLUSIONS** This study successfully implemented a three-tiered AI-powered early warning system featuring real-time risk analysis, intelligent decision-tree triggering, and closed-loop intervention tracking. The system facilitates immediate intervention response to perioperative risks in breast cancer patients, significantly reduces information loss during clinical communication, and establishes a specialized predictive model for clinical deterioration. This approach offers a novel paradigm for intelligent perioperative management in oncology patients.

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- AIMS** To construct and evaluate the effectiveness and feasibility of a mobile health (mHealth)-based training program for activities of daily living (ADL) for older adults with mild dementia.
- METHODS** A mixed-methods design was employed. (1) **Program construction:** Qualitative research (n=20), literature analysis (n=17 reviewed), and Delphi expert consultation (authority coefficient=0.903) informed the development of a dual-platform ADL training mini-program. (2) **Empirical study:** A randomized controlled single-blind trial allocated 84 patients to either the intervention group (mHealth ADL training + routine care; 3 sessions/week, 30-60 min/session, for 12 weeks) or the control group (routine care only). The ADL was used as the primary outcome, and the MMSE, QoL-AD, AVLT, VFT, BNT, DST, STT were used as secondary outcomes to assess the program.
- RESULTS** (1) **Results of program construction:** The mini-program demonstrated excellent usability (mean System Usability Scale [SUS] score = 96.43). The patient side includes three modules: "self-learning module", "fun training" and "personal center". The medical side includes five modules: "game configuration", "consultation management", "points management", "clinician portal" and "user management", which can encourage participants to self-manage and provide remote support. (2) **Feasibility study results:** 81 participants completed the study (Intervention: n=40; Control: n=41). The intervention group showed: **1) high adherence** (67.5% completed  $\geq 80\%$  of sessions) and **high satisfaction** (98.8% satisfied); **2) significant efficacy:** post-intervention, the intervention group exhibited significantly greater improvements than the control group in ADL, Instrumental ADL (IADL), multiple cognitive domains and QoL-AD ( $P < 0.05$ ). Significant improvements from baseline were also observed within the intervention group ( $P < 0.05$ ), while the control group showed no significant changes ( $P > 0.05$ ); **3) No adverse events occurred.**
- CONCLUSIONS** The developed mHealth ADL training program is safe and feasible. It effectively enhances daily living abilities, cognitive function, and quality of life in older adults with mild dementia, demonstrating significant clinical utility.

**Tzu Tsun LUK<sup>1</sup>, Xiaoyun XIE<sup>2</sup>, Yee Tak Derek CHEUNG<sup>2</sup>, Annie YIP<sup>2</sup>,  
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<b>AIMS</b>	To assess the feasibility and treatment outcomes of a generative AI chatbot for delivering tobacco cessation counselling to youth.
<b>METHODS</b>	<p>This 2-arm, parallel pilot randomised controlled trial targeted youth aged 25 years or below who used any tobacco products (cigarettes, e-cigarettes and heated tobacco) in the past 30 days in Hong Kong. The intervention group received access to a web-based chatbot powered by GPT-4o to deliver smoking cessation counselling, while the control group received telephone-based counselling delivered by peer counsellors. Both groups involved 3 sessions of structured counselling using the 5As (ask, advise, assess, assist, arrange), 5Rs (relevance, risks, rewards, roadblocks, repetition) and motivational interviewing. The primary feasibility outcomes were recruitment rate and retention rate. The primary treatment outcome was biochemically validated tobacco abstinence at 6-month follow-up.</p> <p>Secondary treatment outcomes at 6 months included self-reported 7-day and 30-day point-prevalent abstinence and 24-hour quit attempt at 6-month follow-up. The trial was registered with ClinicalTrials.gov (ID NCT06470776).</p>
<b>RESULTS</b>	From July to November 2024, of 164 eligible youths identified, 154 (mean age=18.3 [SD=3.4] years; 114 [74%] males) were recruited and randomised to the intervention (N=77) or control (N=77) group, achieving a recruitment rate of 94%. The retention rate at the 6-month follow-up was 81% (n=125). The primary treatment outcome of biochemically validated abstinence was higher in the intervention than control group (23% vs 17%; RR=1.38; 95% CI 0.73-2.63). Similarly, self-reported 30-day (30% vs 18%, RR=1.64; 95% CI 0.91-2.95) and 7-day (40% vs 29%; RR=1.41; 95% CI 0.90-2.20) point prevalent abstinence were higher in the intervention group, as was 24-hour quit attempt (77% vs 70%; RR=1.09; 95% CI 0.90-1.32).
<b>CONCLUSIONS</b>	This pilot trial showed the feasibility of a generative AI chatbot for youth smoking cessation, with preliminary evidence of its effect on abstinence compared to peer counselling. A fully powered trial is warranted to test equivalence or superiority.

**Panjapa SOOKKOE<sup>1</sup>, Thepparit SINTHAMRONGRUK<sup>2</sup>, Weerachat WIWEGWIN<sup>3</sup>,  
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## **AIMS**

This study aimed to develop and implement the PANJAPA Model, an innovative integrated learning framework for earthquake preparedness, tailored for Thailand's disaster-prone areas. The model sought to strengthen nursing education in the digital era by embedding digital innovations and VR simulations into community-based disaster risk reduction (CBDRR) education, and to evaluate its impact on knowledge, self-efficacy, and preparedness behaviors across different age groups.

## **METHODS**

Using a research and development (R&D) mixed-methods design, the study was conducted in three phases: (1) needs assessment and curriculum design, (2) prototype development of learning modules and innovative tools, and (3) implementation and evaluation. The curriculum comprised 9 learning units ranging from earthquake risk awareness, survival skills, and first aid (physical and psychological), to evacuation planning, communication systems, and family/community preparedness plans. Innovative learning media included the "Survival Bag Board Game," Smart Safety triangular cloth, Inno Smart Safety Bag, and VR-based evacuation drills. VR simulations enabled learners to experience earthquake scenarios, practice evacuation, and receive real-time feedback on decision-making. The program engaged 1,500 participants from schools, universities, communities, and elderly groups. Evaluation combined pre-post tests, self-efficacy scales, key informant interviews, and behavioral observation.

## **RESULTS**

Findings showed significant improvements in earthquake knowledge, survival skills, and self-efficacy ( $p < 0.01$ ). VR-based simulations enhanced realism, engagement, and hazard recognition, while board games and hands-on tools fostered decision-making and collaborative learning. Participants developed 20 family, school, and community preparedness plans. High satisfaction was reported, with nursing students, teachers, and community leaders affirming the relevance and usability of the PANJAPA Model. The program successfully created a sustainable "culture of safety" through training, networking of youth leaders, and community volunteers.

## **CONCLUSIONS**

The PANJAPA Model demonstrates how digital and VR-based innovations can transform nursing education in disaster preparedness. By integrating disaster risk reduction with immersive learning tools, the model not only enhances nursing students' competencies but also empowers communities to be resilient, informed, and proactive. This approach highlights the vital role of nurses as educators, digital facilitators, and advocates in building sustainable disaster preparedness systems.

**Tingting CHEN<sup>1\*</sup>, Xiangmin LU<sup>2\*</sup>, Zhenyun WU<sup>3</sup>, Qian ZHAO<sup>3</sup>,  
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- AIMS** The study aimed to develop and evaluate the acceptability, effectiveness, and feasibility of VR adaptation platform for dyspnea fear in stable Chronic Obstructive Pulmonary Disease(COPD) patients.
- METHODS** This study was a one-group pretest-posttest design to evaluate the usability and effectiveness of VR adaptation platform. The platform incorporated four key functional modules: (1) a "Knowledge Classroom" set within a VR hospital environment, offering animated educational content and interactive skill practice; (2) a "Park Exposure" module designed to facilitate gradual exposure to fear-inducing stimuli through progressive task scenarios; (3) real-time monitoring capabilities utilizing voice and visual feedback to dynamically adjust exposure intensity and parameters; and (4) comprehensive safety monitoring, integrating infrared sensors for vital signs, external motion detectors for physical activity, and a voice-based symptom self-assessment system. Each intervention session was structured into three phases: preparation, self-efficacy enhancement, and behavioral change. The program was delivered over an eight-week period, with twice a week, each lasting approximately 30 to 40 minutes. Evaluation measures included questionnaires, pre- and post-intervention tests to assess the acceptability, effectiveness, and feasibility of the VR-based adaptation intervention.
- RESULTS** Data from 25 patients with COPD were analyzed. The results demonstrated high usability of the VR-based adaptation platform, as reflected by scores on the System Usability Scale ( $79.50 \pm 3.12$ ), Immersive Presence Questionnaire ( $21.60 \pm 2.10$ ), and Simulator Sickness Questionnaire ( $10.18 \pm 2.29$ ). No serious adverse events, such as palpitations or falls, were reported. Significant pre-to-post intervention improvements were observed in fear of dyspnea, catastrophic thinking, and activity avoidance.
- CONCLUSIONS** The platform was well accepted by patients, and it effectively reduced dyspnea-related fear. These findings support the feasibility of the VR-based approach and highlight its potential to facilitate psychological rehabilitation, indicating promising clinical applicability.

**Zhiwei LIU<sup>1</sup>, Zhenxiang ZHANG<sup>1\*</sup>, Yongxia MEI<sup>1</sup>,  
Yandan DUAN<sup>1</sup>, Song GE<sup>2</sup>, Shanshan WANG<sup>3</sup> & Suyan CHEN<sup>1\*</sup>**

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<b>AIMS</b>	This study aimed to explore the experience of couple illness communication and the influencing factors among stroke couples.
<b>METHODS</b>	Using purposive sampling, nineteen stroke couples were recruited and interviewed from the neurology department of a tertiary hospital in Henan, China, between August 2022 and March 2023. Guided by open-ended questions, semi-structured face-to-face interviews were conducted with stroke couples. A content analysis strategy was employed for both deductive and inductive data analysis.
<b>RESULTS</b>	Four themes were identified: (1) navigating challenges in illness communication include negative and positive illness information communication coexistence, as well as emotional communication challenges; (2) personal factors include language disorder, unfamiliarity with stroke, lack of communication awareness, lack of communication skills, and communication patterns before illness; (3) psychological factors include different communication styles arising from different personalities, communicating amidst stress, unsatisfactory relationship that hinder communication, and struggling to accept illness; (4) "for your own good" include protecting patients' psychological state, as well as preventing patients from deteriorating.
<b>CONCLUSIONS</b>	Enhancing communication awareness, skills, and stroke-related knowledge is vital for improving illness communication in stroke couples. Healthcare professionals should address communication barriers and facilitators to design targeted interventions.

**Maiyasa AL Saadi**

*Oman College of Health Sciences, South Batinah Oman*

<b>AIMS</b>	This study examines affiliate stigma, self-compassion, and parenting stress among Omani mothers of children with autism spectrum disorder (ASD), and explores the potential of an AI-enabled digital health intervention to enhance self-compassion and psychological resilience. The objective is to inform the development of a culturally tailored, AI-powered mobile application to support the emotional well-being of this underserved population.
<b>METHODS</b>	A cross-sectional survey involving 100 participants assessed affiliate stigma, parenting stress, and self-compassion using validated psychometric instruments. Correlational and regression analyses revealed that self-compassion is a significant protective factor mediating the effects of stigma on parental stress. Drawing from these findings, a conceptual framework was developed to guide the design of an intelligent mobile intervention integrating adaptive learning algorithms with culturally relevant content.
<b>RESULTS</b>	Self-compassion emerged as a key therapeutic mechanism. These insights informed the design of an AI-enabled mobile app embedding features such as personalized psychoeducation, interactive self-compassion exercises, and behavioral analytics. The application leverages machine learning to dynamically tailor content based on user responses and emotional states, ensuring individualized support and sustained engagement. Culturally responsive design principles inform all components, including region-specific narratives, language preferences, and social norms.
<b>CONCLUSIONS</b>	This research highlights the transformative potential of AI-powered digital health tools to address affiliate stigma and parenting stress among mothers of children with ASD in Oman. The proposed solution, supported by a feasibility study and a clear implementation plan, positions nurses at the forefront of digital health innovation. It offers a scalable, ethical model for nurse-led, culturally grounded interventions that empower families, enhance national mental health capacity, and establish a replicable framework for personalized, AI-enabled caregiver support in the region.

**James A HUGHES**

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Redcliffe Hospital, Queensland, Australia*

- AIMS** This program of studies aimed to develop a clinical text deep learning approach to identify patients presenting with pain to adult emergency departments (EDs). A secondary aim was to utilise this method to analyse pain prevalence, treatment patterns, and outcomes.
- METHODS** Initial work on pain classification from triage notes demonstrated that an Attention-based Recurrent Neural Network (AttRNN) with BERT or BlueBERT embeddings achieved promising results. The initial model was trained on 10,000 manually labelled ED presentations and then applied to 250,000 presentations to assess pain prevalence, treatment, and outcomes. Using deep transfer learning, the method was refined and applied to a different ED, analysing six years of data to identify pain care trends and risks of persistent opioid use after discharge.
- RESULTS** The domain-specific models utilising BlueBERT outperformed general language models, achieving an accuracy of 93.4%. Applied to ED data, it revealed a pain prevalence of 55.2% (95% CI 55.0%–55.4%) and significant shifts in pain management during the COVID-19 pandemic. Transfer learning maintained high accuracy (93.5%) with reduced computational needs. This approach enabled the adaptation of the approach to a new department, identifying a higher prevalence of pain on arrival (67.3%, 95% CI 66.3% - 68.2%), and allowing for predictive modelling of suboptimal pain care and persistent opioid use following ED visits.
- CONCLUSIONS** Domain-specific deep learning is an effective method for identifying pain in ED presentations. Its scalability and transferability allow for broad insights into pain care, with potential for real-time clinical applications. Future research should focus on integrating this approach into electronic health records to enhance pain management in practice.

**Xinyi GU<sup>1</sup> & Rong WANG<sup>1</sup>**

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- AIMS** To develop an intelligent closed-loop management system for monitor based on the Internet of Medical Things (IoMT) and evaluate its application effect.
- METHODS** A research team was established to design the system application process and construct modules for data acquisition, data identification, and equipment management, thus developing the intelligent closedloop management system for monitor. The system was implemented in a tertiary A hospital in Nanjing in June 2024. The application effect was evaluated by comparing the degree of monitor alarm fatigue, alarm response time, and the time required for engineers to update equipment quality inspection labels before (May 2023–May 2024) and after (June 2024–June 2025) the system application. Satisfaction with the system was also assessed.
- RESULTS** The alarm fatigue score decreased from (22.74±3.00) points before application to (14.36±5.17) points after application, and the corresponding alarm response time was shortened from 29.36 (24.07, 35.23) seconds to 20.21 (15.12, 24.41) seconds (both P<0.01). The time required for engineers to update equipment quality inspection labels in the background was reduced from 105.33 (87.54, 143.16) seconds per unit before application to 3.35 (2.82, 4.22) seconds per unit (P<0.01). The overall average satisfaction score for the system was (4.60±0.28) points, and the average scores of the five dimensions in descending order were as follows: service quality (4.68±0.55), information quality (4.62±0.49), net benefits (4.60±0.47), user satisfaction (4.56±0.60), and system quality (4.55±0.51).
- CONCLUSIONS** The application of the intelligent closed-loop management system for monitor can alleviate nurses' alarm fatigue from monitor, shorten alarm response time, and enhance patient safety. Meanwhile, it helps engineers uniformly update equipment quality inspection labels in the background, improving clinical work efficiency and avoiding omissions. Both nurses and managers have high satisfaction with the system.

**Yin WANG<sup>1,2</sup>, Zhen LIANG<sup>3</sup>, Dongxiao CHANG<sup>1,2</sup>, Jianqin GU<sup>3</sup>, Bo LI<sup>1,2\*</sup> & Dejian ZENG<sup>4\*</sup>**

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- AIMS** To explore the current status of dyadic mutuality between patients with chronic diseases and their primary caregivers under the "Internet+" chronic disease management, and to analyze the actor-partner interdependence mechanism of dyadic mutuality and its influencing factors, thereby improving dyadic health.
- METHODS** A sample of 53 dyads (106) of patients with diabetic and their caregivers was recruited from the "Internet+" chronic disease management system of hospital (July 2024-May 2025). General information, brief illness perception, benefit finding, coping styles and mutuality were assessed for patient-caregiver dyads. Statistical analysis was conducted using SPSS26.0(Pearson's correlation) and AMOS26.0(APIM).
- RESULTS** Effective questionnaires response rate was 94.3% (50/53 valid).The mean score for patient mutuality was(2.63±0.79), and 48% of the scores below average. The mean score for caregiver mutuality was(2.41±0.57), and 52% of the scores below average. Pearson's correlation analysis showed that the score for patient mutuality was positively correlated with scores for caregiver mutuality ( $r=0.746$ ,  $P<0.01$ ). The score for patient mutuality was positively correlated with scores for patient benefit finding ( $r=0.621$ ,  $P<0.01$ ) and positive coping ( $r=0.705$ ,  $P<0.01$ ), positively correlated with scores for caregiver benefit finding ( $r=0.449$ ,  $P<0.01$ ) and positive coping ( $r=0.509$ ,  $P<0.01$ ). The score for caregiver mutuality was positively correlated with scores for caregiver benefit finding ( $r=0.597$ ,  $P<0.01$ ) and positive coping ( $r=0.584$ ,  $P<0.01$ ), positively correlated with scores for patient benefit finding ( $r=0.499$ ,  $P<0.01$ ) and positive coping ( $r=0.608$ ,  $P<0.01$ ). APIM analysis revealed that positive coping had both actor effect ( $\beta=0.833$ ,  $P<0.001$ ) and a partner effect ( $\beta=0.531$ ,  $P<0.05$ ) on mutuality.
- CONCLUSIONS** In "Internet+" chronic disease management, patient-caregiver dyads show bidirectional mutuality linked to coping and benefit finding. Healthcare professionals should: develop online APIM-based and dyadic-centered nursing care model, target dyadic coping and benefit finding, and enhance mutuality to improve disease management and caregiver wellbeing.

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- AIMS** To evaluate the effect of high-flow nasal cannula oxygen (HFNO) therapy on body temperature in critically ill postoperative patients, assess and compare the accuracy and suitability of electronic infrared ear thermometer and rectal mercury thermometers during HFNO for these patients.
- METHODS** A time-sequential sampling method was used to enroll critically ill postoperative patients with hypoxemia receiving HFNO in the ICU at Huadong Hospital from May 1st, 2024, to November 1st, 2024. Ear temperatures (measured by infrared thermometer) and rectal (measured by mercury thermometer) temperatures were recorded at baseline (T0) as well as 0.5h (T1), 2h (T2), 6h (T3), 10h (T4), and 14h (T5) after HFNO, along with HFNC flow rates. One-way repeated measures ANOVA assessed changes in ear/rectal temperatures and HFNC flow rate over time, the Generalized estimating equations (GEE) evaluated their relationships, and the Intraclass correlation coefficient (ICC) tested temperature consistency at each time point. The study protocol was approved by the Ethics Committee of Huadong Hospital (2024K074) and registered on Chinese Clinical Trial Registry on April 18th, 2024 (ChiCTR2400083214, <https://www.chictr.org.cn/>).
- RESULTS** This study revealed that the baseline mean of ear and rectal temperatures were closely aligned, with the ICC indicating high consistency between these measures initially. There were significant differences in ear temperature and nonlinear changes in rectal temperature over time. A 0.02°C decrease in ear temperature follow per unit increase in HFNO flow rate, while there was no linear relationship between HFNO flow rate and rectal temperature. There was a 0.848°C increase in ear temperature per 1°C increase in rectal temperature. The consistency between ear and rectal temperatures decreased over time with HFNO flow rate.
- CONCLUSIONS** We recommend mercury thermometers or rectal temperature probes for measuring rectal temperature, as rectal temperature represents the core temperature of patients receiving HFNO therapy without catheterization or PICCO monitoring in the ICU.

Qi LI<sup>1</sup>, Yan ZHANG<sup>1</sup>, Xinqi WU<sup>1</sup>, Xin WEN<sup>1</sup>, Shiwei MA<sup>1</sup> & Xuemin ZHAO<sup>1</sup>

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- AIMS** To develop a family activation scale for rural disabled elderly and test its reliability and validity.
- METHODS** Based on the theory of active aging, the first draft of the scale was formed through literature analysis, group discussion, and expert correspondence. According to the level of economic development, 255 disabled elderly people from 8 administrative villages in 4 districts of Zhengzhou were selected as the survey objects by stratified cluster sampling, and the item analysis and reliability and validity of the scale were tested. The test-retest reliability of the scale was calculated after another survey of 30 disabled elderly people 2 weeks later.
- RESULTS** The scale consists of 6 dimensions and 26 items. Six common factors were extracted by exploratory factor analysis, and the cumulative variance contribution rate was 87.638%; The correlation coefficient between each dimension is 0.151~0.382, and the correlation coefficient between the score of each dimension and the total score of the questionnaire is 0.521~0.732. The content validity index at the item level was 0.850~1.000, and the content validity index at the scale level was 0.997. The confirmatory factor analysis showed that the scale model had a good fit. The Cronbach's $\alpha$  coefficient, test-retest reliability and split-half reliability of the total scale were 0.931, 0.963, and 0.736, respectively.
- CONCLUSIONS** The scale has good reliability and validity, and can be used to evaluate the rural disabled elderly family activation.

**Yiyi DU<sup>1</sup> & Yongxia MEI<sup>1</sup>**

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- AIMS** The aims of this study were to examine the associations among demoralization syndrome, self-regulatory fatigue and financial toxicity among survivors with stroke and to further test the impact of the dimensions of financial toxicity on demoralization syndrome and selfregulatory fatigue.
- METHODS** This was a cross-sectional study design. This study was conducted in 312 stroke survivors. The participants were assessed using the financial toxicity comprehensive score scale, the demoralization syndrome scale II and the self-regulatory fatigue scale, respectively. Data analysis included descriptive statistics and structural equation modelling.
- RESULTS** The total scores of financial toxicity, demoralization syndrome and selfregulatory fatigue were (18.58 ± 9.19), (12.45 ± 8.06) and (45.60 ± 7.82), respectively. Pearson's correlation analysis showed that the financial toxicity score was negatively correlated with both the demoralization syndrome and self-regulatory fatigue scores (r-values of -0.305, -0.440, respectively, P<0.01), and the demoralization syndrome score was positively correlated with the self-regulatory fatigue score (r-value of 0.555, P<0.01). The demoralization syndrome of stroke survivors not only has a direct effect on their self-regulatory fatigue, but also indirectly affects the self-regulatory fatigue of survivors through financial toxicity, that is, financial toxicity partially mediates the relationship between demoralization syndrome and self-regulatory fatigue. The Bootstrap method showed that financial toxicity partially mediated the relationship between demoralization syndrome and self-regulatory fatigue, with a total effect value of 0.331 for demoralization syndrome and self-regulatory fatigue, a direct effect value of 0.262, and an indirect effect value of 0.069, which accounted for 20.85% of the total effect.
- CONCLUSIONS** Financial toxicity mediates between demoralization syndrome and selfregulatory fatigue, and elevating financial burden is not only a social support issue but also an important target for psychological interventions. Nursing practice needs to focus on survivors' financial stress to mitigate its knock-on negative effects on psychological status and illness resilience.

**Jessica HOEHNE**

*MU Health Care, USA*

- AIMS** Family engagement contributes to safe, effective, and quality care in the ICU setting. Increasing health literacy knowledge through information sharing is considered crucial to its success. The aim of this quality improvement (QI) project was to utilize existing digital technology to increase patient and family access to health-related information and hospital specific details.
- METHODS** Pre-survey data responses from fifty-nine adult ICU nurses was used to determine topics nurses spent the most time discussing with families. The topics was sorted into 2 phases based on effort yield matrix outcomes. Phase 1 content utilized standard information that applied across the system and phase 2 will be specific unit-based information. Phase 1 content was loaded into the digital platform in January 2025. Nurses received education in SBAR format via tiered huddles and rounding in-services. A midpoint survey with responses from seventy-nine adult ICU nurses was analyzed to determine changes in frequency discussing certain topics with patients/families/visitors since launching the new content.
- RESULTS** Pre-survey and midpoint survey data was analyzed using a one-tailed t-test. A large statistically significant decrease was associated with the questions: [frequency discussing care provided ( $p=.001$ )] and [average time orienting a new patient/family/visitor to the ICU ( $p=.02$ )]. Content clicks were collected from the digital platform vendor. The most frequently accessed content was food and dining and visiting hour guidelines.
- CONCLUSIONS** In this time of the digital world, technology should be utilized to create a platform to connect with families. There is supporting evidence that providing health care information to families of patients in the ICU can lead to increased family engagement. The findings in this project support further development of content to promote health literacy and enhance engagement in the care setting.

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<b>AIMS</b>	The management of prostate cancer involves complex, preference-sensitive decisions, which active health information seeking by patients. The digital age, while providing unprecedented access to such information, presents significant challenges for them in navigating it effectively. However, Research on the heterogeneity of health information-seeking behavior among cancer patients remains scarce. This study aims to explore user profiles of prostate cancer patients' health information-seeking behaviors and to elucidate the characteristic differences among distinct demographic subgroups.
<b>METHODS</b>	A total of 309 prostate cancer patients were recruited from our hospital in Zhengzhou, China, between May and August 2025. The investigation utilized a general information questionnaire, the Health Information Seeking Behavior Scale, the Chinese version of the Family APGAR Index, and the Chinese short-form Health Empowerment Scale. Latent profile modeling was applied to classify health information-seeking behavior. Using R software, influencing factors were analyzed, and statistically significant attributes (P<0.05) were extracted as labels to construct profiles integrating both textual and graphical elements.
<b>RESULTS</b>	Three distinct user profiles of health information-seeking behavior were constructed from 309 prostate cancer patients: Barrier-Free group (n=161, 52.1%), Proactive group (n=96, 31.1%), and Passive-Accepting group (n=52, 16.8%).
<b>CONCLUSIONS</b>	Significant group differences exist in health information-seeking behavior among prostate cancer patients. Tailored health information service strategies should be developed based on user profile analysis to improve their self-health management capabilities.

Aris Kendell R. BUNGABONG

*Nursing Department, St. Anthony's College, Philippines*

<b>AIMS</b>	To determine the relationships between mentoring relationships, career satisfaction, and intent to stay among nursing faculty in Western Visayas, Philippines. The study also aimed to identify challenges and sources of satisfaction to inform the development of a faculty support program.
<b>METHODS</b>	A descriptive-correlational design was used. A sample of 216 nursing faculty members from 12 nursing schools was surveyed using validated instruments measuring mentoring roles, career satisfaction, and intent to stay. Statistical analyses included descriptive statistics, t-tests, ANOVA, Pearson's correlation, and stepwise multiple regression. Content analysis was used for open-ended questions.
<b>RESULTS</b>	Faculty reported very good career development mentoring and good psychosocial mentoring. Career satisfaction was good and intent to stay was high. Significant positive correlations were found between all three variables. Regression analysis identified age, career satisfaction, psychosocial role mentoring, and years of service as significant positive predictors of intent to stay. Key challenges included work-life balance and student-related issues, while satisfaction stemmed from student success and teaching fulfillment.
<b>CONCLUSIONS</b>	Strong mentoring relationships and high career satisfaction are significantly correlated with nursing faculty's intent to stay. The findings underscore the need for targeted support programs. Based on these results, the ARIS (Advancing Retention, Innovation, and Satisfaction) faculty support program was developed to enhance mentorship, improve satisfaction, and promote retention in nursing education.

**Karen Siu-Lan CHEUNG<sup>1,2,3</sup> & Angela Yee Man LEUNG<sup>1,2,4</sup>**

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- AIMS** This study aims to identify and understand the facilitators and barriers encountered by healthcare staff and older adults with hypertension, hyperlipidemia, and hyperglycaemia, as well as psychosomatic syndrome, in implementing home-based self-monitoring digital health systems (HBSMDHS) in Hong Kong. The focus will be on challenges that arise during and after intervention sessions through process evaluation.
- METHODS** Semi-structured focus groups were conducted with 100 participants from five District Elderly Community Centres. The group comprised 90 older adults, alongside 6 case workers, one project coordinator, one senior physiotherapist, one registered dietitian, and one head of social services. An open-ended interview guide, developed aligning with Medical Research Council (MRC) guidelines and the Consolidated Framework for Implementation Research (CFIR), was utilized to identify challenges in implementing HBSMDHS and to evaluate complex interventions. The analysis focused on barriers and facilitators at micro, meso, and macro levels.
- RESULTS** Several barriers to implementing HBSMDHS were identified at different levels: (1) Micro-Level Factors, including low digital literacy, distrust of technology, lack of technical skills, language barriers, busy schedules, and strong family obligations among older individuals; (2) Meso-Level Factors, encompassing Wi-Fi and device connectivity and operational issues; and (3) Macro-Level Factors, including limited funding for hardware enhancements and concerns about device provider reliability. Facilitators were grouped into five domains across three levels: demographic and socioeconomic factors, health conditions, convenience, technology support and social networking. Despite these challenges, participants recognized potential benefits, such as improved technological interoperability for sharing health and nutritional data which could enhance care coordination, and promote healthier lifestyle engagement. A tailored, comprehensive HBSMDHS designed to address multifaceted needs was considered valuable.
- CONCLUSIONS** The effective deployment of health technology is vital for bridging healthcare divides, empowering individuals in self-management and promoting health and independent living. This study provides practical insights for technology developers and stakeholders to foster healthcare technology adoption.

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<b>AIMS</b>	To examine emerging laws and regulation of artificial intelligence (AI) across Asia and discuss their implications for nursing practice.
<b>METHODS</b>	A cross-country comparative policy analysis approach was employed. Governmental databases across countries in the Asian region were examined with keywords to identify laws or regulations regarding artificial intelligence.
<b>RESULTS</b>	Key AI regulatory developments and laws in Mainland China, Hong Kong, Singapore, Japan, South Korea, and Taiwan demonstrate a clear regulatory spectrum. Mainland China adopts a prescriptive 'hard law' approach, characterized by specific legal mandates, substantial penalties for noncompliance, and strong enforcement mechanisms. This provides high regulatory certainty but risks inflexibility as AI technology advances. Nurses working in this regime operate with clearer legal boundaries but less autonomy. Priority is strict compliance, with significant legal risk for deviations. Documentation proving compliance is paramount. In contrast, jurisdictions like Singapore, Japan, South Korea, and Taiwan predominantly utilize 'soft law' frameworks. These involve voluntary standards, industry codes of conduct, and stakeholder collaboration, fostering innovation and reducing compliance costs. However, this approach faces challenges in effectively mitigating significant risks and guaranteeing consistent application across diverse entities. Nurses in this context enjoy greater flexibility but bear a heavier burden of professional judgment, ethical discernment, and understanding evolving best practices. Liability is less clear-cut and more dependent on applying the nursing standard of care to AI use. Proactive engagement in institutional policy development is essential.
<b>CONCLUSIONS</b>	While some jurisdictions require strict compliance to regulations and legislation, others require nurse to have heightened awareness of data implications when using AI and must ensure patients are adequately informed about how their data is used within AI systems. Despite the divergence, nurses across all jurisdictions require new significant competencies in AI literacy, critical evaluation, and ethical application of AI.

**Xue BAI<sup>1</sup>, Mengyu LIU<sup>1</sup> & Youjuan ZHANG<sup>1</sup>**

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<b>AIMS</b>	This study aims to investigate older adults' perception of the age-friendliness and silver market in Hong Kong. Specifically, we want to examine how age-friendliness in business and societal structures will empower older adults to make consumption choices that enhance their independence, well-being and quality of life.
<b>METHODS</b>	We use the second wave data from the Panel Study on Active Ageing and Society (PAAS), which is the first city-wide representative longitudinal survey on active ageing and society in Hong Kong. The sample size for analysis is 3,000. To identify the causal effect of age-friendliness, we design a factorial survey experiment and randomly assign respondents to 16 self-developed vignettes. Multilevel models are employed to analyse the data.
<b>RESULTS</b>	Four domains of age-friendliness, including physical environment, staff and personnel, marketing and information, and products and services, show their effects on ageing customers' consumption intentions. Businesses perceived as age-friendly are more likely to motivate older adults to engage in consumption that aligns with healthy ageing goals.
<b>CONCLUSIONS</b>	Age-friendliness is critical for promoting healthy ageing by shaping consumption behaviours that prioritize older adults' physical, psychological and social well-being. The evidence contributes to identifying the essential factors of age-friendly practices that affect older adults' consumption intentions, advancing understanding of older adults' needs and expectations of age-friendliness and silver market. By identifying actionable strategies for businesses and policymakers to design inclusive markets that empower older adults to thrive, this study contributes to the evidence of building a health-supportive, age-friendly city.

**Zhenxiang ZHANG<sup>1\*</sup>, Zhiwei LIU<sup>1</sup>, Dandan XIANG<sup>1,2</sup>, Song GE<sup>3</sup>,  
Beilei LIN<sup>1</sup>, Suyan CHEN<sup>1</sup>, Xin LI<sup>4</sup>, Yongxia MEI<sup>1\*</sup>**

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- AIMS** To explore the relationship between disability and quality of life (QoL) among young to middle-aged stroke couples, with benefit finding and mutuality as mediators, a longitudinal actor-partner interdependence mediation model was employed.
- METHODS** The data for this study were derived from a longitudinal study conducted in China from October 2021 to July 2022. The data collection occurred at four time points: 1-2 days before discharge, and 1, 3, and 6 months postdischarge. A total of 203 young to middle-aged stroke couples were recruited. The severity of disability in stroke survivors, along with benefit finding, mutuality, and QoL in stroke couples, were measured. A longitudinal actor-partner interdependence mediation model was used to analyze the relationships between disability, benefit finding, mutuality, and QoL in stroke couples.
- RESULTS** Benefit finding one month post-discharge mediated the relationships between survivors' disability before discharge and their physical and mental QoL at six months post-discharge, as well as the spouse's mental QoL. Additionally, stroke survivors' benefit finding one month post-discharge and the mutuality of stroke couples at three months post-discharge mediated the relationship between survivors' disability before discharge and the spouse's physical QoL in a chain manner. Survivors' benefit finding one month post-discharge and spouses' mutuality at three months postdischarge mediated the relationship between survivors' disability before discharge and the survivors' physical QoL in a chain manner.
- CONCLUSIONS** Stroke survivors' benefit finding and the mutuality of stroke couples can mitigate the impact of survivors' disability on both the physical and mental QoL of the couple. Therefore, interventions targeting benefit finding and mutuality should be considered, treating stroke survivors and their spouses as a unified whole in the intervention process.

**Linjia XIA<sup>1</sup> & Zhenxiang ZHANG<sup>1</sup>**

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- AIMS** To identify latent profiles of dyadic SOC among stroke patients and their caregivers, and to examine the influencing factors associated with different profiles.
- METHODS** A convenience sample of 296 dyads of stroke patients and their primary caregivers was recruited from four tertiary hospital in Zhengzhou between September 2023 and April 2024. Data were collected using a general information questionnaire, the sense of coherence scale, the social support rating scale, the Herth Hope Index, and the ADL scale. Latent profile analysis was employed to explore dyadic SOC patterns, and multinomial logistic regression was used to identify predictors of profile membership.
- RESULTS** Four distinct dyadic SOC profiles were identified: mutually moderate sense of coherence, caregiver-dominant sense of coherence, patient-dominant sense of coherence, and mutually high sense of coherence. Patient age, caregiver age, patient religious affiliation, number of children, social support of both patients and caregivers, and caregiver' level of illness understanding were predictors of the dyadic SOC profiles.
- CONCLUSIONS** There are 4 potential categories of SOC among stroke patients and their caregivers, , with each categories having slightly different influencing factors.

Gusgus Ghraha RAMDHANIE<sup>1,2</sup>, Dessie WANDA<sup>1</sup>, Nur AGUSTINI<sup>1</sup> & Tomy ABUZAIRI<sup>3</sup>

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<b>AIMS</b>	To identify the technology-based models and efficacy of digital-based pain facial expression assessment instruments in children with a systematic review approach.
<b>METHODS</b>	This systematic review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The article search used five databases: PubMed, EBSCOhost, ScienceDirect, Scopus, and Google Scholar. The study questions used the PCC (Population=children with pain, Concept=assessment of facial expression, and Context=technological efficacy) research framework guidelines. The inclusion criteria: articles published from 2015 to 2024, full-text and free-text articles, and studies that focused on assessing facial expressions of pain in children. Studies were excluded if the article was not in English, and the research design was a literature review type. Study quality was assessed using the Critical Appraisal Checklist Tools from the Joanna Briggs Institute (JBI).
<b>RESULTS</b>	We found 18 studies that described the technology model for assessing facial expressions of pain using computers and mobile applications through video and image recordings. Overall, this suggests that the model used to assess facial expressions of pain is more effective than conventional or paper-based pain assessments. The developed technology model has many advantages, including good performance, high accuracy, an excellent program, validity, reliability, high sensitivity, specificity, and more sensitive.
<b>CONCLUSIONS</b>	The findings of this study demonstrate that technology-based models for facial expression pain assessment provide a more objective, accurate, and efficient alternative to conventional methods. Future research should focus on refining these models to improve accuracy across diverse pediatric populations.

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<b>AIMS</b>	This systematic review aimed to evaluate existing prediction models for late dysfunction of autogenous arteriovenous fistula (AVF) in maintenance hemodialysis (MHD) patients, assessing their methodological quality, clinical applicability, and predictive performance.
<b>METHODS</b>	A comprehensive literature search was conducted across multiple databases (PubMed, Web of Science, CNKI, etc.) from inception to May 2025. Studies were screened using the CHARMS checklist, and bias risk was evaluated with PROBAST.
<b>RESULTS</b>	Fifteen studies (27 models) were included, with diabetes (n=7), age (n=6), and albumin (n=5) emerging as the most frequent predictors. While models demonstrated acceptable discrimination (AUC: 0.64–0.949) and calibration, methodological limitations were prominent: 11 studies had retrospective designs, 6 featured small samples (EPV <20), and only 3 incorporated external validation. High bias risk was attributed to incomplete data handling and insufficient validation.
<b>CONCLUSIONS</b>	The findings underscore the clinical relevance of current models but highlight critical gaps in robustness and generalizability. Future research should prioritize prospective, multicenter designs with rigorous validation to optimize predictive accuracy and facilitate clinical implementation. This would enhance early identification of high-risk patients and improve AVF management in MHD populations.

**Pui Ying MAK<sup>1</sup>, Justina Yat Wa LIU<sup>1,2</sup>, Hui-Lin CHENG<sup>1</sup> & Stefanos TYROVOLAS<sup>1,3</sup>**

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<sup>3</sup>*George Mason University, US*

- AIMS** This study aims to co-design a culturally appropriate, family-involved dietary intervention to enhance adherence to a hypocaloric, high-protein diet among community-dwelling older adults with sarcopenic obesity in Hong Kong. It seeks to incorporate behavioural science and family dynamics to improve feasibility and support sustainable dietary change.
- METHODS** Guided by the Experience-Based Co-Design (EBCD) approach, this protocol describes a four-stage process. Following a Delphi study with experts in gerontology and nutrition to refine initial intervention components, the codesign stage will involve 12 older adults and 12 family members (3 participants and 3 family members per group; 4 groups in total), with the final sample size determined by data saturation. Participants will be recruited from local community centres. Inclusion criteria include having  $\geq 4$  shared meals weekly, Chinese literacy, and consent to participate. Co-design participants will attend a workshop introducing the intervention content, followed by separate focus group interviews with older adults and family members. Discussion topics include perceived roles of family in supporting healthy eating, impressions of the proposed program, relevance of content, and delivery preferences. If data saturation is not achieved, additional participants will be recruited. All interviews will be transcribed and analysed using qualitative content analysis. Refinement decisions will be made collaboratively by the research team based on stakeholder and expert feedback.
- RESULTS** The co-design process is expected to generate user-centred insights that inform the refinement of intervention content, format, and delivery strategies. Specific attention will be paid to cultural practices such as communal dining and intergenerational food preparation, which may affect feasibility and acceptance of dietary changes in this population.
- CONCLUSIONS** Engaging older adults and family members in co-design offers critical insights to improve the relevance, feasibility, and acceptability of nutritional interventions for sarcopenic obesity. This participatory protocol supports the development of tailored interventions that are responsive to cultural context and may be scaled to support broader geriatric care practices.

**Nunung NURHAYATI<sup>1,2</sup>, Agung WALUYO<sup>3</sup>, I Made KARIASA<sup>4</sup>,  
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<b>AIMS</b>	This study aimed to design, construct, and evaluate the content validity of a newly developed instrument to assess sleep quality among post-operative ICU patients.
<b>METHODS</b>	This methodological study involved four experts in critical care, sleep medicine, and nursing. Each item of the instrument was rated on a four-point relevance scale. Content validity was assessed using the Content Validity Index (CVI) and Universal Agreement (UA). The preliminary draft consisted of 28 items categorized into four domains: sleep architecture, influencing factors, subjective perceptions, and physiological indicators. Qualitative feedback from the experts was incorporated to enhance the instrument's clarity, precision, and practicality.
<b>RESULTS</b>	Of the 28 proposed items, 20 (87.1%) were validated, with CVI values ranging from 0.80 to 1.00. The mean CVI score was 0.87, indicating strong validity, while the UA index reached 0.82, reflecting high agreement among experts. Items related to sleep latency, total sleep duration, depth, and efficiency achieved the highest ratings. Conversely, items concerning "returning to sleep after nocturnal awakenings" and "daytime sleep disturbances" scored the lowest CVI values (0.80). Experts further suggested integrating both patient-reported outcomes and objective measures (portable polysomnography) to improve accuracy.
<b>CONCLUSIONS</b>	The developed instrument demonstrated strong content validity and provides a structured, context-sensitive approach for assessing sleep quality in postsurgical ICU patients. It holds potential as a valuable tool for clinical practice and future research to support improved patient recovery outcomes.

**Ketsaraphon SENNOK<sup>1</sup> & Rapin POLSOOK<sup>1</sup>**

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<b>AIMS</b>	A quasi-experimental, pre- and post-test study aimed to determine the effect of a self-efficacy enhancement program through the LINE application on the prevention of acute exacerbation among persons with chronic obstructive pulmonary disease (COPD).
<b>METHODS</b>	The sample was 44 COPD patients recruited from outpatients at the General Medicine Outpatient Clinic, Maharat Nakhon Ratchasima Hospital. The control group (n=22) and experimental group (n=22) were matched by gender, age, and COPD stage (disease severity). The experimental group attended the eight-week self- efficacy program, while the control group received conventional care. The research instruments used were socio-demographic information, the MMSE– T (2002) and an acute exacerbation prevention behavior assessment form, and self-efficacy perception assessment for acute exacerbation prevention in COPD. All instruments were tested, and the content validity tested by five experts was 0.87, The Cronbach's alpha coefficient was at 0.80. Data were analyzed using descriptive statistics, paired t-test and independent t-test.
<b>RESULTS</b>	The result revealed that: (1) The mean score of acute exacerbation prevention behaviors attending the program was significantly higher than before attending the program, with statistical significance at the .05 level ( $t = 3.67$ , $df = 44$ , $p < 0.001$ ) and (2) The mean score of acute exacerbation prevention behaviors in the experimental group who attended the program was significantly higher than the control group at the .05 level ( $t = -11.09$ , $df = 42$ , $p < .001$ ).
<b>CONCLUSIONS</b>	The self-efficacy enhancement program used in the experimental group was effective in significantly improving the prevention behaviors of acute exacerbation in patients with COPD. The program can be appropriately applied in clinical settings for COPD patients.

**Wenbo LI<sup>1</sup> & Qiuji LI<sup>1</sup>**

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<b>AIMS</b>	To develop and validate a web-based nomogram predicting post-stroke home-exercise adherence using Latent profile analysis (LPA) for pattern profiling and LASSO–logistic regression for predictor selection and model building.
<b>METHODS</b>	A cross-sectional study was conducted among 536 ischemic stroke patients with limb dysfunction. LPA was applied to classify adherence patterns based on the Exercise Adherence Questionnaire. Predictors were selected using LASSO regression, followed by multivariable logistic regression to construct a prediction model. Model performance was assessed through discrimination, calibration, and decision curve analysis. A web-based dynamic nomogram was developed for clinical application.
<b>RESULTS</b>	LPA identified three distinct adherence subgroups: low (18.1%), moderate (42.2%), and high (39.7%). Five independent predictors—marital status, monthly income, primary caregiver, knowledge level, and exercise motivation—were retained in the final model. The model demonstrated strong discrimination (AUC = 0.862 in the training set; 0.848 in the validation set) and good calibration (Hosmer–Lemeshow test, $p > 0.05$ ). Decision curve analysis confirmed consistent net clinical benefit across a wide range of thresholds.
<b>CONCLUSIONS</b>	By integrating LPA with LASSO–logistic regression, this study developed a reliable web-based prediction tool for identifying stroke patients at high risk of poor exercise adherence. The tool enables risk stratification and supports individualized interventions, offering practical value for improving rehabilitation outcomes and quality of life in stroke survivors.

**Rong ZHU<sup>1</sup> & Juan LI<sup>2</sup> & Xingyu PAN<sup>3</sup> & Miao LUO<sup>1</sup> & Yize ZHUANG<sup>1</sup>**

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<b>AIMS</b>	To explore the development and clinical implementation of a perioperative rehabilitation management protocol for preschool children with Hirschsprung's disease by integrating metaverse medicine technology into the ACTED rehabilitation nursing model.
<b>METHODS</b>	An evidence-based perioperative rehabilitation management protocol was established through the following approaches: Optimizing preoperative colonic hydrotherapy procedures using the PDCA cycle; Enhancing diagnostic and treatment experiences with virtual reality (VR) technology; Developing an AI agent-based remote education platform for caregiver empowerment; Implementing generative artificial intelligence for family education. A quasi-experimental non-concurrent controlled study was designed: Control group: Children admitted from March 2023 to March 2024 received conventional perioperative care. Observation group: Children admitted from April 2024 to October 2024 received the integrated rehabilitation protocol. Outcome measures included perioperative indicators, postoperative bowel function recovery, nutritional status, patient compliance, defecatory function, complication rates, postoperative hospital stays, and caregiver competency.
<b>RESULTS</b>	Compared to the control group, the observation group demonstrated: Significantly shorter preoperative colonic hydrotherapy duration ( $P < 0.05$ ), though hydrotherapy days showed no statistical difference ( $P > 0.05$ ); Accelerated postoperative bowel function recovery ( $P < 0.05$ ); Reduced postoperative hospital stays ( $P < 0.05$ ); Lower complication rates ( $P < 0.05$ ); Improved defecatory function ( $P < 0.05$ ); Enhanced treatment compliance ( $P < 0.05$ ); Better nutritional scores and quality of life ( $P < 0.05$ ); Elevated caregiver competency ( $P < 0.05$ ).
<b>CONCLUSIONS</b>	The ACTED model empowered by metaverse medicine optimizes perioperative outcomes, reduces complications, shortens hospitalization, improves clinical prognosis, enhances treatment compliance and caregiver capabilities, and accelerates rehabilitation efficacy in preschool children with Hirschsprung's disease.

**Jiaming XIONG<sup>1</sup>, Shanshan WANG<sup>1\*</sup>, Cypher H. AU YEUNG<sup>1</sup>, Choi Suet YI<sup>1</sup> & Justina Yat Wah LIU<sup>1</sup>**

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<b>AIMS</b>	To explore the expectation, preferences, acceptance, and implementation barriers regarding AI socially assistive robots for promoting physical activity among dementia caregiving dyads in Hong Kong.
<b>METHODS</b>	Twenty dyads of community-dwelling people with dementia and their informal caregivers were recruited from November 2024 to January 2025. Semi-structured interviews were conducted following a demonstration of a humanoid socially assistive robot capable of AI-driven voice interaction and simple physical movements, and the participants were invited to share their perceptions on using robots to promote their physical activity. All interviews were transcribed verbatim and analyzed using content analysis.
<b>RESULTS</b>	Four themes emerged with 10 sub-themes: (1) Functional requirements of the robot to support physical activities: Motion detection and safety monitoring; Space-adaptive robot size and environmental compatibility; Battery durability and damage-resistant design; (2) Expectation and preference for human-robot interaction design: Older-friendly interaction system; Attractive appearance and feedback; User preference for human-led vs. robot-led sessions; (3) Pathways on promoting physical activity: Low-difficulty motion adaptation; Robot encouragement role; (4) Psychosocial acceptance and barriers: Criticism-free communication reduces patients' social stress; Technology acceptance burdens.
<b>CONCLUSIONS</b>	This exploratory study provides preliminary evidence that socially assistive robots have the potential to be used to promote physical activity among people with dementia and their informal caregivers. The dyads expressed their preference for robots with adorable appearances and an expectation of an older-friendly interaction style. Criticism-free communication emerged as a valuable finding that may reduce anxiety about social judgment during exercise. This could contribute to improved physical activity engagement in this population. These findings will help in developing high-quality, tailored robot-assisted physical activity programs for dementia caregiver dyads.

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<b>AIMS</b>	This study aimed to systematically identify demands of minimally invasive cardiac intervention (MICI) patients to guide the development of AI-driven solutions that reduce readmission rates and improve clinical outcomes.
<b>METHODS</b>	A convergent parallel mixed-methods design was employed to systematically identify patient demands and inform the development of AI-driven interventions in transitional care. Quantitative and qualitative data were collected from 137 MICI patients recruited from four hospitals (June– August 2024).
<b>RESULTS</b>	Quantitatively, a 23-item survey was analyzed using the Kano model, revealing no “must-be” demands—indicating that patients were accustomed to a lack of guidance post-discharge. However, health monitoring, medication guidance, symptom management, and personalized exercise plans were identified as “one-dimensional” demands that significantly impact patient satisfaction. Additionally, continuous exercise monitoring and dietary planning emerged as “attractive” features that could enhance care quality without negatively affecting satisfaction if absent. Qualitative interviews uncovered the importance of comorbidity management, psychological support and financial transparency, which were not fully captured in the survey data. The integration of these findings underscores the need for AI-driven personalized health monitoring systems and knowledge-based AI tools to revolutionize the transitional care process for MICI patients.
<b>CONCLUSIONS</b>	This integrated analysis highlights the significant care demands of MICI patients during the transition from hospital to home. Key recommendations include: (1) deploying AI-driven health monitoring, medication guidance, and symptom management systems, (2) designing personalized exercise and dietary tools, and (3) creating accessible, knowledge-based platforms for reliable medical information. In addition, comorbidity management, psychological support and financial transparency are areas that call for our attention. By aligning with these patient-centered demands and leveraging AI’s capabilities, future transitional care interventions—particularly in China have the potential to address healthcare staffing constraints and improve patient outcomes. However, due to the limitations of our study, these insights require further validation and exploration.

Yinan SHI<sup>1</sup> & Yongxia MEI<sup>1</sup>

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<b>AIMS</b>	The aim of this study is to explore the effectiveness of dyadic mutual aid interventions in improving spousal intimacy and supporting the emotional and functional recovery of stroke patients and their caregivers.
<b>METHODS</b>	This study used an experimental design to compare the effectiveness of mutual support intervention and routine care in improving spousal intimacy, family functioning, and reducing depression in stroke patients and their caregivers. Data were analyzed using SPSS software with descriptive statistics, t-tests, and repeated measures analysis.
<b>RESULTS</b>	The intervention group showed significantly higher scores in intimacy, family functioning, and lower depression levels compared to the control group at post-intervention, 1 month, and 3 months follow-up (P<0.001). These improvements were observed in both stroke patients and their spousal caregivers, with significant interaction effects between time and intervention across all outcomes.
<b>CONCLUSIONS</b>	This study demonstrates that the binary mutual aid intervention model can effectively improve the mental health of couples with stroke patients, offering a valuable reference for healthcare professionals in providing health guidance to such couples.

**Shuangqi YAN<sup>1</sup> & Dongling LIU<sup>2</sup>**

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- AIMS** This scoping review systematically examines literature on machine learning applications in adolescent suicide prevention, providing insights for model development and clinical implementation.
- METHODS** Guided by the scoping review methodology, we systematically searched Web of Science, PubMed, Scopus, Cochrane Library, Embase, CINAHL, CNKI, VIP, Wanfang, and CBM-SinoMed databases. The search period spanned from database inception to July 20, 2025. Retrieved literature underwent screening, collation, data extraction, and analysis.
- RESULTS** A total of 15 studies were included. The analysis revealed that supervised machine learning algorithms—primarily logistic regression, random forests, and support vector machines—dominated the machine learning models applied in adolescent suicide prevention. Data sources and collection methods were diverse, with models deployed across varied scenarios. Key functionalities included predicting suicidal ideation and behaviors, developing suicide prevention tools, and analyzing electronic health records (EHRs) for suicide risk assessment.
- CONCLUSIONS** Machine learning models demonstrate considerable applicability and broad utility in adolescent suicide prevention. Future research should prioritize enhancing data quality, optimizing model development workflows, and improving model performance and interpretability.

**Zihao RUAN<sup>1</sup>, Dan WANG<sup>1</sup>, Yongxia MEI<sup>1</sup>, Hui WANG<sup>2</sup>, Suyan CHEN<sup>1</sup>,  
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- AIMS** To evaluate the effectiveness of the stepped self-care programme on the self-care, self-efficacy, and quality of life of stroke survivors.
- METHODS** In this quasi-experimental study, 110 stroke survivors from two neurology wards were allocated into an intervention group ( $n=55$ ) receiving the stepped self-care programme and a control group ( $n=55$ ) receiving usual care. The Self-Care of Stroke Inventory, Stroke Self-Efficacy Scale, and Stroke Specific Quality of Life Scale (SS-QoL-12) were administered at baseline, immediately post-intervention, and at 1- and 3-month follow-ups. Data were analyzed using descriptive statistics, independent samples *t*-tests, *Mann-Whitney U* tests, chi-square test, *Fisher* exact tests, repeated measures ANOVA, and generalized estimating equations.
- RESULTS** 48 in the intervention group and 50 in the control group completed the study. The intervention group demonstrated significantly higher scores in self-care maintenance, self-care monitoring, and self-care management at all post-intervention time points (immediately [T<sub>0</sub>], 1 month [T<sub>2</sub>], and 3 months [T<sub>3</sub>] post-intervention) compared to the control group, with statistically significant differences ( $P < 0.05$ ). Additionally, significant improvements were observed in self-efficacy and quality of life at T<sub>1</sub>, T<sub>2</sub> and T<sub>3</sub> ( $P < 0.05$ ).
- CONCLUSIONS** The stepped self-care programme significantly improved self-care behaviors, self-efficacy, and quality of life among stroke survivors. These findings support its broader implementation in post-stroke rehabilitation settings.

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<b>AIMS</b>	Mobile apps for patient-reported outcomes are increasingly used in cancer care, but their adoption among advanced cancer patients is limited due to declining physical health. This study explored the needs and preferences of patients, family carers, and healthcare providers (HCPs) to guide the development of an electronic quality of life tool based on the Integrated Palliative Care Outcome Scale (IPOS).
<b>METHODS</b>	We conducted qualitative descriptive research with purposive sampling of advanced cancer patients, family carers, and HCPs from 12 public hospitals in Hong Kong. Data were collected through individual semi-structured interviews, mainly via Zoom, and analyzed thematically.
<b>RESULTS</b>	Thirty-four participants (18 HCPs, 11 patients, 5 carers) identified essential app features: secure login, IPOS questionnaire, report generation, HCP contact, reminders, and settings. Participants also emphasized large fonts, multilingual options, simple layouts, and voice input. Some preferred a warm, healing interface design with the inclusion of psychosocial support. Regular reminders and assessment intervals tailored to care levels were requested from many participants. HCPs highlighted the importance of data privacy and security and appreciated features for urgent intervention and self-management advice based on severity thresholds.
<b>CONCLUSIONS</b>	Diverse stakeholder perspectives underscore the need for user-friendly, secure, and supportive electronic patient-reported outcome tools to enhance quality of life assessment and clinical care in advanced cancer.

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<b>AIMS</b>	To explore the application effect of the Robocare nursing model in the entire nursing process of Da Vinci robot-assisted radical mastectomy with nipple-areola sparing and breast prosthesis reconstruction.
<b>METHODS</b>	A total of 116 breast cancer patients who underwent Da Vinci robot-assisted surgery at our hospital from December 2022 to December 2024 were selected. All patients were divided into the control group (n=58 cases) and the observation group (n=58). The control group received the conventional nursing mode, while the observation group received the Robocare nursing mode. The differences in psychological state (CDRISC, SIS scores), self-efficacy (SUPPH scores), recovery status, complications, physical condition (Karnofsky physical condition), quality of life (EORTCQLQ-C30 scores), and nursing satisfaction between the two groups were compared.
<b>RESULTS</b>	Compared with before the operation, the CD-RISC and SUPPH scores of both groups of patients increased at discharge, while the SIS score decreased (P<0.05), and the observation group was superior to the control group (P<0.05). The postoperative time to get out of bed, the time for removing the drainage tube, and the hospital stay in the observation group were shorter than those in the control group, and the total incidence of complications was lower (P<0.05). Compared with before the operation, at discharge and 3 months after discharge, the Karnofsky physical condition and EORTCQLQ-C30 scores of both groups increased (P<0.05), and the observation group was higher than the control group (P<0.05). At discharge, the total satisfaction of the observation group was higher (P<0.05).
<b>CONCLUSIONS</b>	The Robocare nursing model applied throughout the entire process of Da Vinci robot-assisted radical mastectomy can effectively improve the psychological state of patients, enhance their self-efficacy, reduce the incidence of postoperative complications, promote physical recovery and early rehabilitation, and improve the quality of life and nursing satisfaction.

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- AIMS** To develop a neural network-based predictive model for subjective well-being (SWB) and quality of life (QOL) in patients under palliative care after lung cancer radical resection, identify key influencing factors, and support high-quality post-operative palliative care planning.
- METHODS** Five hundred patients who had lung cancer radical resection in the Thoracic Surgery Department of Zhongda Hospital Affiliated to Southeast University (January–December 2022) and were transferred to palliative care post-surgery were enrolled. Data on SWB, QOL, and related factors (demographics, disease indicators, care needs) were collected. Univariate and multivariate analyses screened independent post-operative factors, which were used as input variables to build Logistic regression, backpropagation (BP) neural network, and decision tree models. Medcalc software compared their ROC curve areas (AUC) to select the optimal model. Two hundred non-modeling patients (January–March 2023, same hospital) were used for validation, with sensitivity, specificity, positive/negative predictive values, and overall accuracy calculated to assess efficacy.
- RESULTS** The AUCs of Logistic regression, BP neural network, and decision tree models were 0.867, 0.973, and 0.841, respectively; the BP model was optimal (statistically significant). Seven variables were included, ranked by predictive importance: pain control compliance (NRS  $\leq$  3), psychological counseling frequency (times/week), tumor TNM stage, effective family support, age, surgical method, and post-operative nutritional support. The BP model showed 88.9% sensitivity, 90.2% specificity, 90.3% positive predictive value, 87.1% negative predictive value, and 89.8% overall accuracy in validation.
- CONCLUSIONS** The BP neural network model accurately predicts SWB and QOL in the target patients. "Pain control compliance" and "regular psychological counseling" are key factors; personalized palliative care targeting these can improve post-operative quality of life and wellbeing.

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- AIMS** To explore the application of machine learning in developing nursing personas for women with Polycystic Ovary Syndrome (PCOS), based on metabolic phenotypes including insulin resistance (IR), with the goal of informing personalized care strategies and digital nursing education.
- METHODS** Secondary analysis was conducted using clinical and metabolic data from 186 women with PCOS. Key variables included anthropometric indicators, hormonal profiles, lipid parameters, and IR-related markers (e.g., HOMA-IR). After z-score standardization, unsupervised K-means clustering was applied to identify patient phenotypes. Nursing personas were then constructed in three steps: (1) statistical profiling of each cluster; (2) thematic interpretation of behavioral and self-care characteristics; (3) mapping to tailored nursing needs and care pathways.
- RESULTS** Three phenotypes emerged:  
 (1) Young & Lean IR – low BMI, high HOMA-IR, and low risk awareness;  
 (2) Metabolic High-Risk – high BMI, dyslipidemia, moderate-to-high HOMA-IR, and limited self-regulation capacity;  
 (3) Hormonal Dominant – elevated androgens, mild IR, and relatively preserved lipid profile.  
 IR levels varied meaningfully across clusters but did not dominate the clustering structure. The resulting nursing personas reflected distinct challenges and support needs, guiding the development of adaptive digital education modules and intervention protocols.
- CONCLUSIONS** Integrating machine learning with clinical nursing insight enables the development of data-informed nursing personas grounded in metabolic heterogeneity. This approach supports more personalized care planning and may enhance nursing education through simulation-based learning and digital decision-support tools. Future work should evaluate the clinical utility and patient engagement outcomes of persona-based interventions.

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- AIMS** ICU delirium is a common neuropsychiatric complication associated with increased mortality and poor outcomes. This study aimed to assess the prognostic value of the C-reactive protein-to-albumin ratio (CAR) and to develop a machine learning model for early mortality risk stratification in ICU delirium patients.
- METHODS** We conducted a retrospective cohort study using the MIMIC-IV version 3.1 database. Adult ICU patients diagnosed with delirium were included and stratified into tertiles based on CAR values. Associations with ICU and one-year mortality were assessed using Cox proportional hazards models and restricted cubic spline analysis. Five machine learning models, including Logistic Regression, Random Forest, Decision Tree, Extreme Gradient Boosting, and Linear Support Vector Classification, were developed to predict one-year mortality. SHAP analysis was used to interpret the contribution of variables to the model outputs.
- RESULTS** A total of 1,824 ICU patients with delirium were analyzed. Those with CAR <2.03 had significantly better ICU and 1-year survival (log-rank P = 0.026 and 0.032). After adjustment, lower CAR values were independently associated with improved ICU survival [HR = 0.466; 95% CI: 0.227–0.954] and in-hospital survival [HR = 0.529; 95% CI: 0.317–0.884]. Conversely, CAR >19.95 predicted increased 1-year mortality [HR = 1.308; 95% CI: 1.013–1.688]. Subgroup analyses showed elevated risk among older adults, patients with dementia, and those with higher severity scores. Among five machine learning models, logistic regression achieved the best 1-year mortality prediction (AUC = 0.719), with CAR identified as a key contributing feature.
- CONCLUSIONS** The C-reactive protein-to-albumin ratio is an independent and robust biomarker for early mortality risk stratification in ICU patients with delirium. Integration of CAR into machine learning models significantly enhances prognostic accuracy, supports timely clinical decision-making, and improves patient safety and outcomes in the critical care setting.

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- AIMS** Constructing a prediction model based on risk factors of depressive symptoms in rural adolescents and validating it.
- METHODS** Adolescents from rural middle schools in Henan Province, China, meeting the study's inclusion criteria between January and March 2022, were enrolled as the study subjects. Data analysis was performed using IBM SPSS Statistics 25.0 to analyze the prevalence of depressive symptoms and associated factors among rural adolescents. Using the presence or absence of depressive symptoms as the dependent variable and factors associated with adolescent depressive symptoms as independent variables, a predictive model was established using the XGBoost algorithm. This early warning model was then applied to the validation group, and its reliability was assessed through ROC curve analysis and other tests.
- RESULTS** A total of 4363 questionnaires were distributed, with 4089 valid responses obtained. The mean age of the rural adolescents was  $15.56 \pm 1.62$  years, and their mean depressive symptom score was  $17.74 \pm 8.48$ . The early warning model of rural depressive symptoms logistic Regression formula  $P = 1 / \{1 + \exp[-(0.01 \times \text{Negative Coping} + 0.03 \times \text{Parental Rejection} - 0.01 \times \text{Psychological Resilience} - 0.01 \times \text{Positive Coping} - 0.02 \times \text{Social Support} + 0.65 \times \text{Grade}(1) + 0.93 \times \text{Grade}(3) + 0.44 \times \text{Grade}(4) + 0.85 \times \text{Grade}(5) - 0.90)]\}$ .
- CONCLUSIONS** The ranking of importance among risk factors according to the XGboost model was negative coping, mental toughness, grade level, school climate, rejection, overprotectiveness, age, emotional warmth, social support, and positive coping. In future work, attention should be paid to the situation of the corresponding indicators for youth at high risk and targeted interventions should be made. The accuracy, precision, sensitivity and specificity of the XGboost model in predicting depressive symptoms were all greater than those of the traditional logistic regression model.

**Hehe LI<sup>1</sup> & Yongxia MEI<sup>1</sup>**

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- AIMS** The aim of this study was to investigate the chain-mediated role of self-efficacy and health literacy in the relationship between rehabilitation needs and decision-making conflicts in stroke patients.
- METHODS** This was a multicenter, cross-sectional study design. The General Information Questionnaire, Stroke Patient Rehabilitation Needs Scale, Decision Making Self-Efficacy Scale, Total Health Literacy Scale, and Decision Making Conflict Scale were used to survey stroke survivors. Structural equation modeling was employed to examine the chain-mediated effects of self-efficacy and health literacy on the relationship between rehabilitation needs and decision-making conflicts, and testing the mediating effects.
- RESULTS** A total of 305 stroke survivors participated in this study. The scores of self-efficacy, health literacy, rehabilitation needs and decision-making conflict of stroke survivors were (27.97±8.18), (24.68±4.30), (103.91±18.33), (22.05±11.93), respectively. The chain mediation effect analysis demonstrated that the direct effect of rehabilitation needs on decision-making conflicts among stroke survivors was statistically significant ( $P < 0.05$ ), accounting for 49.7% of the total effect. Self-efficacy and health literacy were identified as chain mediators between rehabilitation needs and decision-making conflicts among stroke survivors ( $P < 0.05$ ), with the indirect effect accounting for 50.3% of the total effect.
- CONCLUSIONS** Rehabilitation needs of stroke survivors not only directly predict decision-making conflicts, but also indirectly affect decision-making conflicts through the mediating effects of self-efficacy and health literacy. Decision-making conflicts can be enhanced by increasing the self-efficacy and health literacy of patients with stroke.

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- AIMS** To develop a Behavioral Decision-making Scale for stroke patients, validate its structural validity, and determine its optimal cut-off value for predicting health behavior.
- METHODS** A cross-sectional study was conducted, recruiting 423 eligible stroke patients from multiple tertiary hospitals. Data were collected using the Behavioral Decision-making Scale and the Stroke Patient Health Behavior Scale. Confirmatory Factor Analysis (CFA) was used to assess structural validity and model fit, while ROC curve analysis was performed to identify the optimal predictive cut-off value.
- RESULTS** The modified scale consisted of 4 dimensions (motivation for behavior change, intention for behavior change, decision factors, decision balance) with 25 items, explaining 66.93% of total variance. Model fit indices were good: CMIN/DF=2.892 (<3), GFI=0.88, AGFI=0.84, RMSEA=0.07 (<0.08), NFI=0.91, RFI=0.89, IFI=0.94, CFI=0.94 (>0.90). The total scale Cronbach's  $\alpha$  was 0.923, with subscales ranging from 0.781 to 0.927 (all >0.70), higher than the original scale (0.778-0.927). Logistic regression showed behavioral decision-making positively predicted health behavior (OR=1.057, 95% CI:1.028-1.087,  $P < 0.05$ ). ROC analysis yielded an AUC of 0.689 (95% CI:0.620-0.757), with the optimal cut-off of 97.5 (specificity=63.9%, sensitivity=71.4%).
- CONCLUSIONS** The Behavioral Decision-making Scale has good reliability and validity, serving as an effective tool for assessing health behavior decisions in stroke patients. It shows moderate predictive value for health behavior, providing a precise assessment tool for clinical interventions.

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## AIMS

This study aimed to evaluate and compare the efficacy of video-based and graphic-text formats of internet-delivered acceptance and commitment therapy (iACT) in alleviating psychological pain among young HIV/AIDS patients.

## METHODS

A randomized controlled trial (RCT) was conducted, recruiting participants through various channels and randomly allocating them in a 1:1:1 ratio to a video, a graphic-text, and a control group. Assessments encompassed baseline (T0), post-intervention (T1), 4 weeks post-intervention (T2), and 12 weeks post-intervention (T3), utilizing measures for general information, primary outcomes (Psychological Pain Visual Analog Scale PPP-VAS), and secondary outcomes (Comprehensive Assessment of Acceptance and Commitment Therapy-CompACT, quality of life). Data analysis was performed using SPSS 26.0, adhering to the intention-to-treat principle, incorporating descriptive, univariate, and generalized estimated equation (GEE) analyses.

## RESULTS

A total of 120 young HIV/AIDS patients participated, with 40 in each group.

### (1) Primary Outcome:

Psychological Pain: GEE analysis revealed a significant main effect of time ( $Wald\chi^2=10.091$ ,  $P=0.018$ ) and group ( $Wald\chi^2=22.641$ ,  $P<0.001$ ) on psychological pain, but no significant interaction effect ( $Wald\chi^2=6.329$ ,  $P=0.387$ ).

### (2) Secondary Outcomes:

① Psychological Flexibility: A significant main effect of time ( $Wald\chi^2=11.891$ ,  $P=0.008$ ) and interaction between group and time ( $Wald\chi^2=13.897$ ,  $P=0.031$ ) were observed, with no significant group effect ( $P>0.05$ ). No significant differences were found between video and graphic-text groups.

② Quality of Life: A significant main effect of time ( $Wald\chi^2=22.890$ ,  $P<0.001$ ) and interaction between time and group ( $Wald\chi^2=16.13$ ,  $P=0.013$ ) were evident, without a significant group effect ( $P>0.05$ ). At T3, video group scores surpassed those of the control ( $P<0.05$ ), while both intervention groups scored higher than the control at T1 and T2 ( $P<0.05$ ).

## CONCLUSIONS

Both video and graphic-text formats of iACT intervention demonstrate potential in mitigating psychological pain, enhancing psychological flexibility, and improving quality of life among young HIV/AIDS patients. The effectiveness of these two delivery methods appears comparable.

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<b>AIMS</b>	The surge of cigarette card games in Chinese primary school children since 2024 raised concerns about gambling-like addiction due to chance-based rewards and tobacco exposure. This qualitative interviews aims to investigate children's experiences and perceptions of cigarette card games in China, alongside parental attitudes and facilitation practices.
<b>METHODS</b>	Semi-structured interviews were conducted with 21 child-parent dyads (19 boys, 2 girls aged 6–12; 17 mothers, 4 fathers) from September to December 2024, using purposive and snowball sampling. Separate age-appropriate protocols explored motivations, peer dynamics, and parental views on gameplay and tobacco packaging regulations. Interviews (30–40 minutes) were audio-recorded, transcribed verbatim, and analyzed thematically following Braun and Clarke's framework, with dual coding, and triangulation.
<b>RESULTS</b>	Four themes emerged: (1) Chance and reward-driven engagement, with children comparing games to gambling due to the thrill of rare cards; (2) Peer influence and social reinforcement, where play strengthened bonds but risked exclusion; (3) Parental misperceptions viewing games as harm-reduction alternatives to screen time, promoting physical activity; and (4) Parental facilitation, with families sourcing cards via networks, rationalizing support as enhancing socialization. These findings suggest that cigarette card games may condition children toward addictive behaviours by mimicking gambling reward structures. Additionally, parental facilitation inadvertently increases children's exposure to tobacco branding, potentially normalizing smoking.
<b>CONCLUSIONS</b>	Cigarette card games intertwine addictive gambling mechanics with tobacco normalization, exacerbated by parental facilitation. Nursing-led interventions, including family education on risks and digital tools (e.g., AI-driven apps) for monitoring child behaviors, are critical to promote healthy play alternatives and transform preventive care in pediatric nursing.

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<b>AIMS</b>	This study aims to compare the levels of pain and labor pain coping behaviors, as well as fear and childbirth experiences, between a group that received labor preparation and care to promote natural childbirth and the control group.
<b>METHODS</b>	The quasi-experimental study was conducted with term pregnant women who gave birth at Yasothon Hospital between March 2023 and February 2024. It compares a group that received childbirth preparation and nursing care to promote natural childbirth with a control group. The sample consists of 66 participants, divided into two groups of 33 each. Participants were selected through purposive sampling based on inclusion criteria. Differences between groups were using one-way ANOVA and Chi-square tests. The Kolmogorov-Smirnov test normality of the data and using an independent ttest to comparison between groups.
<b>RESULTS</b>	The research findings that the experimental group have pain coping behavior during labor better than the control group, with a statistically significant difference (5.55 vs. 7.06 points, $p < 0.05$ ). Although the average perceived pain level during labor was higher in the experimental group than in the control group (6.14 vs. 5.19 points, $p < 0.05$ ), the experimental group had significantly lower levels of fear regarding childbirth than the control group (77.82 vs. 102.21 points, $p < 0.05$ ). These findings suggest that the experimental group had more positive childbirth experience than the control group.
<b>CONCLUSIONS</b>	Childbirth preparation and care during labor help enhance the parturient ability to cope with pain during labor, reduce fear of childbirth, and foster positive natural childbirth experience.

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- AIMS** This study aims to design and develop an information system for the systematic assessment and implementation of patients' humanistic care needs based on an intelligent nursing framework, and to empirically validate its application effectiveness. The goal is to address the shortcomings of traditional nursing records in documenting and implementing humanistic care, thereby enhancing both patient experience and nursing quality.
- METHODS** Using a design science-based iterative approach, a humanistic care assessment framework was constructed according to the group standard "Management Specification for Humanistic Care in Ward Nursing," covering physical comfort, daily living, psychological status, disease knowledge, and social support. The framework was refined through two expert consultation rounds. The assessment was integrated into the E-well system, followed by iterative prototyping and usability testing with clinical nurses. A pre-post study was conducted at a tertiary hospital using surveys and system logs to evaluate changes in patient satisfaction, nurse satisfaction, workload, and efficiency.
- RESULTS** A smart humanistic care system was successfully implemented, featuring integrated assessment, intelligent reminders, intervention tracking, and feedback. Post-implementation, patient care satisfaction significantly improved from  $4.45 \pm 0.79$  to  $4.72 \pm 0.50$  (5-point scale) ( $p < 0.05$ ). Nurse satisfaction rose from  $82.01 \pm 18.22$  to  $93.24 \pm 6.55$  ( $p < 0.05$ ), and time per assessment decreased from  $14.52 \pm 3.26$  to  $7.16 \pm 2.15$  minutes ( $p < 0.05$ ). Documentation detail increased from 20 to 100 words on average ( $p < 0.05$ ). Care intervention compliance improved by 35% ( $p < 0.05$ ), with nurses reporting reduced cognitive and documentation burden and more standardized workflows.
- CONCLUSIONS** The iteratively developed system significantly improve patient experience and nursing efficiency. It offers a concrete, quantifiable solution for implementing humanistic care and demonstrates strong potential for broader clinical application.

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- AIMS** To investigate the optimal evidence for the prevention and management of Peritoneal Dialysis-Associated Peritonitis (PDAP), implement evidencebased nursing practices, and assess the impact on peritoneal dialysis outcomes.
- METHODS** A systematic search for the best available evidence regarding PDAP was conducted using evidence-based methodologies. The quality of the evidence was evaluated according to the standards set by the Joanna Briggs Institute (JBI) Centre for Evidence-Based Health Care (2016). This evidence was then translated into clinical practice guidelines.
- RESULTS** Following the implementation of evidence-based practices, the cognitive level scores of nurses concerning PDAP prevention and management improved significantly from  $82.65 \pm 6.97$  to  $96.35 \pm 3.83$  points ( $P < 0.05$ ). Knowledge scores related to PDAP among peritoneal dialysis patients increased from  $56.70 \pm 13.37$  to  $88.95 \pm 7.18$  points ( $P < 0.05$ ). The awareness rate of PDAP prevention rose from 36.67% to 93.33%. Additionally, the awareness rates for catheter care and nutritional education increased from 16.67% to 93.33% and from 33.33% to 96.67%, respectively. Notably, the incidence of PDAP decreased significantly from 20.00% to 3.30% ( $P < 0.05$ ).
- CONCLUSIONS** Implementing evidence-based nursing practices focused on PDAP prevention and management can standardize clinical staff behaviors, enhance nurses' understanding of PDAP prevention and management, effectively improve patients' abilities to prevent and manage PDAP, and significantly reduce the incidence of PDAP.

**Ying GAO<sup>1,2#</sup>, Doudou XU<sup>1,2,3#</sup>, Xinru LI<sup>2</sup>, Jue WANG<sup>1,2,4</sup>, Linbin WANG<sup>4,5</sup>, Beiwen WU<sup>1</sup>, Xian QIU<sup>1,2,4\*</sup> & Weiyi ZHU<sup>1,2\*</sup>**

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<b>AIMS</b>	Machine learning (ML) offers promising tools for fall risk prediction, yet the performance, methodological quality, and applicability of existing ML-based models remain unclear. This study aimed to systematically review and evaluate ML-based models developed to predict fall risk in older adults.
<b>METHODS</b>	Seven databases were searched from inception to September 23, 2024 (PROSPERO registration: CRD42024580902). Studies were eligible if they used ML models to predict future falls in individuals aged $\geq 60$ years. The Prediction Model Risk of Bias Assessment Tool (PROBAST) was used to evaluate the risk of bias. A random-effects meta-analysis was performed to pool the area under the curve (AUC) of validated models and explore heterogeneity. Sensitivity analyses and subgroup analyses were further conducted.
<b>RESULTS</b>	Of 6,865 identified records, 32 studies were included in the review, with 22 focusing on community-dwelling older adults and 10 on hospitalized populations. Most studies were conducted in North America, Europe, and East Asia, with limited representation from other regions. The most commonly identified predictors were gait and mobility function (n=19), age (n=17), sex (n=16), fall history (n=11), and basic activities of daily living (n=9). Only one model underwent external validation; two lacked both internal and external validation. AUC or c-index values were reported in 22 models, ranging from 0.505 to 0.99. Model calibration was assessed in only seven studies. All models were rated as having a high risk of bias. Nine models were included in the meta-analysis, yielding a pooled AUC of 0.79 (95%CI 0.70-0.88), indicating good discriminative performance but substantial heterogeneity ( $I^2 = 99.6\%$ ). High heterogeneity persisted in sensitivity and subgroup analyses.
<b>CONCLUSIONS</b>	ML-based models demonstrate the potential for predicting fall risk among older adults. However, substantial heterogeneity and methodological limitations remain. Future research should emphasize external validation, transparent reporting, and rigorous modeling approaches.

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<b>AIMS</b>	To compare efficacy, safety, patient satisfaction, and outcomes of traditional vs. complementary nursing interventions for postoperative pain management.
<b>METHODS</b>	A randomized controlled trial (RCT) with 200 postoperative patients: 100 received traditional pharmacological interventions, 100 received complementary approaches. Pain intensity (Visual Analog Scale), adverse effects, satisfaction, and hospital stay were measured; analysis at $p < 0.05$ .
<b>RESULTS</b>	Complementary group had lower pain from 12 hours post-surgery ( $p < 0.01$ ), fewer adverse effects, higher satisfaction (e.g., overall pain management: $8.5 \pm 1.2$ vs. $7.2 \pm 1.5$ , $p = 0.001$ ), and shorter hospital stay ( $5.5 \pm 1.9$ vs. $6.7 \pm 2.1$ days, $p = 0.01$ ).
<b>CONCLUSIONS</b>	Complementary approaches are effective, safer, and more satisfying for postoperative pain, with potential to reduce hospital stays. Integration into clinical practice is recommended.

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- AIMS** To investigate the prevalence of short-form video exposure among patients with Chronic Obstructive Pulmonary Disease (COPD) and its impact on respiratory symptoms.
- METHODS** A convenience sample of 157 COPD patients was recruited from respiratory clinics, pulmonary function laboratories, and rehabilitation departments across multiple hospitals in Yinchuan City between January and April 2025. The prevalence of short-form video exposure including exposure duration, content, and acceptance level, all of them were collected using a self-designed questionnaire. Respiratory symptom severity was assessed using the Breathlessness, Cough and Sputum Scale (BCSS). Descriptive statistics summarized patient characteristics. Independent samples t-tests and ANOVA compared BCSS scores across different patient groups. Multiple linear regression analysis examined the impact of video exposure on respiratory symptoms.
- RESULTS** The average daily exposure duration was  $3.77 \pm 3.28$  hours. About 97.5% viewed life skills and wellness content, while 73.9% watched health knowledge videos. Multiple linear regression revealed:
1. Viewing health knowledge videos was significantly positively associated with BCSS scores ( $\beta = 0.258$ ,  $P = 0.003$ ). Viewers had significantly higher scores ( $9.00 \pm 1.36$ ) than non-viewers ( $7.70 \pm 2.21$ ,  $P < 0.001$ ).
  2. Viewing life skills and wellness content was negatively associated with BCSS scores ( $\beta = -0.186$ ,  $P = 0.013$ ). Viewers had significantly lower scores ( $5.25 \pm 2.36$ ) than non-viewers ( $8.11 \pm 2.05$ ,  $P = 0.007$ ).
  3. Content acceptance level had a non-linear impact ( $P = 0.009$ ): The "accepted few" group had the highest symptom severity ( $8.62 \pm 1.74$ ), while the "accepted all" group had the lowest ( $6.80 \pm 4.15$ ). The model explained 19.6% of the variance in symptom severity (adjusted  $R^2 = 0.196$ ,  $F = 4.461$ ,  $P < 0.001$ ).
- CONCLUSIONS** Respiratory symptoms in COPD patients are significantly influenced by short-form video content and its level of acceptance. Health managers should pay attention to the videos content to enhance the utility of short-form videos.

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- AIMS** To test the construct validity of the Stroke Recurrence Risk Perception Scale (SRRPS) and determine the optimal cut-off value for predicting health behaviors in stroke patients.
- METHODS** A cross-sectional study was designed, and 475 stroke patients meeting the inclusion criteria from multiple tertiary total score of recurrence risk perception for predicting health behaviors.
- RESULTS** Confirmatory factor analysis showed that the SRRPS had a single dimensional structure, including 17 items, with a total variance explanation rate of 61.103%. The model fit in grade A hospitals were recruited. The SRRPS was used for investigation. Confirmatory factor analysis (CFA) was employed to test the construct validity and model fit of the scale; the CHAID decision tree analysis was used to determine the optimal cut-off value of the items were good:  $\chi^2/df = 3.073 (< 3)$ , RMSEA = 0.070 ( $< 0.08$ ), GFI = 0.919 ( $> 0.90$ ), AGFI = 0.883. Reliability analysis showed that the Cronbach's  $\alpha$  coefficient of the total scale was 0.850 ( $> 0.70$ ). Decision tree analysis found that 40.5 was the optimal cut-off value for the total score of recurrence risk perception, with good classification accuracy (sensitivity = 0.97, specificity = 0.11). The proportion of patients not taking health behaviors was higher in those with a total score  $\leq 40.5$ , and the proportion of taking health behaviors was higher in those with a total score  $> 40.5$ .
- CONCLUSIONS** The SRRPS has reliable construct validity. A total score of 40.5 can be used as the optimal cut-off value for predicting health behaviors, which can effectively identify stroke patients with different health behavior performances and provide a precise evaluation basis for clinical health behavior interventions.

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#### AIMS

Taking family caregivers as the main users of mobile health applications (mHealth apps), comprehensively examine their needs and the influencing factors of using mobile health applications to support the rehabilitation of older patients with hip fractures.

#### METHODS

A qualitative descriptive study was conducted. The orthopaedic ward of a 3000-bed tertiary comprehensive teaching hospital in mainland China. Purposive sampling was used to select participants. A total of twenty-one family caregivers were finally interviewed. Semi-structured interviews were conducted to collect data between April 2025 and June 2025. The content analysis method was used to analyse the data.

#### RESULTS

The study identified two key dimensions-user needs and influencing factors, each containing six themes. User needs encompassed: content requirements (information and knowledge), features and functionality (user information management, communication with orthopaedic surgeons, cross-platform and interdisciplinary collaboration, information delivery modalities, and task reminders). Influencing factors comprised: user-related (user characteristics, patient recovery outcomes, previous experiences and attitudes towards mHealth resources, concerns about privacy and information); technology-related (user-friendly and functional, information quality and personalisation).

#### CONCLUSIONS

The findings of this study contributed to the development of mHealth apps tailored for family caregivers. Healthcare providers and researchers should recognise and address caregivers' needs and influencing factors to optimise app functionality, thereby enhancing patient recovery outcomes and reducing caregiver burden.

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#### AIMS

Demoralization and loss of dignity frequently co-occur in cancer populations, but their symptom-level causal interconnections remain poorly understood. We aimed to elucidate the inner causal pathways linking demoralization to dignity in breast cancer survivors and to identify the most effective symptom-targeted intervention.

#### METHODS

We enrolled 411 female breast cancer survivors. Demoralization was measured using the Demoralization Scale II and dignity using the Patient Dignity Inventory. Gaussian graphical model identified central and bridge symptoms. A Bayesian network inferred symptom-level causal pathways between demoralization and dignity loss. We then performed computer-simulated intervention analyses to evaluate which symptom reduction would yield the greatest decrease in overall network activation.

#### RESULTS

In the Gaussian network, "illness uncertainty" emerged as the most central symptom (strength=1.20) and "life meaninglessness" as the key bridge (bridge strength = 0.30). The Bayesian network positioned "distressed" as a parent node initiating downstream chains from demoralization to dignity loss. Simulation of targeted interventions demonstrated that reducing "distressed" produced the largest decrease in global network likelihood, from 5.3% to 1.9%.

#### CONCLUSIONS

Our findings reveal specific symptom pathways through which demoralization may precipitate dignity loss in breast cancer survivors, such as life meaningless. Interventions aimed at alleviating distress hold promise for simultaneously mitigating demoralization and preserving dignity.

**Yaqian YU<sup>1</sup>, Xuchuan ZHOU<sup>1</sup>, Yifang HOU<sup>1</sup>, Guowei ZENG<sup>1</sup> & Ming XIAO<sup>1</sup>**

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<b>AIMS</b>	This study aimed to develop a Virtual Interactive Video-Based Information Support Scheme (VIVBIS) by using virtual reality technology and interactive video for day case hysteroscopy patients, and to assess its feasibility in clinical settings.
<b>METHODS</b>	A structured questionnaire was created to assess the acceptability, feasibility, and tolerability of VIVBIS from users' experiences. A non- randomized one-group pre-post test was conducted to explore its initial clinical application.
<b>RESULTS</b>	A total of four healthcare providers and fifteen patients participated in the study. Overall, the intervention demonstrated positive performance, although several challenges arose during its implementation. Identified barriers were addressed, and a final scheme was developed. The VIVBIS effectively facilitated vivid, patient-centered perioperative education through the use of virtual reality technology.
<b>CONCLUSIONS</b>	We developed a virtual interactive video-based information support scheme tailored to the needs of day case hysteroscopy patients. This approach provides patients with greater autonomy in their healthcare decisions and delivers the necessary preoperative information to effectively plan for their surgery.

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<b>AIMS</b>	The evolving complexity of healthcare necessitates innovative pedagogical approaches to prepare nursing students with the robust knowledge and essential clinical skills required for contemporary practice. Game-based learning (GBL) integrated with immersive technologies, such as virtual reality (VR) and augmented reality (AR), offers unique potential for high-fidelity, safe, and experiential learning environments. This systematic review aims to synthesize the current evidence on the effects of GBL interventions utilizing immersive technologies on the knowledge acquisition and skill development of nursing students.
<b>METHODS</b>	A systematic search was performed in six databases (PubMed, CINAHL, Web of Science, Scopus, MEDLINE, Embase) for peerreviewed primary studies published up to June 2025. Inclusion criteria focused on studies investigating GBL interventions incorporating immersive technologies for nursing students, reporting outcomes related to knowledge and/or skills. Two independent reviewers screened articles and assessed methodological quality. Data were narratively synthesized due to heterogeneity.
<b>RESULTS</b>	A total of 41 studies, involving 3444 participants, were included. The majority of interventions utilized VR (n=33), followed by AR (n=6), Mixed Reality (MR) (n=1), and haptic technology simulation (n=1) in a game-based learning context. Assessment of knowledge acquisition revealed that 64.7% (11/17) of VR studies and 60% (3/5) of AR studies reported statistically significant improvements compared to control groups scores. Similarly, for skill development, 75% (18/24) of VR studies and 75% (3/4) of AR studies demonstrated statistically significant improvements.
<b>CONCLUSIONS</b>	A total of 41 studies, involving 3444 participants, were included. The majority of interventions utilized VR (n=33), followed by AR (n=6), Mixed Reality (MR) (n=1), and haptic technology simulation (n=1) in a game-based learning context. Assessment of knowledge acquisition revealed that 64.7% (11/17) of VR studies and 60% (3/5) of AR studies reported statistically significant improvements compared to control groups scores. Similarly, for skill development, 75% (18/24) of VR studies and 75% (3/4) of AR studies demonstrated statistically significant improvements.

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- AIMS** To investigate the mediating effect of sleep quality on adjustment patterns and job alienation among nurses in emergency and intensive care departments.
- METHODS** The mean total scores for PSQI and APS were  $50.50 \pm 10.67$ , indicating a moderate level of adjustment, while the mean total score for job alienation was  $35.91 \pm 8.41$ . Sleep quality was positively correlated with adjustment pattern ( $r = 0.445$ ,  $P < 0.01$ ) and negatively correlated with job alienation ( $r = -0.571$ ,  $P < 0.01$ ). Furthermore, sleep quality partially mediated the relationship between adjustment pattern and job alienation, accounting for approximately 23.73% of the total effect. Job alienation was negatively correlated with adjustment pattern ( $r = -0.451$ ,  $P < 0.01$ ), exercise mode ( $r = -0.214$ ,  $P < 0.01$ ), and evaluation mode ( $r = -0.560$ ,  $P < 0.01$ ).
- RESULTS** The mean total scores for PSQI and APS were  $50.50 \pm 10.67$ , indicating a moderate level of adjustment, while the mean total score for job alienation was  $35.91 \pm 8.41$ . Sleep quality was positively correlated with adjustment pattern ( $r = 0.445$ ,  $P < 0.01$ ) and negatively correlated with job alienation ( $r = -0.571$ ,  $P < 0.01$ ). Furthermore, sleep quality partially mediated the relationship between adjustment pattern and job alienation, accounting for approximately 23.73% of the total effect. Job alienation was negatively correlated with adjustment pattern ( $r = -0.451$ ,  $P < 0.01$ ), exercise mode ( $r = -0.214$ ,  $P < 0.01$ ), and evaluation mode ( $r = -0.560$ ,  $P < 0.01$ ).
- CONCLUSIONS** Nursing managers should prioritize improving adjustment patterns and exercise modes to enhance sleep quality, thereby reducing job burnout and job alienation among nurses in emergency and intensive care departments.

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- AIMS** This study aimed to evaluate the feasibility and effects of a Gamified Pain Management (GPM) program on chronic pain.
- METHODS** This study employed a pre-post intervention design. An open for 10-week web-based GPM intervention, which integrated education, physical activities, and gamified elements, was delivered. Pre- and post-intervention data were collected assessing pain function, emotional outcome, and engagement metrics.
- RESULTS** A total of 16 participants were engaged, reporting significant improvements in pain intensity, pain interference, and psychological distress. All participants completed the treatment, with an average duration of 4.38 weeks. The mean satisfaction score was 33.19 ranging from 0 to 40.
- CONCLUSIONS** GPM effectively improved pain and psychological outcomes, which could potentially lead to a further digital intervention for chronic pain, providing more accessible and engaging ways.

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## AIMS

This three-part study aimed to:

- i. identify determinants to adopt electronic Intake & Output (e-I&O) System to replace paper format charting,
- ii. apply implementation strategies to further roll out e-I&O, and
- iii. review staff acceptance to guide long-term sustainability.

## METHODS

A joined-hospitals small group with four hospitals' representatives was formed.

In the first part of study, review on current evidence and performed staff acceptance survey by two validated quantitative measurement tools (Technology Acceptance Model, TAM, and Post-Study System Usability Questionnaire, PSSUQ).

After discussed the data collected, implementation strategies as 2nd part of study were formulated to further roll out e-I&O in other clinical settings, which included

- i. rolled out in clinical settings with patients with relatively stable,
- ii. system enhancement to Smart templates, intake module for tube feeding and data visualization,
- iii. in-house training / hands-on practice by nurses who was experienced in using the system,
- iv. started the roll out from small scale, and then large scale to allow healthcare workers, especially Patient Care Assistant to get familiar with the system,
- v. developed record for trouble detecting and shooting for identifying the problems and handle them timely.

Another staff acceptance survey was conducted after a few months of system adoption. The survey findings were reviewed and guide future implementation planning.

## RESULTS

In the first part of study, healthcare workers' perceptions to e-I&O system: TAM rating 3.31/7 and PSSUQ rating 3.4/7 [Very Good (1) to Very Poor (7)]. In the third part of study, same measurement tool was applied to other clinical areas were rolled out e-I&O. It found that TAM rating was 2.95/7 and PSSUQ rating 2.94/7.

## CONCLUSIONS

Implementation Science approach was trialed for the roll out of e-I&O system. The experience gained in the process could be a solid foundation for further implementing e-I&O in other clinical settings.

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<b>AIMS</b>	This study aims to identify the barriers and facilitators of health information seeking behavior (HISB) among older adults, providing a basis for optimizing behavior change strategies.
<b>METHODS</b>	Six databases, including PubMed, Embase, PsycINFO, CINAHL, Web of Science, and Scopus, were searched from their inception to October 2024. The methodological quality of the included studies was assessed using the Mixed Methods Appraisal Tool (MMAT). Two researchers used convergent integration methods to collect, analyze, and integrate data. The Capability, Opportunity, Motivation-Behavior (COM-B) model was applied to identify potential barriers and facilitators.
<b>RESULTS</b>	A total of 18 studies were included, comprising 14 quantitative descriptive studies, 3 qualitative studies, and 1 mixed-methods study. The study identified 15 barriers and facilitators related to capability (e.g., skills to access information), opportunity (e.g., financial reasons), and motivation (e.g., intention to maintain health).
<b>CONCLUSIONS</b>	This study has summarized the key factors influencing the health information seeking behavior of the elderly. Future research should further refine, evaluate and validate these factors.

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<b>AIMS</b>	This study addresses a significant gap in widowhood research by focusing on the narratives of thriving and resilience among older adults following the loss of a spouse. The aim is to explore the lived experiences of older widows and widowers to develop a theory that captures their transformative journey through grief toward renewed meaning and purpose.
<b>METHODS</b>	A qualitative narrative inquiry design was employed, guided by an inductive approach to theory generation. One-on-one, in-depth interviews lasting approximately 90 minutes were conducted with 13 participants (eight widows and five widowers) residing in Negros Oriental, Philippines. Openended questions were used to elicit rich, personal stories of post-widowhood experiences.
<b>RESULTS</b>	Data analysis led to the development of the <b>Theory of Post-Widowhood Transformation in Older Persons</b> , which is grounded in four central propositions: <ol style="list-style-type: none"> <li>1. Acknowledging the darkness within is the first step toward hope, as confronting emotional pain creates space for healing and growth;</li> <li>2. Clarity and understanding can arise amid emotional chaos, allowing individuals to gain deeper self-insight;</li> <li>3. Acceptance of the loss marks a turning point for growth, enabling emotional adjustment and forward movement; and</li> <li>4. Thriving despite adversity empowers individuals to inspire others and rediscover purpose, even with the permanence of loss.</li> </ol> <p>This transformational process is not linear and may involve moments of regression. However, its overall trajectory shows an evolution from profound grief toward a renewed sense of identity and life meaning.</p>
<b>CONCLUSIONS</b>	The findings highlight the value of self-awareness, resilience, and purposeful living in navigating widowhood. Ultimately, this theory reframes widowhood not merely as a struggle for survival but as a journey of meaningful transformation and renewed fulfillment.

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- AIMS** To construct a knowledge graph (KG) of chemotherapy-induced nausea and vomiting (CINV) in breast cancer utilizing a large language model (LLM) to provide personalized management suggestions for patients with CINV.
- METHODS** Nine databases and seven guideline libraries were systematically searched from inception to October 2024 by two researchers independently for relevant literature, including guidelines, evidence summaries, expert consensus, and systematic reviews. Utilizing the screened literature as a knowledge base, the information was divided into text blocks by two experts and input into the LLM Qwen. The prompt engineering was built per the CRISPE framework to complete information extraction and knowledge fusion to extract triples. Following this, Qwen was utilized to predict entities, relationships, and triples, and these predictions were combined with expert reviews to form the final triples. The performance of the Qwen model was evaluated in named entity recognition (NER) and relation extraction (RE) tasks based on Precision, Recall, and F1 metrics. The knowledge was stored in the Neo4j database and visualized using D3.js and Graphin.
- RESULTS** 47 studies were included in this study and segmented to obtain 1,282 text blocks. The LLM-based knowledge extraction and fusion provided a total of 238 entities, 242 relations, and 242 triples. After supervised fine-tuning, the model achieved F1 scores of 86.7 and 85.3 in NER and RE tasks, respectively. In the KG, an average connectivity of 2.03 was achieved for each node, and no nodes were isolated.
- CONCLUSIONS** A breast cancer CINV KG was successfully constructed using a Chinese LLM and prompt engineering. The constructed KG comprised 238 validated entities and 242 relations across 10 key domains, demonstrating notable potential in knowledge representation and decision support for symptom management.

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- AIMS** A primary mechanism of pressure injury (PI) initiation is ischemia that leads to low oxygen supply or hypoxia in skin. Hypoxia triggers a cascade of injury signals that culminate in ulceration. However, there are very few oxygen treatments available for PI prevention. In this study, palmitoleic acid (POA) was used to prevent PI by increasing oxygen in epidermal cells.
- METHODS** Human epidermal cells were co-cultured with POA in low oxygen incubator under 1% oxygen. Oxygen fluorescent probe was used to detect the cellular oxygen of the cells. The migratory capacity of epidermal cells, which indicates wound healing capacity, was determined by the cell scratch assay. PI mouse model was used to validate the efficacy of POA on preventing PI development. Clinically, nursing oil containing POA were applied on 30 ICU patients. The efficacy of oxygen increasing after using the oil was detected using a transcutaneous oxygen monitoring system. The PI risk was evaluated using SEM scanner.
- RESULTS** POA elevated the oxygen uptake and wound healing capacity of epidermal cells under hypoxic conditions and prevented the occurrence of PI in mice. For ICU patients, transcutaneous partial pressure of oxygen increased 21% for day 7 and 28% for day 14 after treatment. SEM values decreased 25% for day 7 and 42% for day 14.
- CONCLUSIONS** POA nursing oil treatment oil prevents PI by increasing epidermal oxygen.

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- AIMS** Stroke patients in rural China face a notably high burden, with prevalent negative emotions. While some studies have demonstrated positive impacts of Acceptance and Commitment Therapy (ACT) on the mental well-being of stroke patients, its efficacy among rural survivors with low education levels and substantial financial burdens remains unclear.
- METHODS** An experimental design was employed. Rural stroke patients admitted to the Neurology Department of a tertiary hospital in Henan Province were conveniently selected and randomly assigned to either a wait-list control group or an intervention group. The wait-list control group received routine psychological nursing guidance, whereas the intervention group underwent a 6-week program of Acceptance and Commitment Therapy (ACT) comprising seven sessions. Data collection occurred pre-intervention (T0), post-intervention (T1), and at a 1-month follow-up. Evaluation utilized the Acceptance and Action Questionnaire-2nd Edition (AAQ-II), Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), and Herth Hope Index (HHI) to gauge the intervention's effects. Comparative analysis of psychological flexibility, depression, anxiety, and hope levels between the two groups assessed the program's efficacy.
- RESULTS** Post-intervention (T1) and at the 1-month follow-up (T2), the intervention group exhibited significantly lower scores in experiential avoidance, depression, and anxiety compared to the wait-list control group ( $F=5.196$ ,  $F=4.512$ ,  $F=4.674$ ,  $P < 0.05$ ). Furthermore, an interaction between groups and time points was observed ( $F=21.343$ ,  $F=20.676$ ,  $F=17.918$ , all  $P < 0.05$ ). Acceptance and Commitment Therapy (ACT) significantly ameliorated levels of experiential avoidance, depression, and anxiety in rural stroke patients compared to routine psychological nursing guidance. However, these levels increased at the 1-month follow-up. Additionally, the intervention group demonstrated notably higher hope scores than the control group at both T1 and T2 ( $F=7.820$ ,  $P < 0.05$ ), with significant interactions between groups and time points ( $F=22.725$ ,  $P < 0.05$ ). Although the intervention group's hope scores declined over time, the intervention's effect remained superior to that of the wait-list control group.
- CONCLUSIONS** The Acceptance and Commitment Therapy (ACT) psychological intervention program exhibits potential for alleviating depression and anxiety among rural stroke patients, enhancing psychological flexibility and hope levels. Nonetheless, further assessment is necessary to determine the program's long-term efficacy.

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- AIMS** To explore the latent profiles of active health behaviors among community-dwelling older adults with hypertension and analyze the influencing factors of different latent profiles, providing evidence for personalized interventions.
- METHODS** A convenience sample of 401 older hypertensive patients from a community in Zhengzhou, Henan Province (January–March 2024) was assessed using the General Information Questionnaire, Active Health Behaviors Scale for Hypertensive Patients, Digital Health Literacy Assessment Scale for Community-Dwelling Older Adults, and Brief Illness Perception Questionnaire (BIPQ). Multivariate logistic regression was used to analyze influencing factors. Additionally, purposive sampling was employed to conduct semi-structured interviews with 12 older hypertensive patients, and interpretative phenomenological analysis (IPA) was applied to analyze qualitative data.
- RESULTS** Latent profile analysis (LPA) identified three distinct behavioral patterns: (1) Passive-Low Engagement (32.92%), characterized by minimal self-management; (2) Selective-Partial Engagement (32.92%), marked by conditional participation (e.g., adherence only during symptomatic periods); and (3) Integrated-Active Management (40.40%), featuring systematic health behaviors. Quantitative analysis revealed that age, occupation, monthly household income, self-rated health status, medical payment method, and digital health literacy significantly influenced active health behaviors ( $P < 0.05$ ). Qualitative findings further elucidated three themes: (1) Ambiguous Health Responsibility and External Dependence, (2) Conditional Participation and Pragmatic Behaviors, and (3) Self-Driven Systematic Health Management, with age, occupation, income, illness perception, and family support emerging as key determinants. Triangulation of quantitative and qualitative data demonstrated mutual validation and complementarity.
- CONCLUSIONS** The active health behaviors of community-dwelling older adults with hypertension exhibit heterogeneity, with substantial room for improvement. Early identification of latent profiles and their determinants could guide tailored interventions to optimize health behaviors. Clinicians should integrate digital health literacy enhancement, illness perception modification, and family support strategies into personalized care plans.

**Guoli ZHANG<sup>1</sup>, Yuxin XIA<sup>1</sup>, Yun ZHANG<sup>1</sup>, Xuelei LI<sup>1</sup> & Ting SUN<sup>1,2</sup>**

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- AIMS** To address the low adherence to intelligent personalized exercise prescriptions among middle-aged and older adults with chronic diseases, we developed a gamification intervention grounded in the Octalysis framework, incorporating culturally meaningful narratives and altruism-driven mechanisms. This study aimed to evaluate the effectiveness of this app-based intervention in improving adherence and related physical and psychological outcomes, and to examine whether embedding health education into the gamification design could sustain adherence postintervention.
- METHODS** We conducted a double-center, double-blind, three-arm randomized controlled trial involving 132 community-dwelling middle-aged and older adults with at least one chronic condition. Participants were randomly assigned to the non-gamification, gamification, or gamification plus health education group. The intervention lasted 12 weeks, followed by a 12-week follow-up. The primary outcome was adherence, defined as the proportion of participant days that exercise tasks were completed. Secondary outcomes included biomedical risk factors, sedentary time, sleep quality, exercise self-efficacy, and intrinsic motivation.
- RESULTS** During the intervention period, the gamification group showed significant improvement in adherence compared to the non-gamification group ( $\beta=0.26$ , 95% CI: 0.2-0.30,  $p < 0.001$ ). Improvements were also observed in body weight, systolic blood pressure, sleep quality, and exercise self-efficacy ( $p < 0.05$ ). However, no significant differences were found in resting heart rate, diastolic blood pressure, BMI, subendocardial viability ratio, brachial-ankle pulse wave velocity, sedentary time, or intrinsic motivation ( $p > 0.05$ ). Compared with the intervention period, although adherence in the gamification plus health education group declined during follow-up (0.59 to 0.50), it remained significantly higher than that in the gamification group ( $\beta=0.20$ , 95% CI 0.12-0.27,  $p < 0.001$ ).
- CONCLUSIONS** A culturally grounded, altruism-driven gamification intervention improved adherence to intelligent personalized exercise prescriptions among middle-aged and older adults with chronic diseases. The introduction of health education content can further extend the intervention effect and enhance the sustainability of behavior change.

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- AIMS** We developed an adaptive digital intervention system for hypertensive patients, integrating personalized exercise and dietary prescriptions. The system dynamically adjusts plans based on individual health status and includes a dual-factor adherence regulation strategy. It comprises an IoT-based health monitoring platform, cloud infrastructure, a provider web portal, and a patient-facing mobile app. This study aimed to evaluate the effectiveness of a cloud-based digital intervention system for exercise and dietary behavior in improving blood pressure control and treatment adherence among patients with hypertension.
- METHODS** A convenience sample of 67 patients with hypertension was recruited to participate in an 8-week digital health intervention. All participants underwent baseline health assessments at a Smart Health Station and were instructed to install and use the digital intervention system via a mobile application. Intervention effectiveness was assessed using behavioral adherence indicators and cardiovascular health metrics. A non-concurrent comparative analysis was conducted against a historical control group receiving standard care.
- RESULTS** Participants demonstrated a significantly increased willingness to engage with the system following the intervention ( $P < 0.05$ ). Compared to the historical control group, the intervention group showed significantly better outcomes in aerobic exercise duration, Dietary Approaches to Stop Hypertension (DASH) scores, systolic blood pressure, heart rate, and subendocardial viability ratio ( $P < 0.05$ ).
- CONCLUSIONS** The digital intervention system incorporating exercise and dietary prescriptions may enhance adherence and improve health outcomes among elderly patients with hypertension. However, further studies are warranted to investigate the underlying mechanisms and assess the long-term effects of such interventions.

**Xin XU***School of Nursing, ZunYi Medical University, GuiZhou Province*

- AIMS** In the field of critical care medicine, leveraging artificial intelligence to achieve personalized treatment is a core and inevitable trend in the development of smart ICUs.
- METHODS** This article begins with the concept of clinical decision support systems for personalized treatment in ICUs, providing a detailed review of their research progress.
- RESULTS** The core of these systems lies in their ability to design individualized treatment plans based on the specific conditions of patients. In terms of development, early systems primarily focused on data collection and storage. However, with the advancement of AI technologies, particularly machine learning and deep learning, these systems now have the capability to perform highly complex data analysis and prediction. Based on their functions and structure, ICU clinical decision support systems can be categorized into three main types: data collection and preprocessing systems, data analysis and prediction systems, and decision support systems. The first type is responsible for collecting and cleaning data from various medical devices to ensure accuracy and consistency. The second type uses advanced algorithms to analyze collected data and predict disease progression. The third type provides doctors with treatment recommendations and plans based on the analysis results. Recent technological breakthroughs include the application of natural language processing, image recognition, and reinforcement learning. Despite these advancements, challenges remain, such as data privacy and security, data quality, and system integration.
- CONCLUSIONS** As an important component of smart ICU construction, these systems are expected to bring revolutionary changes to critical care medicine through continuous innovation and optimization, offering new ideas and methods for improving the precision of ICU treatments.

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- AIMS** Stunting among children under five remains a major public health issue in Indonesia, including in Jember Regency, which has a high prevalence rate. One of the key risk factors contributing to stunting is the nutritional status of pregnant women, especially during the first trimester, which is a critical period for fetal growth and development. This study used to analyse the correlation between maternal nutritional status during the first trimester of pregnancy and stunting incidence in children aged 0–24 months in the working areas of Jember Regency Community Health Centers of Indonesia.
- METHODS** A retrospective case-control design was conducted among 104 of families with stunted and non-stunted children aged 0–24 months (52 of case group and 52 control group) using stratified random sampling in three sub-districts prioritized for stunting reduction programs. Maternal nutritional status was assessed using Mid-Upper Arm Circumference (MUAC) from Maternal and Child Health (MCH) books during 1<sup>st</sup> semester of pregnancy and height per age was measured to determine stunting among children. Data were analysed using the Chi-square test ( $p < 0.05$ ).
- RESULTS** In the case groups, 71.15% of mothers were a MUAC  $< 23.5$  cm during the 1<sup>st</sup> trimester, while 57.69% of mothers in the control groups were a MUAC  $\geq 23.5$  cm. There were a significant relationship between maternal nutritional status in the 1<sup>st</sup> trimester and stunting among children ( $p = 0.003$ ; OR = 3.364; 95% CI = 1.490–7.591). Mothers with poor nutritional status during the 1<sup>st</sup> trimester have a 3.36 times higher risk of giving birth to stunted infants compared to those with good nutritional status.
- CONCLUSIONS** Maternal nutritional status during the first trimester is associated with stunting among children aged 0–24 months. Therefore, home visit and giving health education are important treatment that should be improve for mother during pregnancy to prevent stunting among children.

**Yixuan LI<sup>1</sup>, Yuqiong DUAN<sup>1</sup>, Ziqi QIN<sup>1</sup>, Tao LIU<sup>1</sup>, Pingwu WANG<sup>1</sup>, Nancy REYNOLDS<sup>2</sup>, Wenru WANG<sup>3</sup>, Honghong WANG<sup>1</sup> & Xueling XIAO<sup>1\*</sup>**  
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- AIMS** To assess the efficacy of smartphone-based approach-avoidance training (AAT), online one-to-one goal-oriented intervention (GO), and a combination of both in promoting safer sex among people living with HIV (PLWH).
- METHODS** In this prospective, assessor-blinded, 2×2 factorial randomized trial, 206 adult PLWH were enrolled using both online and offline recruitment methods from February to December 2024. Eligible participants had engaged in condomless sex with casual partners and/or had multiple sexual partners in the past 3 months. They were randomly assigned to one of four groups: AAT, GO, GO+AAT, or standard of care (SOC). Primary outcomes included the frequency of condomless sex and the proportion reporting two or more sexual partners in the past month. Secondary outcomes assessed objective sexual health indicators (including new syphilis/gonorrhea infections and abnormal urinary leukocytes/erythrocytes).
- RESULTS** No significant interaction was detected between the interventions. Participants receiving AAT were less likely to report multiple sexual partners compared to non-AAT groups at the post-intervention (relative risk [RR], 0.91 [95% CI, 0.79 to 0.98]), and this effect remained significant and strengthened at the 3-month follow-up (RR, 0.85, [95% CI: 0.76 to 0.95]). GO participants showed a greater reduction in condomless sex frequency compared to non-GO groups at post-intervention (mean difference [MD], 0.50 [95% CI: -1.02 to -0.02]), though this effect attenuated by 3 months (MD, -0.33 [95% CI: -0.58 to -0.02]). The GO+AAT group also showed a significantly lower rate of urinary abnormalities than the SOC group (rate difference, -0.48, 95% CI: -0.91 to -0.05).
- CONCLUSIONS** Smartphone-based AAT significantly reduced the prevalence of multiple sexual partnerships, while online one-to-one GO decreased condomless sex in the short term. The combined intervention also lowered urinary abnormalities, suggesting digital interventions may help promote safer sex among PLWH.

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- AIMS** Based on the WeChat Mini Program, an ecological momentary assessment (EMA) exercise management platform has been developed to investigate the time-varying characteristics and dynamic associations between active exercise rehabilitation behaviors (number of exercise programs, duration) and related symptoms (dyspnea, fatigue, anxiety) in middle-aged patients with chronic obstructive pulmonary disease (COPD). This research aims to provide a basis for establishing a precise rehabilitation management system during the transition period.
- METHODS** The EMA platform developed in this study integrates questionnaire surveys, health education, automatic reminders, feedback, and follow-up functions. From October 15 to December 1, 2024, 54 COPD patients admitted to the department of respiratory and critical care medicine at a tertiary general hospital in Wuhan, Hubei Province, China, were recruited as study participants via the hospital's HIS system. Using the EMA platform, patients' active exercise rehabilitation behaviors and symptoms underwent continuous dynamic monitoring for one week. Multilevel Linear Model was employed to analyze the dynamic associations between active exercise rehabilitation behaviors and symptoms.
- RESULTS** During the one-week EMA monitoring period, the system triggered a total of 1,218 assessments, with yielding 1,120 valid responses (valid response rate of 91.95%). Patients completed an average of  $(2.76 \pm 0.39)$  assessments per day. Multilevel linear model analysis revealed that active exercise rehabilitation behavior and symptoms scores in middle-aged COPD patients exhibited a certain degree of inverse synchrony. Momentary dyspnea, fatigue, anxiety, and baseline kinesiophobia all had a significant negative impact on active exercise rehabilitation behavior ( $P < 0.05$ ).
- CONCLUSIONS** Middle-aged COPD patients exhibit individual differences and dynamic changes in their active exercise rehabilitation behavior and related symptoms. Nursing staff should establish a precise rehabilitation intervention system based on symptom fluctuations, utilizing dynamic monitoring and tiered management strategies to enhance patients' selfmanagement efficacy, thereby promoting the long-term optimization of pulmonary rehabilitation outcomes.

**Yishu ZHU<sup>1</sup> & Xi CHEN<sup>1</sup>***<sup>1</sup>Xiangya School of Nursing, Central South University, Changsha, China*

- AIMS** Large language models (LLMs), a type of generative AI, use deep learning to extract insights from massive datasets and generate text via comprehension and integration. They show notable potential and unique advantages in addressing critical mental health challenges but raise concerns regarding inherent technical limitations, security, and privacy. This paper provides a comprehensive review of current applications of LLMs in mental health research, while analyzing potential risks and challenges. The analysis aims to establish actionable references for advancing LLM applications in this field.
- METHODS** This review systematically summarizes the applications and progress of artificial intelligence in the field of mental health. It systematically reviews Chinese and English literatures published in PubMed, Web of Science and CNKI databases related to Large Language Models, Artificial intelligence and Mental health.
- RESULTS** LLMs have three core applications in mental health: personalized knowledge delivery in education to boost literacy; symptom-based screening for assessment and diagnosis to enhance early identification; and cognitive behavioral therapy-guided models for interventions targeting mild to moderate issues. However, clinical application is challenged by technical unreliability (inaccurate information, overgeneralized diagnoses, delayed updates), ethical risks (privacy breaches, algorithmic bias, deficient accountability), limited professionalism (poor emotional empathy and crisis intervention), unexplainable outputs with insufficient humanistic care (undermining credibility and compliance), and lack of unified standards and regulations (restricting large-scale use).
- CONCLUSIONS** LLMs hold promise in mental health, with advantages of efficiency, convenience and scalability, offering innovative solutions to China's psychological challenges. They have solid research and practical foundations in education, assessment, diagnosis and intervention, with notable effectiveness. However, issues like low accuracy, poor reliability, inadequate security, biases, privacy breaches, lack of transparency or explainability, and deficient empathy bring significant risks. Prior to deployment, these risks must be evaluated. While improving model professionalism and precision, robust regulations are crucial to proactively address risks and ensure service quality and safety.

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<b>AIMS</b>	This study aims to conduct a network meta-analysis to evaluate the relative efficacy of digital psychological interventions on depression, anxiety, caregiver burden, and quality of life among caregivers of people with dementia.
<b>METHODS</b>	Seven databases were searched for randomized controlled trials (RCTs) from inception to June 2025. The primary outcomes assessed were depression, anxiety, caregiver burden, and quality of life. Two authors independently screened the eligible studies, assessed the quality of the studies, and extracted data. The analysis was conducted using Software Review Manager 5.4 and R 4.5.0. The surface under the cumulative ranking curve (SUCRA) was calculated to rank the probability of all digital psychological interventions.
<b>RESULTS</b>	A total of 45 articles were included in the review, including 6335 participants, and evaluated 7 interventions. Compared to usual care, digital cognitive behavioral therapy, psychoeducation, and multicomponent psychological interventions significantly improved depression, caregiver burden, and quality of life. For anxiety, digital cognitive behavioral therapy, mindfulness-based therapy, psychoeducation, and multicomponent interventions were all more effective than non-active control groups.
<b>CONCLUSIONS</b>	Digital psychological interventions effectively alleviate psychological distress and enhance quality of life in caregivers of people with dementia, with digital cognitive behavioral therapy, mindfulness-based therapy, psychoeducation, and multicomponent psychological interventions demonstrating notable efficacy.

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<b>AIMS</b>	To evaluate the effectiveness of conversational agents in alleviating psychological distress, enhancing patient knowledge and compliance compared with traditional methods among patients undergoing surgery.
<b>METHODS</b>	Data were extracted from seven English and two Chinese electronic bibliographic databases from inception to 2025. Randomised controlled trials and quasi-experimental studies involving adult patients undergoing surgeries under general anaesthesia were reviewed. The risk of bias was assessed using the Cochrane Risk of Bias Tool (2.0) for randomised controlled trials and the Risk of Bias in Non-randomised Studies of Interventions tool for non-randomised controlled trials.
<b>RESULTS</b>	Ten studies with 1531 patients were included in this review. The conversational agents have two types, namely, rule-based and AI-powered conversational agents. The results showed that conversational agents significantly improved perioperative knowledge, psychological distress and compliance with preoperative instructions, exercise adherence and followup attendance in 3 months. However, for studies measuring outcomes over a longer period, the reduction in anxiety and improvements in exercise compliance was minimal or not sustained, highlighting the need for further investigation.
<b>CONCLUSIONS</b>	This review provides emerging evidence that conversational agents, both rule-based and AI-driven, hold promise in supporting surgical patients by enhancing knowledge, reducing psychological burden, and improving procedural compliance. Nevertheless, further robust clinical trials are essential to substantiate these findings, explore long-term impacts, and optimise the design and functionality of such agents for perioperative care.

**Tongyao WANG<sup>1</sup>, James CHOW<sup>2</sup>, Michael Chi Fai TONG<sup>3</sup>, Dora Lai Wan KWONG<sup>4</sup>,  
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- AIMS** The study aims to develop a GPT-powered patient navigator and enhance its usability through iterative rounds of patient and public involvement and engagement.
- METHODS** The study was conducted in two phases. The first phase was the development of a GPT-powered chatbot on self-care during head and neck cancer treatment within a multi-disciplinary team. The second phase was the co-constructure of the chatbot into an app-based intervention, 'DigiCoach', with a Lived Experienced Advisory Panel. Outcomes were measured with an author-developed questionnaire including both Likert scale items and open-ended question. Data were analyzed using the descriptive statistics and content analysis.
- RESULTS** We recruited a total of 22 patients with cancer (age 42±14.5) from the community to the Lived Experienced Advisory Panel. Most of them were females (54.5%), had a diagnosis of head and neck or esophageal cancer (36.4%), and received different treatment modalities including immunotherapy, chemotherapy, radiotherapy and surgery. Only one participant found the intervention as not feasible at all, three stated not useful as they believed it was not as good as real persons and could not offer any practical services. However, all participants stated they would recommend it to other patients. The content analysis indicated that most of the participants viewed it as a great tool for learning about the disease and selfcare information. They highlighted Digi-Coach as a great virtual companion to chat with when they 'felt lonely' or 'not in a good mood'. Further amendment of the intervention proposed by the participants include more personalized tone in the conversations, and more interactive functions including pictographic educational materials, and voice messages.
- CONCLUSIONS** The Digi-Coach demonstrated preliminary usability for patients living with cancer during treatment.

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- AIMS** Individual health literacy, the degree to which individuals can find, understand, and use health information, is a critical component in public health. Traditional health literacy interventions lack the effectiveness and scalability needed for optimal results. Large Language Models (LLMs) may bridge this gap by offering a personalized approach to simplifying complex information.
- METHODS** We evaluated prompt-based and fine-tuning approaches using OpenAI's gpt-4o and gpt-4o-mini models on the public PLABA dataset. The objective was to simplify texts to an 8th-grade reading level, per National Institutes of Health (NIH) guidelines for health materials. Model outputs were assessed against a human expert evaluation via 5-point Likert scale in simplicity, accuracy, completeness, and brevity. Performance was also compared to automated metrics, such as traditional readability scores (Flesch-Kincaid grade level), semantic similarity (BERTScore), or LLM-based frameworks (G-Eval). External human evaluation was performed on a hold-out dataset.
- RESULTS** Human evaluation scores indicated that the gpt-4o-mini model using a prompt template had superior performance, achieving averages above 4 out of 5 in all 4 categories, especially in accuracy with 4.2 (SD 0.88) and completeness with 4.4 (SD 0.75). Traditional readability FK grade level showed higher grade level at 11.6 than expected at 8. The semantic similarity metric (BERTScore) showed minimal performance differences, whereas the LLM-based framework (G-Eval) was more aligned with human evaluation. External evaluation confirmed these findings, identifying the prompt-based gpt-4o-mini as the superior approach.
- CONCLUSIONS** Smaller, efficiently prompted LLMs can effectively simplify complex biomedical text, providing nurses a powerful tool to generate clear patient education materials. The success of these smaller models makes on-premise deployment a viable option, ensuring patient data privacy is maintained. Beyond this study, these findings have broader implications, offering validated methods not only for implementing future research projects but also for enhancing the clarity and impact of grant proposals in the healthcare domain.

**Heni Dwi WINDARWATI<sup>1,2</sup>, Sujarwoto SUJARWOTO<sup>3</sup>, Retno LESTARI<sup>1,2</sup>,  
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- AIMS** Postpartum depression (PPD) is a significant public health concern in Indonesia. Cultural pressures, gender disparities, and limited psychosocial support contribute to this issue. Although maternal care services are available, paternal involvement in these services is often underutilized. This study aims to develop and evaluate the effectiveness of SAFE-MOTHER, a culturally adapted integrated digital low-intensity psychological intervention (LIPI) that actively involves fathers in improving maternal mental health and reducing the risk of PPD. The digital LIPI integrates psychosocial support, mental health education, parenting skills enhancement, and gender-cultural awareness to ensure relevance and accessibility for Indonesian families.
- METHODS** This study comprises phases including (1) development of culturally adapted LIPI modules via expert focus group discussions; (2) design of the SAFEMOTHER web-based platform using user-centered design (UCD), usability factor dan measurements; (3) a randomized control trials pilot study to evaluate the intervention's effectiveness with 194 participants (97 intervention, 97 control), including pre-, post-1, and post-2 measures of depression and anxiety among mother and father; and (4) refinement of the prototype with a feasibility study report. Additionally, phenomenological interviews with 25 mother-father dyads are conducted to explore intervention impact and acceptability.
- RESULTS** The expected results include a validated and user-centered digital prototype of the SAFE-MOTHER application that is tailored to the psychological, cultural, and caregiving needs of both mothers and fathers. The intervention is anticipated to improve emotional well-being within the family, strengthen parenting collaboration, and reduce the burden of maternal mental health issues, particularly postpartum depression and anxiety.
- CONCLUSIONS** SAFE-MOTHER represents a culturally responsive, digitally delivered innovation that integrates paternal support and LIPI to address maternal mental health. If effective, this program could strengthen community-based maternal care by embedding digital mental health support into routine services, empowering both mothers and fathers to engage actively in promoting maternal emotional well-being.

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## **AIMS**

Suicide is a significant mental health issue among Indonesian university students, with a prior study indicating that 37.15% of 838 students are at risk. Students from dysfunctional families are four times more vulnerable, with emotional neglect, parental conflict, and low parental engagement as contributing factors. Despite campus counseling services, stigma and accessibility issues still pose significant barriers for students. This program developed a youth suicide prevention that is a culturally adapted, AI-powered digital solution with an interactive chatbot story and a peer-parent support system to promote emotional well-being, improve mental health literacy, and reduce suicide risk by fostering the development of a web-based mental health intervention through the chatbot interactive story and enhancing support groups by connecting students, families, and peers through a peer-parent support system.

## **METHODS**

The intervention combines an AI-powered interactive chatbot story with a peer-parent support platform, both developed using a user-centered design approach. A pilot study includes a randomized controlled trial and phenomenological interviews to examine the program's impact on suicide prevention and youth mental health. Seventy at-risk university students and twenty parents participate in the development and testing phases. Outcomes are evaluated using UCD-11, implementation metrics (acceptability, appropriateness, feasibility), and usability factors (learnability, effectiveness, efficiency, errors, memorability, user satisfaction).

## **RESULTS**

Expected outcomes include a validated and accessible digital integrated platform tailored to university student needs, improved mental health literacy, enhanced emotional support, and reduced suicide risk. Pilot testing will assess the feasibility, usability, and behavioral impact of the intervention.

## **CONCLUSIONS**

The Works with Youth program offers an innovative and culturally responsive approach to empower university students at risk of suicide through digital support. If effective, the program is positioned for accelerated implementation to improve care for university students by using an AI-powered chatbot story and a peer-parent support system.

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- AIMS** This descriptive study aimed to assess the prevalence of access to both digital (DMHS) and traditional (MHS) mental health services in Australia, stratified by key demographic and sociodemographic groups.
- METHODS** This descriptive study analyzed data from the Australian Bureau of Statistics (ABS) 2020-2022 *National Study of Mental Health and Wellbeing*. Population subgroups were not defined *a priori*; rather, they were identified based on the demographic and sociodemographic variables available in the dataset. These included sex, age, cultural and linguistic background (CALD), Indigenous status, geographic remoteness, history of incarceration and military service. Data were analyzed within the ABS environment using Python. Relevant subsets of data were visualized using Google Colab to support descriptive analysis to assess the prevalence of access to both DMHS and MHS.
- RESULTS** The highest prevalence of mental health conditions was observed among younger individuals, non-heterosexual populations, and those experiencing unemployment or homelessness. Conversely, individuals aged over 45 years exhibited the lowest prevalence. In terms of service access (DMHS and MHS), the highest engagement was seen among younger adults and non-heterosexual individuals, followed by those who were unemployed or homeless. In contrast, people over 45 years, CALD individuals, those with a history of incarceration or military service, and residents of remote areas demonstrated markedly lower overall service access. The greatest disparities between MHS and DMHS access were observed among First Nations, CALD individuals, individuals with a history of incarceration or military service and those in remote areas. While some of these groups had moderate to high levels of MHS engagement, their access of DMHS was minimal or non-existent.
- CONCLUSIONS** This study highlights significant disparities in the prevalence of mental health conditions and service access across various demographic groups in Australia. Understanding the underlying factors driving these disparities is essential to ensure that mental health services are both equitable and effective.

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<b>AIMS</b>	Effective healthcare communication is crucial in the medical field. Textbased large language models offer a variety of possibilities for improving communication. To date, there are no published reviews on the use of large language models in healthcare communication. This review sought to summarize the applications and challenges of large language models in healthcare communication and to identify directions for future research.
<b>METHODS</b>	A comprehensive literature search of PubMed, Embase, Web of Science, and the Cochrane Library was conducted from January 2018 to July 2024. Eligible studies are those that use large language models to facilitate healthcare communication between the public, patients, and clinicians. All articles selected and data extracted were double-checked. The data was analyzed using an inductive descriptive approach, and presented in a table and narrative form.
<b>RESULTS</b>	Thirty-seven studies were included in this review, summarizing three patterns of large language model application in healthcare communication: healthcare information conversion (n=19), interactive content generation (n=17), and healthcare training support (n=1). Research findings indicate that large language models can effectively improve access to medical information, simplify clinical workflows, and innovate medical education models. However, challenges remain in terms of accuracy and security, legal and ethical issues, and limitations in emotional interaction.
<b>CONCLUSIONS</b>	This review provides evidence that large language models have broad prospects in the field of healthcare communication. Future research should focus on optimizing evaluation systems, improving model performance, refining ethical regulatory frameworks, and optimizing human-machine collaboration models to fully unleash the potential of large language models in healthcare communication.

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- AIMS** Young female breast cancer survivors face a disproportionate burden of disease, exacerbating existing gender disparities and impacting long-term survivorship. We aimed to evaluate the efficacy of a digital intervention grounded in an intersectional feminist approach to improve empowerment and survivorship outcomes, and to explore the mediating role of empowerment in shaping cancer survivorship.
- METHODS** We conducted a multicenter, parallel-group, randomized controlled trial in China. Participants were randomly assigned (1:1) using Python's randomization function to either a 12-week gender- and generationsensitive digital intervention incorporating an intersectional feminism approach or an active control group receiving online information support.
- The primary outcome was empowerment, assessed by inner self-efficacy (cancer behavior inventory, CBI-B) and societal empowerment (Social support Rating Scale, SSRS), assessed using the intention-to-treat (ITT) analyses.
- RESULTS** Between Jan 2022 and Dec 2022, 298 participants were screened, and 115 included in the analysis (60 in the intervention group, and 55 in the control group). The intervention group demonstrated significant greater improvements in self-efficacy and perceived social support ( $p < 0.001$ ). Significant time and group interaction were observed across several domains of unmet needs and quality of life from baseline(T0) to post-intervention (T1;  $p < 0.05$ ). Mediation analyses indicated that self-efficacy ( $\beta = 0.539$ , 95% CI: 0.209-1.119) and social support empowerment ( $\beta = 0.249$ , 95%: 0.065-0.496) mediated the intervention on the quality of life at T2.
- CONCLUSIONS** A digital intervention informed by intersectional feminism approach significantly improved empowerment and survivorship outcomes among young breast cancer survivors. These findings underscore the potential of digitally delivered, equity-oriented intervention to address structural disparities and enhance cancer survivorship in vulnerable populations.

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- AIMS** To construct a knowledge map of self-nutrition management after gastric cancer surgery, and to lay a foundation for the development of personalized recommendation system and intelligent question and answer system in the field of nutrition and health.
- METHODS** A top-down method was used to construct a knowledge map of selfnutrition management after gastric cancer surgery. Firstly, the literature research method was used to establish the knowledge base of self-nutrition management after gastric cancer surgery, and the ontology model layer of the knowledge graph was constructed. Secondly, combined with qualitative research and web crawler technology, the self-nutrition management needs of patients after gastric cancer surgery were explored to supplement the ontology model layer of the knowledge graph. The manual method is used to extract the triples of the knowledge base based on the ontology mode layer, and the knowledge base is visually presented.
- RESULTS** A total of 7 clinical guidelines, 7 expert consensuses, 12 evidence summaries, and 3 systematic reviews were included, and the ontology model layer included 9 first-level entities and 150 triplet groups, and the visualization of the knowledge graph of self-nutrition management after gastric cancer surgery was completed.
- CONCLUSIONS** The knowledge graph of self-nutrition management after gastric cancer surgery presents the knowledge context graphically, which can provide patients with self-learning tools and help nutrition science popularization actions.

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- AIMS** PAD is the third most common atherosclerotic CVD after coronary heart disease and stroke, affecting an estimated 45.3 million people in China. Chronic symptomatic PAD, typically presenting as claudication, often results in severe walking dysfunction and a decline in QoL. Although supervised exercise therapy is strongly recommended, it remains underused due to limited resources. Structured community-based exercise program offers alternatives, but adherence is challenging. Mobile health may improve accessibility and engagement. The REACH-PAD study aims to develop a mobile health-delivered home-based walking exercise program grounded in SDT to promote behavior change from inactivity to activity.
- METHODS** REACH-PAD is a single-blind, two-arm, parallel-group RCT involving 90 individuals with chronic symptomatic PAD. Participants will be randomly assigned to a control or intervention group, both receiving a custom- designed WeChat applet, which includes the following features: Exercise, Health, Review and Profile. The intervention group will additionally receive game design elements based on SDT, including points, levels, challenges, leaderboard and redeemable rewards. The primary outcomes include six-minute, pain-free, and maximal walking distance. Secondary outcomes include ankle-brachial index, muscle strength, and QoL. Tertiary outcomes focus on autonomous motivation and perceived competence.
- RESULTS** A qualitative descriptive study applying SDT is currently underway to explore influence factors to initiating and sustaining walking exercise among individuals with chronic symptomatic PAD. Findings from this study will inform the development of a more comprehensive and patientcentered intervention content.
- CONCLUSIONS** By supporting autonomy, competence, and relatedness, REACH-PAD aims to enhance autonomous motivation and perceived competence, then promote sustain behavior change. Findings are expected to have important clinical implications for individuals with chronic symptomatic PAD—a frequently overlooked clinical subtype—by improving walking capacity, functional status, and QoL, while reducing symptoms and global cardiovascular risk. REACH-PAD also addresses a critical gap in mobile health-delivered home-based walking exercise for this population in China.

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<b>AIMS</b>	Patients on maintenance hemodialysis (MHD) experience multiple cooccurring symptoms that substantially impair quality of life. However, the interactions among symptoms and their potential to guide patient-centered care remain underexplored. This study aimed to: (1) identify symptom clusters and construct symptom networks to determine core and sentinel symptoms for intervention; (2) examine the influence of clinical covariates on network structures; and (3) classify patient subgroups based on symptom profiles to inform precision symptom management.
<b>METHODS</b>	This multicenter cross-sectional study enrolled 938 MHD patients from 13 hemodialysis centers in Southwest China (February–June 2025). Symptom experiences were assessed using the Dialysis Symptom Index (DSI). Exploratory factor analysis (EFA) identified symptom clusters. Network analysis evaluated inter-symptom associations and centrality, while the Apriori algorithm detected sentinel symptoms. Latent profile analysis (LPA) was used for subgroup classification, and network comparison tests (NCT) examined structural differences after adjusting for clinical covariates.
<b>RESULTS</b>	Seven symptom clusters were identified: emotional, sexual dysfunction and cardiopulmonary, gastrointestinal, musculoskeletal, sleep-related, neurological, and skin discomfort. Difficulty initiating sleep was the most frequent and severe symptom, whereas pruritus caused the greatest distress. In the network, sadness emerged as the most central symptom, while fatigue acted as a key bridging symptom. Apriori analysis highlighted irritability, sexual dysfunction, and hypoactive sexual desire as sentinel symptoms (confidence >90%, lift >1.3). LPA identified four distinct subgroups: low, moderate, high, and very high symptom burden.
<b>CONCLUSIONS</b>	This study highlights the role of emotional symptoms, fatigue, and pruritus in MHD patients. The results provide insights into symptom clusters and their interconnections, supporting targeted interventions. Network analysis and digital tools offer a basis for personalized symptom management and improved patient care.

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<b>AIMS</b>	Construct an outpatient narcotic drug management system driven by artificial intelligence technology, and its application effects in improving medication safety, optimizing nurse-patient relationship and improving management efficiency.
<b>METHODS</b>	A three-dimensional management system encompassing structural, process, and outcome dimensions was constructed. A randomized controlled trial was conducted, using data from a tertiary hospital's outpatient narcotic prescriptions (n=8,562) and patient samples (intervention group n=300, control group n=300) from January to December 2024. The control group used traditional narcotic medication management, while the intervention group received a three-dimensional management system. System effectiveness was evaluated using indicators such as medication error rates, medication safety, health behavior changes, and quality of life.
<b>RESULTS</b>	Based on the analysis of the randomized controlled trial, the results are as follows: incidence of medication errors: medication error rate in the intervention group ( $\chi^2=8.29$ , $P=0.004$ ), medication safety score ( $P<0.01$ ), health behavior compliance of patients in the health behavior change intervention group reached 89.7%, which was significantly higher than 63.4% in the control group ( $\chi^2=57.86$ , $P<0.001$ ), the push coverage rate of personalized medication health education modules was positively correlated with patients' knowledge mastery ( $r=0.72$ , $P<0.001$ ), and the overall satisfaction of patients in the intervention group with nursing services was 98.95%.
<b>CONCLUSIONS</b>	Integrating artificial intelligence technology into the outpatient narcotic drug management system achieves the synergistic efficiency of technical rationality and value rationality, improves patients' self-management capabilities and medical service quality, and ensures medication safety.

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<b>AIMS</b>	To design and develop a localized digital platform for Integrated Care for Older People (ICOPE) in China, aiming to support the optimization of intrinsic capacity (IC) and functional ability in the aging population.
<b>METHODS</b>	Through a qualitative study, we explored the needs of older adults with IC decline in managing their capacity. An intervention framework was constructed based on the WHO's ICOPE Guidance. This framework was further developed in accordance with the Chinese national guidelines for IC assessment and maintenance among older adults, as well as expert consensus and evidence-based guidance for each domain of IC. Leveraging these foundations, we developed an intelligent management platform using the WeChat Mini Program infrastructure.
<b>RESULTS</b>	The platform comprises three components: a user interface for older adults, a health management team interface, and an administrative backend. Key features include IC screening and assessment, digital intervention videos, behavioral tracking with reminders, multidisciplinary expert consultations, and tailored delivery of health education content.
<b>CONCLUSIONS</b>	An integrated platform based on digital technology was developed for the management of IC among older adults. The system facilitates more accessible, efficient, and personalized IC screening, assessment, and intervention delivery. It also enhances older adults' knowledge and self-management skills related to IC, thereby contributing to the realization of more precise and effective strategies for healthy aging.

**Jie WANG<sup>1</sup>, Huimin ZHU<sup>1</sup>, Lei JIN<sup>1</sup>, Xiangyun LI<sup>1</sup>,  
Xufen ZENG<sup>1</sup>, Xiuzhu CAO<sup>1</sup> & Linfang ZHAO<sup>1</sup>**

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<b>AIMS</b>	To investigate the current state of preoperative decisional conflict and analyze its influencing factors among patients who are going to undergo metabolic and bariatric surgery (MBS).
<b>METHODS</b>	The study population was people with obesity who were about to undergo MBC from December 2023 to July 2024 at a tertiary care hospital in Zhejiang Province, China. A cross-sectional survey was conducted using the Chinese-adapted Decisional Conflict Scale to assess the level of preoperative decisional conflict. Spearman's correlation analysis and logistic regression were used to analyze the risk factors affecting preoperative decisional conflict.
<b>RESULTS</b>	302 people with obesity undergoing MBC were included in this study, and the incidence of decisional conflict was 24.17% (73/302). Spearman's correlation analysis showed the degree of informed ( $r = 0.73$ , $p < 0.05$ ) and values clarity ( $r = 0.76$ , $p < 0.05$ ) were correlated with preoperative decisional conflict. In multivariate logistic regression, the influence of variables on decisional conflict ranked as follows: obesity-related heart disease (OR = 3.950, 95% CI: 1.501 - 10.398, $P = 0.005$ ) first, gender (female) (OR = 2.054, 95% CI: 1.049 - 4.021, $p = 0.036$ ) second, anxiety (OR = 1.120, 95% CI: 1.011 - 1.240, $p = 0.029$ ) third, and depression (OR = 1.109, 95% CI: 1.014 - 1.213, $p = 0.023$ ) fourth.
<b>CONCLUSIONS</b>	Individuals with obesity-related heart disease, women, and those with depression or anxiety require preoperative targeted support related to MBS. Enhancing access to surgical information and clarifying personal values may help reduce their decisional conflict before MBS.

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- AIMS** Technophobia has become a worldwide problem among older adults. Although researchers have conducted various studies on technophobia, its definition remains controversial. The aim of this analysis is to elucidate the concept of technophobia and establish a clear and standardized framework for future research concerning older adults.
- METHODS** Rodgers' Evolutionary Method of concept analysis was used to examine the attributes, antecedents, consequences, and related concepts of technophobia. Literature published in the PubMed, Embase, Web of Science, CINAHL, Scopus, Medline, PsycINFO, CNKI, Wanfang, SinoMed, and VIP databases from database inception to May 2025 were systematically searched.
- RESULTS** A total of 80 articles were included in the synthesis. The attributes of technophobia identified were affective responses (emotions), human-machine ambiguity, and occurring in the context of technology acquisition and utilization. Antecedents of technophobia were categorized into the following domains: personal factors, social and environmental factors, health status, and technology-related factors. Consequences of technophobia were delineated into three themes: decreased technology acceptance and willingness to use, avoidance behaviors and digital divide, and increased risk of adverse outcomes. Related terms sharing attributes with technophobia included neophobia, technoethics, negative perception of new technologies, and technology avoidance.
- CONCLUSIONS** This concept analysis enhances conceptual clarity and mutual understanding of the usage, application, and significance of technophobia. It provides a robust foundation for ongoing concept development and operationalization. Further research is necessary to identify and expand the continuously evolving concept of technophobia in older adults.

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- AIMS** Aim: Sexual and gender minority (SGM) populations are at an elevated rate of depression due to experiencing multiple stressors. However, scant research aimed at understanding the roles of coping mechanisms between stressors and depression exists. This study aimed to investigate the influence of multiple stressors and the buffering roles of coping mechanisms on depression among Thai SGM adults.
- METHODS** This cross-sectional descriptive survey was conducted in collaboration with SGM organizations in Thailand. Guided by the Minority Stress Model, standardized measures of minority stressors (discrimination, victimization, concealment, and internalized sexual stigma), general stress, loneliness, coping mechanisms, and depression were selected, translated, and validated by expert panels. Convenience and snowball sampling strategies were used to recruit participants. Data was gathered via in-person and online Qualtrics surveys. Bivariate, multivariate, and Hayes's PROCESS macro analyses were performed.
- RESULTS** Participants (N=411, M=29.5 years) were primarily male (90.5%), gay (79.3%), and cisgender (76.6%). Over 40% of the sample met the criteria of depression (M=9.46, SD=8.43) and loneliness (M=38.59, SD=11.11). Participants commonly experienced general and minority stressors, and most frequently used problem-focused coping (95.8%), followed by social support (83.1%), and avoidance (49.1%) strategies to manage stressors. Depression was correlated with minority stress (discrimination, concealment, and internalized sexual stigma), general stress, loneliness, and coping mechanisms. Moderation analyses revealed that problem-focused coping weakened the relationships between stressors and depression, while avoidance coping strengthened the relationships between depression and stress, loneliness, and discrimination. Social support did not show a significant moderating effect.
- CONCLUSIONS** Experiencing multiple stressors and subsequent depression was common among SGM individuals. Our findings indicate that both problem-focused and avoidance coping strategies play a significant role in moderating the impact of these stressors on mental health. The results of this study have important implications for developing targeted nursing interventions for SGM populations.

**Shuya ZHOU**

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<b>AIMS</b>	Optimizing the cultural accessibility of digital healthcare tools requires understanding user perspectives on usability features and cultural appropriateness.
<b>METHODS</b>	A cross-sectional survey of 3,030 caregivers (mean age 44.0, 52.9% female, 19.78% minority) and 2,108 inpatients (mean age 49.7, 54.0% female, 17.82% minority) at a Guangxi medical center (July–October 2024) assessed experiences with digital tools, support needs, and preferences for culturally adaptive features.
<b>RESULTS</b>	Caregivers reported a higher adoption of digital tools than patients (caregivers: 87.1% vs. patients: 62.0%, $P$ -value < .001), yet 81.1% of caregivers reported unmet needs. Both groups (caregivers: 67.0%; patients: 64.0%) prioritized integrating traditional medicine over other cultural factors (language diversity, folk customs, and medical resource availability). Notably, ethnic minority caregivers expressed stronger preference for folk-customs-related content compared to Han counterparts (59.3% vs. 45.0%, $P$ -value < .001), while placing greater importance on mental health support (43.9% vs. 32.5%, $P$ -value < .001), and group chat functions (45.5% vs. 30.5%, $P$ -value < .001). Additionally, caregivers valued interactive health management tools (73.3% vs. 66.7% among patients, $P$ -value < .001) and user feedback mechanisms (61.2% vs. 55.0% among patients, $P$ -value < .001) more than patients.
<b>CONCLUSIONS</b>	Despite high adoption, caregivers report significant gaps in culturally relevant support. Digital health interventions should prioritize user-centered designs, incorporating traditional medicine and addressing divergent preferences of caregivers and patients.

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<b>AIMS</b>	This study aimed to identify key determinants and moderators affecting the adoption of smart senior care services among older adults by conducting a meta-analysis of existing empirical studies.
<b>METHODS</b>	A total of 32 empirical studies were included in the meta-analysis. Comprehensive Meta-Analysis (CMA) software (Version 3) was used to calculate pooled effect sizes. The theoretical framework integrated the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Trust Theory, and Perceived Risk Theory.
<b>RESULTS</b>	Perceived usefulness and perceived ease of use significantly influenced attitudes toward smart senior care. Attitude, perceived usefulness, perceived ease of use, perceived risk, perceived trust, subjective norms, and perceived behavioral control were all significantly associated with behavioral intention, which in turn significantly predicted usage behavior. Moderator analysis indicated that sample size significantly influenced the relationship between perceived usefulness and attitude. Moreover, when female participants outnumbered males, the effect of perceived ease of use on attitude weakened, while the effect of perceived trust on behavioral intention was strengthened.
<b>CONCLUSIONS</b>	The results confirm the robustness of TAM, TPB, Trust Theory, and Perceived Risk Theory in explaining smart senior care service adoption among older adults. Sample size and gender act as important moderators. Future research should explore additional moderating factors and employ alternative methodologies, such as qualitative comparative analysis, to further advance understanding of older adults' adoption behaviors in the context of smart senior care.

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- AIMS** To identify, map, and analyze the characteristics of evidence and categorize the elements of effective community participation in hypertension management for adults using Copilot and triangulation. It also seeks to address the gap in research supporting community participatory hypertension initiatives for global communities and local governments.
- METHODS** The review includes studies involving adults aged 18 and older with hypertension, regardless of comorbidities, educational level, marital status, or pregnancy status. It incorporates diverse research methodologies and contexts, considering grey literature also. Following Arksey and O'Malley's framework and the JBI Methodology for Scoping Reviews, the search covers databases such as Scopus, PubMed, CINAHL, the Cochrane Database of Systematic Reviews, Web of Science Core Collection, and Google Scholar. The search was conducted from March 1 to March 12, 2024, across databases. Two reviewers screen and include findings, which are presented in figures and tables with narrative descriptions. Data analysis uses inductive qualitative approaches and Copilot. Ethics approval for the final manuscript is pending.
- RESULTS** The search yielded 2,587 records, which were narrowed down to 66 studies. Findings detail elements of effective community participation in hypertension management: active engagement and ownership (n=8), culturally sensitive and inclusive empowerment (n=10), team-based collaborative care (n=7), holistic adaptive health transformation (n=4), ongoing health enhancement program (n=5), and equitable and trust-driven engagement (n=32).
- CONCLUSIONS** This review advocates for further research to investigate the application of elements of effective community participation, particularly in low- and middle-income settings. Additionally, public health professionals and community volunteers are urged to consider various contextual factors when designing interventions for hypertension management.

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- AIMS** To determine the feasibility, acceptability, and preliminary effects of mHealth-delivered music breathing therapy in enhancing resilience, reducing psychological distress (i.e., depression, anxiety, and stress) and caregiver strain, and improving coping responses and quality of life (QoL) of caregivers of children newly diagnosed with cancer.
- METHODS** This is an assessor-blinded pilot randomized controlled trial with a two-arm parallel-group pretest-posttest design. Participants were recruited at the pediatric oncology unit in the Hong Kong Children's Hospital and randomized into an intervention group receiving eight 1-hour weekly sessions of mHealth-delivered music breathing therapy administered individually (n=30) or a control group (n=30) receiving eight weekly online educational modules about medical information and advice about caring for a child who has been newly diagnosed with cancer via email. Main study outcomes included the feasibility and acceptability of the intervention using a qualitative approach, caregivers' resilience level, psychological distress, caregiver strain, coping responses, and QoL.
- RESULTS** The study had retention and attendance rates of 71.7% and 70%, respectively. Results from the Generalised Estimating Equations analysis indicated that, compared to the control group, the intervention group showed greater improvements in resilience and larger reductions in psychological distress and caregiver strain immediately after the intervention and at the three-month follow-up, though these results were not statistically significant. Qualitative interviews revealed four themes: (i) overall perception of the intervention, (ii) perceived facilitator/benefits of the intervention, (iii) perceived barriers of the intervention, and (iv) suggestions for improvement on the intervention.
- CONCLUSIONS** This study shows that mHealth-delivered music breathing therapy appears to be a feasible and acceptable psychological approach for caregivers of children newly diagnosed with cancer. It also provides preliminary evidence on its potential effectiveness in enhancing resilience and reducing psychological distress and caregiver strain among this vulnerable population. A modified full-scale trial with a larger and more diverse sample is warranted.

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<b>AIMS</b>	The REDucing Delay through edUcation on eXacerbations (REDUX) intervention has shown promise in improving early recognition and response to exacerbations in chronic lung disease (CLD) patients in the Netherlands. This stakeholder analysis aimed to identify perceived factors affecting the nurse-led self-management implementation of REDUX in China, using both qualitative and quantitative methods.
<b>METHODS</b>	Qualitative data were collected via semi-structured interviews with 35 patients, healthcare professionals (HCPs), and policymakers, exploring their support for REDUX, influencing factors, and preferred delivery methods. Quantitative data from 87 app developers and cybersecurity officers assessed conditions necessary for a digital version of REDUX. The analysis followed COREQ and stakeholder analysis frameworks.
<b>RESULTS</b>	Findings indicated strong overall support for REDUX, especially among patients and policymakers. Key facilitators included the intervention's ease of use, perceived benefits, adaptability, and supportive leadership. Barriers included patients' financial constraints, lack of policy support, limited digital literacy, and contextual mismatches with the Chinese healthcare system. Delivery mode preferences varied: while some favored a digital version, others preferred face-to-face or blended formats due to age, technology comfort, or practice needs. Quantitative results revealed that app developers and cybersecurity professionals largely adhered to international guidelines on app development and data protection. They emphasized the importance of involving end-users and ensuring security, privacy, and user engagement in digital health app development. However, some skepticism remained regarding the applicability of certain global standards in the Chinese context.
<b>CONCLUSIONS</b>	This study identified interrelated factors influencing REDUX implementation in China and provided context-specific insights into adapting the intervention. Recommendations include tailoring the action plan to Chinese healthcare norms, training HCPs in patient-centered care, and advocating for policy support and insurance coverage to enhance sustainability. Overall, these findings contribute to understanding the challenges and opportunities of implementing self-management interventions in low- and middle-income settings.

**Marc Augustus L. FABREAG<sup>1</sup>, Sophia A. TUBERA<sup>2</sup>, Lady Lee C. REYES<sup>3</sup>  
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<b>AIMS</b>	This study was conducted to develop Structured Electronic Pamphlet for Patients – Mobile Application (STEPP App) and determine its use in self-care of postoperative cardiac patients.
<b>METHODS</b>	Quasi-experimental research design was used to determine the association of the use of STEPP App and self-care activities of CABG patients.
<b>RESULTS</b>	A total of 42 respondents participated in the study. Most of them were male and belong to the age group of 51 years old and above. Of the findings, 69% of the respondents had effective self-care at ward post-operatively while 90% of the respondents had extremely effective self-care on the day of discharge. With a mean score of 69.76, STEPP App had an excellent usability. The computed Pearson correlation coefficient of self-care activity performance score at discharge and system usability scale score of patients is -0.1035, with p-value of 0.514.
<b>CONCLUSIONS</b>	<p>There are limited studies that report link of mobile health applications to the enhancement on the self-care of surgical patients. The self-care of post CABG patients had improved into extremely effective on the day of discharge. According to patients, STEPP App is easy to use, and people can learn it quickly. They believed that support in using this mobile app is unnecessary. Overall, STEPP App has an excellent usability on self-care activities of patients who underwent CABG. There was a significant increase on the self-care of CABG patients while having excellent usability of STEPP App intervention. Furthermore, for every increase in the self-care activity performance score, there is a decrease in the system usability scale score. There is inadequate statistical evidence that correlation between self-care activities performance and system usability scores is significant.</p> <p>Integrating STEPP App in health education systems would increase awareness of patients on different cardiovascular diseases. STEPP App would help prevent occurrence of complications and readmissions post CABG while having frequent health teachings. There is still a need to conduct a large-scale study to know more of the benefits of using STEPP App in patient care.</p>

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<b>AIMS</b>	This study aimed to determine if a telehealth program Telephone-Call Assisted Reiteration of Client Education (TeleCARE) has an effect on cardiac patients' adherence to discharge instructions and clinical outcomes.
<b>METHODS</b>	This study employed a randomized controlled trial design and was conducted in the adult wards of the Philippine Heart Center from July 2023 to September 2024.
<b>RESULTS</b>	<p>General adherence to prescribed home medications and instructions was 74.63%, with higher adherence observed in the TeleCARE group (84.38%) compared to the control group (65.71%). Similarly, adherence to outpatient follow-up check-ups was high overall (86.57%), and again higher in the TeleCARE group (93.75%) versus the control (80%). Mortality was 0% across both groups during the study period. Readmission rates were comparable between groups, with an overall rate of 5.97%, slightly higher in the TeleCARE group (6.25%) than in the control group (5.71%). Satisfaction survey results indicated very high satisfaction scores across all items.</p>
<b>CONCLUSIONS</b>	<p>The TeleCARE study shows improved medication adherence and follow-up attendance among patients with cardiovascular diseases. The absence of significant differences in most demographic and clinical characteristics between participants who received TeleCARE and those who did not indicates that the program is broadly accessible and potentially beneficial across diverse patient populations. However, economic status appears to influence participation, that suggests a possible barrier to equitable access. While the current data show no significant differences in clinical outcomes between the TeleCARE and standard care groups, the program notably enhances patient satisfaction. This finding highlights the value of patientcentered interventions in post-discharge care.</p>

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- AIMS** This study aims to explore the specific empowerment needs of family caregivers of adolescent depression patients in smart healthcare environments, with the goal of providing theoretical foundations and practical guidance for establishing a more precise family-technology collaborative care model.
- METHODS** A descriptive qualitative research design was employed. Purposeful sampling was used to select 15 family caregivers of adolescent depression patients for in-depth semi-structured interviews. The collected data were analyzed using Colaizzi's seven-step phenomenological analysis method for coding, categorization, and thematic extraction.
- RESULTS** **Four key themes were identified:**  
**Cognitive navigation needs** (e.g., access to dynamic disease knowledge and decision-support tools)  
**Skill enhancement needs** (e.g., training in digital health management and crisis intervention)  
**Empathic network needs** (e.g. emotional support systems and peer communities)  
**Human-machine collaboration optimization needs** (e.g., user-friendly interfaces and privacy protection mechanisms)
- CONCLUSIONS** Smart healthcare environments present new opportunities for enhancing family caregiving capacity. However, an integrated "educationtechnology-psychology" empowerment framework is essential, which Practical measures include developing tiered training programs by healthcare institutions, Improving smart care systems with age-friendly and emotionally intelligent designs and establishing hybrid online-offline community support networks. These strategies can improve the accessibility of smart healthcare for both patients and caregivers, and ultimately benefiting the entire family unit.

Wen JING

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- AIMS** To develop a Health Assessment teaching platform based on artificial intelligence technology, realizing the digital and intelligent transformation of nursing education, and to explore its application effects, providing a reference for AI-empowered nursing teaching practices.
- METHODS** Focusing on the pain points in Health Assessment teaching, such as the lack of standardized patients, limited simulation scenarios, and the challenge of effectively assessing students' health assessment abilities while providing personalized guidance, this study integrates nine functional engines, including Zhipu AI, Deepseek, large language models, knowledge extraction engines, and teaching behavior analysis engines. These engines are used to develop an AI teaching platform with features specific to the Health Assessment discipline. A parallel control design was used, with 102 nursing students from the 2023 cohort divided into two groups for a complete teaching cycle. The experimental group (n=51) used the AI teaching platform, while the control group (n=51) used a traditional online teaching platform. After the course, the theoretical scores and teaching satisfaction of the two groups were compared, and the experimental group also evaluated the platform's usability using the System Usability Scale.
- RESULTS** An AI teaching platform was developed with features including personalized learning planning, multi-role interactive guidance, and real-time intelligent Q&A. At the end of the course, the experimental group's average theoretical score was (69.71±7.73), significantly higher than the control group's average score of (63.04±9.30). The experimental group's satisfaction score was (79.76±8.41), significantly higher than the control group's (74.16±10.21). The differences between the two groups were statistically significant (P<0.001, P=0.003). The experimental group's average usability evaluation score was (78.51±8.83), indicating good platform usability.
- CONCLUSIONS** The AI teaching platform based on artificial intelligence technology effectively improved nursing students' theoretical scores and teaching satisfaction. It demonstrates good scientific validity and usability, providing a reference for the digital transformation of nursing education, further enhancing the intelligence level of nursing education, and offering a new paradigm for the innovative development of nursing education.

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## AIMS

In the digital era, many older adults are excluded from accessing health services due to limited digital skills. Digital back-feeding, in which young adults support older adults in digital access, skills, and knowledge, effectively bridges the digital divide in digital health and reducing their resistance, fatigue, and technostress when using mHealth applications. Nurses play a crucial role in supporting and educating older adults to improve eHealth literacy, yet current nursing interventions remain limited. This study aims to clarify the concept of digital back-feeding to inform nurse-led digital inclusion efforts.

## METHODS

This study used Rodgers' evolutionary concept analysis framework, conducting a cross-disciplinary literature search in English and Chinese databases. Thematic analysis with NVivo was applied to identify key attributes, antecedents, consequences, surrogate terms, and related concepts of digital back-feeding.

## RESULTS

A total of 67 articles were included in the final analysis. Three defining attributes of digital back-feeding were identified: multidimensionality (including digital access, skills, and literacy), bottom-up transmission (from younger to older generations), and continuity (ongoing support due to technological evolution and cognitive decline). Four antecedents emerged: generational digital divide, digital needs (functional and emotional), intention to back-feeding, and accessibility of resources and support, which involves material, technical, and emotional components. Key consequences included enhanced digital competence and literacy, increased intergenerational communication, equality in generational relationships, and enhance social integration.

## CONCLUSIONS

The findings will help nurses engage in digital health inclusion interventions. Nurses can strategically use digital back-feeding through face-to-face teaching in healthcare settings and by activating younger generations to participate in digital back-feeding within families. Nurses act as bridges linking digital back-feeding across family and society to achieve continuous digital back-feeding. By employing digital back-feeding, barriers to digital health use in the elderly can be overcome, fostering the attainment of health equity.

**Van Lan HOANG<sup>1</sup>, Hien Thi BUI<sup>2</sup>, Ngoc Minh DAM<sup>3</sup>, Thi Nguyet NGUYEN<sup>4</sup>,  
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## **AIMS**

Chronic kidney disease (CKD) is a major public health problem in Vietnam. To live with the disease, people with CKD still struggle physically and mentally due to changes of lifestyle, diet and treatment. This study aimed to evaluate a mobile app-based program assisting CKD population with their disease knowledge and self-management.

## **METHODS**

A pre- and post-test design was used. The support program using the Smart Kidney mobile application was implemented for 8 weeks in patients with CKD across stages. The Smart Kidney app supported patients in dietary and exercise activities, mental well-being and knowledge about the disease and treatment. Participants' kidney knowledge survey (KiKS), CKD- self management (CKD-SM) and depression anxiety stress scale (DASS21) scores were assessed and compared before and after the intervention. Semistructured interviews were used to have more insights into the participants' perspectives regarding the app usage and effectiveness. Wilcoxon Signed Rank Test was used to analyse quantitative data, and qualitative thematic analysis approach used to analyse qualitative data.

## **RESULTS**

55 eligible participants completed eight weeks using the app. Most were male (29/55, 52.7%), were having haemodialysis (43/55, 78.1%) with a mean age of 50.15 (SD 13,2) years. On average, the mean app visit was 54.4 times (SD 34). Compared to the pre-test, the post-test results had significant increases in CKD-related knowledge. Four identified qualitative themes reflected the participants' views on the app effectiveness included: (1) digital empowerment and self-management improvement, (2) interface usability and user engagement, (3) challenges and limitations of mobile health apps, and (4) future directions in mobile health for CKD selfmanagement.

## **CONCLUSIONS**

The Smart Kidney app was effective in improving disease knowledge of Vietnamese patients with CKD. The app usability and the patients' positive experiences suggested a larger scale intervention in the future.

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- AIMS** To design and implement a high-quality digital nursing ecosystem that integrates smart technologies into nursing workflows, enhances care quality and efficiency, and improves both patient and staff experience.
- METHODS** This project was implemented in a newly built tertiary hospital in Shenzhen, China, as part of a broader digital transformation strategy. A patient-centered approach was adopted to map the inpatient journey and identify nursing work flow. Based on these insights, a multi-layered smart nursing framework was developed, featuring:
- Clinical nursing knowledge base developed to support standardized care planning and bedside decision-making.
  - Personalized bedside services (e.g., My Care Team, clinical schedules, orders, health education, billing), enabling seamless information sharing across patient, nursing, and physician interfaces.
  - An innovative nursing care planning model for standardized, categorized interventions.
  - Closed-loop nursing workflow with real-time risk alerts.
  - One-terminal nursing workstation integrate full key information for nursing.
  - A digital nursing management dashboard to visualize real-time operational and staffing metrics.
- Cross-functional nursing and IT teams lead the project.
- RESULTS** Within one year of implementation across all inpatient units:
- Patient satisfaction scores consistently exceeded 9.0 (on a 10-point scale).
  - Bedside billing reduced discharge processing time from 20 minutes to 40 seconds.
  - 82.98% of clinicians reported optimized workflows; 87.94% noted improved efficiency in rounds and handovers.
  - Each ward saved 1,149 hours annually in manual vital sign entry, reducing labor costs by approximately ¥143,600.
- CONCLUSIONS** The Smart Nursing Innovation Project exemplifies how patient journeybased workflow redesign, empowered by smart wards, mobile nursing, and clinical decision support, can lead to a high-quality, integrated digital nursing ecosystem. It provides a scalable, replicable model for sustainable digital health transformation in nursing.

**Chen XIAO<sup>1</sup>, Xiaomao HUANG<sup>1</sup>**

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- AIMS** This study aims to evaluate the application of a 5G and AI-based remote visitation system in neonatal care, assessing its impact on enhancing family satisfaction, alleviating healthcare staff workload, and reducing cross-infection risks.
- METHODS** We developed a remote visitation system integrating 5G's high-speed, low-latency transmission with multimodal AI technologies. The system employs AI-driven Internet of Things (IoT) recognition and time-space tracking for infant imaging, enabling precise monitoring of neonatal behaviors and automated image capture. Key functionalities include video, sound, and motion recognition, intelligent filtering, image capture, and alert systems. The system assesses the neonate's condition in real-time to determine the appropriateness of visitation.
- RESULTS** The implementation of the 5G+AI remote visitation system significantly improved family satisfaction, increasing from 70% under traditional visitation methods to 90%. Healthcare staff satisfaction also rose from 60% to 90%, accompanied by notable improvements in work efficiency. The system's intelligent assessment of neonatal conditions reduced unnecessary visitations, optimized the visitation process, and alleviated non-medical duties of healthcare staff. Additionally, remote visitation minimized direct contact between families and the hospital environment, effectively reducing cross-infection risks. Families could view real-time, high-definition images of their neonates via mobile devices, alleviating separation anxiety and enhancing communication.
- CONCLUSIONS** The 5G and AI-enabled remote visitation system provides an effective solution to balance family visitation needs with infection control measures. This system not only meets familial visitation needs and alleviates separation anxiety but also enhances healthcare work efficiency, reduces labor costs, and offers significant social and economic benefits to patients and hospitals. With the continued expansion of 5G networks and advancements in AI technologies, remote visitation systems are poised to integrate more intelligent functionalities, further advancing smart healthcare in neonatal departments and delivering safer, more efficient, and humane medical services to neonates.

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## **AIMS**

Postoperative rehabilitation of lumbar spine is a key link in the success of surgery and functional recovery, among which muscle strength training is particularly important, which is the core means to stabilize the spine, prevent recurrence, and improve function. Traditional rehabilitation programs have problems such as poor adherence, inaccurate guidance, and difficult to quantify effects, which are difficult to perfectly fit the individualized and efficient goals advocated by the concept of rapid rehabilitation. The rise of artificial intelligence technology provides a new path to solve this problem. This paper aims to systematically review the application status and development prospects of AI-based personalized rehabilitation programs in rapid postoperative lumbar spine rehabilitation, focusing on their implementation strategies, technical advantages and clinical effectiveness in the field of muscle strength training.

## **METHODS**

By systematically reviewing the existing literature and cutting-edge practices, this review integrates the key roles of machine learning, computer vision, inertial sensors, and wearable devices in constructing personalized rehabilitation programs.

## **RESULTS**

Previous studies have mostly focused on AI algorithms and wearable devices. For example, AI algorithms dynamically generate and adjust fully personalized strength training plans (such as training intensity, frequency, and movement type) by comprehensively analyzing patients' preoperative functional status, intraoperative conditions, real-time physiological data, and self-reported outcomes, realizing a paradigm shift from a general program to "one person, one policy".

## **CONCLUSIONS**

AI-based personalized rehabilitation programs have significantly improved rehabilitation efficiency through precision, dynamics and intelligence, and effectively promoted the deepening and practice of ERAS concept. However, the field still faces challenges such as largescale verification of clinical effectiveness, data privacy and security, and technology cost and popularity. Future research should focus on building a standardized clinical validation framework, developing more efficient and lightweight algorithms, and promoting the deep integration of AI rehabilitation systems with clinical workflows, ultimately benefiting a wider patient population.

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- AIMS** This narrative review aims to (1) identify digital shared decision-making (SDM) tools that have been developed or implemented within the Indonesian healthcare system; (2) synthesize findings on their clinical effectiveness, user acceptability, and integration into general healthcare services; and (3) explore contextual challenges and opportunities related to digital SDM in Indonesia, including infrastructure, relevance, health equity and policy alignment.
- METHODS** A narrative synthesis approach was used to review peer-reviewed and grey literature. Searches were conducted across international databases (PubMed, Scopus, CINAHL, and Web of Science) and national Indonesian databases (GARUDA, Neliti, ISJD). Grey literature sources include government reports, policy documents, and publications from organisations such as the Indonesian Ministry of Health, WHO Indonesia, and government reports. Eligible sources published between 2010 and 2025, in English or Bahasa Indonesia were included if they described digital tools supporting shared decision-making between patients and healthcare providers.
- RESULTS** The review identified several digital platforms with SDM-enabling potential, including BPJS (national health insurance) supported telemedicine services, proposal of integrating AI in ePuskesmas documentation, and the national health information platform SatuSehat. However, only a limited tools were intentionally designed with SDM frameworks, and there was limited empirical evaluation of their impact on decision quality, patient engagement, or clinical integration. Most available evidence was descriptive. Common barriers included infrastructure limitations, digital literacy gaps, and minimal emphasis on interprofessional SDM. Opportunities were noted in national digital health initiatives and growing attention to person-centred care.
- CONCLUSIONS** Digital SDM tools in Indonesian healthcare system remain at an early stage of development and adoption with limited utilization and evaluation. Addressing these gaps requires integrating SDM principles into digital health strategies, encouraging co-design with local users, and prioritising evidence-informed implementation to ensure tools are contextually relevant across diverse care settings.

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<b>AIMS</b>	Intrinsic capacity (IC) refers to the sum of the physical and mental capacities of an individual. Conventional assessment of ICs requires substantial temporal and human resources. Digital twin (DT) technology emerges as a promising solution for efficiently mapping ICs. This study aims to explore older adults' perspectives on the DT technology and their perceptions of how it could effectively represent their ICs.
<b>METHODS</b>	A qualitative study was employed. Face-to-face semi-structured interviews with 23 older adults were conducted. The interviews were transcribed verbatim and analyzed via content analysis approach.
<b>RESULTS</b>	The analysis identified five themes: (1) "opt for or not my digital twin", revealing the older adults' decisions regarding whether to use DT technology for mapping ICs: optional, worthwhile, non-essential, and rejected; (2) "my ideal digital avatar", describing older adults' preferences for personalized digital avatar appearances, characterized by "mirror mapping" and "visual refinement", while also reflecting a tendency toward self-preference projection; (3) "my digital twin maps my intrinsic capacity", highlighting how multimodal reminders and synchronized avatar changes enhanced their comprehension of ICs; (4) "the benefits my digital twin can deliver", emphasizing the potential of the DT system to provide feedback services to older adults, such as acting as health advisor, life assistant, spiritual mentor, and role complement; (5) "some expectations for my digital twin", expectations centered on intelligence and knowledge integration, positive feedback, multi-subjective bonding, and privacy and security. Based on these insights, we developed the "Windmill" model, integrating DT technology to map older adults' IC, encompassing avatar appearance, IC mapping, feedback services, and interactive expectations from the perspective of older adults.
<b>CONCLUSIONS</b>	DT technology was a promising tool for mapping ICs of older adults. The "Windmill" model provided a framework to build tailored DTs. The findings of this study could provide references to develop DT model to support IC assessment and management.

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<b>AIMS</b>	To investigate the status of change fatigue and work withdrawal behavior among Chinese nurses, construct a network, identify core issues within the network, and to explore relationships between variables.
<b>METHODS</b>	From April to June 2022, a total of 1427 clinical nurses were recruited from six cities in Guangdong Province, China using convenience sampling. Data were collected by using a general information questionnaire, Change Fatigue Scale, and Employee Work Withdrawal Behavior Scale. Network analysis was adopted to examine the correlation between change fatigue and work withdrawal behavior among nurses. Centrality and bridge centrality indicators were identified.
<b>RESULTS</b>	The sample scored (26.01 ± 8.59) for change fatigue and (20.70 ± 6.61) for work withdrawal behavior in Chinese nurses. Network analysis revealed that there is the strongest correlation between "I am tired of all the changes in the organisation" and "I often don't want to go to work" and "I want a period of stability before any changes are implemented in the organisation" and "I often chat with colleagues about non-work-related topics", with marginal weight values of 0.097 and 0.072. The cluster of change fatigue, "In the organisation, we are required to change too many things," and the cluster of work withdrawal behaviour, "I leave work early without permission," are expected to have a greater impact, with EI values of 1.21 and 1.13. "I am tired of all the changes in the organisation" is an important bridge expected impact in the network, with a BEI value of 0.26. In network, the stability coefficient of node expected influence is 0.75.
<b>CONCLUSIONS</b>	"We are asked to change too many things in the organization" and "I left work early without permission" are common intervention targets for Chinese nurses change fatigue and work withdrawal behaviour. Nursing managers can implement interventions based on centrality indicators and bridge centrality indicators to effectively improve change fatigue among nurses and reduce the negative impact of work withdrawal behaviour.

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<b>AIMS</b>	To sort out the characteristics in the training process of BSN-PhD/DNP education programs in nursing and synthesize existing evidence on these programs.
<b>METHODS</b>	Following Arksey and O'Malley's scoping review framework, we searched PubMed, Web of Science, Cochrane Library, EMBASE, SCOPUS, ERIC, CINAHL, ProQuest, EBSCO, CNKI, Wanfang, VIP, and grey literature (i.e., websites of QS top 100 nursing schools) in March and April 2025. Eligible sources included literature in English and Chinese of any format. Literature with unavailable full texts was excluded. Two reviewers independently screened and extracted data, with disagreements resolved by consensus or a third reviewer. Data were synthesized narratively.
<b>RESULTS</b>	We included 18 studies and identified 45 BSN-PhD/DNP programs across top-100 universities, most of which were from the US (83%). Although these programs differ in focus—primarily because of their distinct educational objectives—they share several key characteristics: (1) Admission: BSN as the minimum requirement; (2) Mentorship: dual academic–clinical supervision; (3) Curriculum: BSN-PhD/DNP curricula vary among institutions and programs in their specific courses and requirements. Despite these differences, most curricula incorporate a common set of core areas, including research methodology, statistics, philosophy and advanced clinical practice. In addition, blended learning that integrates online and face-to-face instruction has emerged as a prevailing pedagogical trend; (4) Practice: Practice experiences include clinical, teaching, and project practicums; (5) Assessment: common assessment methods include reflective logs, comprehensive examinations, and a dissertation with an oral defense. The implementation of BSNPhD/DNP programs is further shaped by internal factors (e.g., academic workload, faculty quality, curriculum design) and external factors (e.g., funding, information technology support).
<b>CONCLUSIONS</b>	Our findings provide a valuable reference for the design of BSN-PhD/DNP training programs, underscoring the need for faculty development, thoughtful curricular design, sustainable funding, and reliable technological support to enhance the development of BSN-PhD/DNP programs globally.

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- AIMS** To develop a family empowerment hypertension management intervention program for patients undergoing peritoneal dialysis (PD) and evaluate its application effects.
- METHODS** A family-centered empowerment hypertension management intervention program, which involves family members in the patient's blood pressure management and cloud-based remote monitoring via an intelligent Wi-Fi blood pressure monitor, was developed based on a literature review and expert discussions. 90 PD patients and their caregivers were randomly assigned to an intervention group receiving this program and a control group receiving routine care. Both groups were evaluated using the Home Blood Pressure Monitoring Knowledge questionnaire (HBPMKQ), Home Blood Pressure Monitoring Perception Scale (HBPMPS), Home Blood Pressure Monitoring Adherence Scale (HBPMAS), Medication adherence Scale, family Apgar Scale and Caregiver Positive Feelings Scale at baseline, 1 month, 3 months and 6 months after intervention. Data were analyzed using Multi-trajectory model and generalized estimating equation in SAS9.4 and R4.1.
- RESULTS** Multi-trajectory model analysis of office blood pressure, Medication adherence and HBPMAS revealed two groups: the risk trajectory group (n = 44, 93.2% from the control group) and the optimal control trajectory group (n = 38, all patients from the intervention group). At 6-month followup, the intervention group demonstrated significantly higher scores in HBPMKQ ( $57.0 \pm 1.9$  vs.  $44.1 \pm 6.5$ ), HBPMPS ( $132.0 \pm 6.1$  vs.  $104.4 \pm 7.6$ ), HBPMAS ( $37.8 \pm 3.1$  vs.  $26.1 \pm 4.4$ ), medication adherence ( $24.3 \pm 1.7$  vs.  $17.4 \pm 2.9$ ), and positive affect ( $40.4 \pm 3.9$  vs.  $31.1 \pm 4.2$ ) compared to the control group. Caregivers in the intervention group also reported higher family care scores ( $9.5 \pm 1.3$  vs.  $5.0 \pm 2.2$ ), all  $P < 0.05$ .
- CONCLUSIONS** The family-centered empowerment intervention for hypertension management can effectively enhance the blood pressure management adherence of PD patients, which may serve as a feasible strategy for homebased hypertension care in PD patients.

**Yang YANG<sup>1†</sup> & Ziqi CHEN<sup>1†</sup>**

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- AIMS** This study employed the Theoretical Domains Framework (TDF) to systematically identify barriers and facilitators affecting adherence to a digital exercise intervention among community-dwelling older adults with mild cognitive impairment (MCI). The primary aim was to elucidate the multifaceted cognitive, emotional, social, and environmental factors that influence sustained participation in a technology-supported physical activity program. By leveraging a structured framework, the study sought to move beyond superficial insights to uncover deeper determinants of behavior that could inform more effective intervention designs tailored to this vulnerable population.
- METHODS** Individual semi-structured interviews were conducted with 22 older adults diagnosed with MCI, all of whom were enrolled in a 12-week digital exercise intervention utilizing smart wearables and a supporting mini-program. Each interview was audio-recorded, transcribed verbatim, and subjected to deductive content analysis aligned with the 14 domains of the TDF. Through an iterative process, belief statements were extracted and synthesized into thematic clusters within each domain.
- RESULTS** A total of 117 distinct belief statements were identified across all 14 TDF domains, with 49 deemed highly relevant to adherence. The most salient domains, in descending order of frequency and influence, were: Environmental context and resources; Behavioural regulation; Beliefs about capabilities; Knowledge; and Skills. Other notable domains included Beliefs about consequences, Reinforcement, Emotion, Intentions, Memory, attention and decision processes, Social/professional role and identity, Social influences, and Goals. Optimism was found to be the least relevant domain in influencing adherence.
- CONCLUSIONS** This TDF-based analysis underscores the complex and interacting factors that shape adherence to digital exercise interventions among older adults with MCI. These insights highlight the need for elderly-friendly intervention designs that feature simplified digital interfaces, context-aware adaptability, and enhanced social and technical support systems.

**Siyuan WU<sup>1</sup>, Hammada ABU-ODAH<sup>2</sup>, Kuan LIAO<sup>2</sup>, Janelle YORKE<sup>2\*</sup> & Huafang ZHANG<sup>1\*</sup>**

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- AIMS** Patient reported outcome measures (PROMs) are being widely used in cancer care, while artificial intelligence (AI) healthcare technologies are driving rapid advancements in healthcare. Combining AI technologies and PROMs is expected to promote valued cancer care. However, the process of utilizing and combining of AI technologies and PROMs in cancer care is unknown. This scoping review aimed to map current evidence on the use of AI healthcare technologies and PROMs in cancer care, identifying research gaps and future trends.
- METHODS** Peer-reviewed studies were searched from January 1, 2010, to August 30, 2024, in PubMed, EMBASE, CINAHL, Web of Science, PsycINFO, IEEE Xplore, and ACM Digital Library. Additionally, the PROBAST tool was used to critically evaluate the inclusion of selected studies.
- RESULTS** The search yielded 12002 studies, of which 80 were met the eligibility criteria. After full-text screening, 33 studies included in the analysis, which 25 were about predictive modeling and 8 studies were about decision management. The most used algorithms in AI health technologies are random forests, followed by regression algorithms and support vector machines. There are also three other AI health technology types including automated conversational agents, intelligence service platforms and mobile phone applications. The most commonly used PROM was the generic quality of life assessment tool. Risk of bias evaluations of the 25 predictive modeling studies showed that 18 had a high overall risk of bias, 5 were unclear, and 2 were low.
- CONCLUSIONS** This review highlights significant gaps in research regarding the combining of PROMs and AI technologies in cancer care, suggesting the in need for further the of development of digital care in cancer care.

**Sophia LUK<sup>1</sup>, YJI MA<sup>1</sup>, Crystal LAW<sup>1</sup>, Candy CHAN<sup>1</sup>, Kathy FU<sup>1</sup>,  
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## AIMS

1. To promulgate personalized patient education through smart initiatives to improve patient's physical and psycho-social wellbeing, especially before surgical procedures.
2. To integrate digitalised information into routine patient education.
3. To promote immediate information access to health information.
4. To facilitate standardization in health education with electronic resources.

## METHODS

1. Set up a workgroup and filter for over 400 public-accessible resources that related to daily clinical use.
2. Re-design current health information into one-step Quick Response (QR) codes pamphlets for implementation.
3. Design questionnaires to collect stakeholders' opinions.
4. Implement programme both in inpatient and outpatient settings through merging electronic health information into daily nursing practice.
5. Review and amend the designs according to the collected feedbacks.
6. Conduct programme evaluation and finalize designs with regular review and update schedule.

## RESULTS

1. Patient satisfaction survey: (Around 1500 patients)

Over 95% cross-aged patients were satisfied and preferred with the QR code health education related to endoscopies, operation details or postdischarge care, particularly in helping them explain to their family. Nearly all respondents expressed their needs in related health topics.

2. Staff opinion survey: (Total 55 nurses)

Most nurses (>90%) agreed the QR code leaflets were user-friendly, effective to deliver and time-saving. Majority interviewees perceived the programme promoted standardized patient health education. Many other education topics were suggested for future program enhancement like drain care and medication changes.

## CONCLUSIONS

This program demonstrated a new and easier way of sharing standardized health materials to enhance patient education and better resources management. Questionnaires showed positive evaluation results and the program was welcomed by all stakeholders. The digitalized health education pamphlets echo to patients' needs and save clinical time. Thus, it is recommended in clinical use for standardized patient education. Future development is suggested to integrate all the collected constructive feedbacks for longstanding benefits in health promotion.

**Ek-uma IMKOME<sup>1</sup>, Rangsiman SOONTHORNCHAIYA<sup>2</sup>, Ploi LAKANAVISID<sup>3</sup>,  
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<b>AIMS</b>	This pilot experimental study explored the feasibility and potential effectiveness of the Ai-Aun chatbot in enhancing mental health among older adults in Thailand.
<b>METHODS</b>	Forty-four participants were randomly divided into an experimental group (n=22) and a control group (n=22). The experimental group interacted with the Ai-Aun avatar chatbot on an Android phone for 15 days. Mental health was assessed using the Thai Geriatric Mental Health Assessment Tool, and post-test scores were compared using ANOVA.
<b>RESULTS</b>	The results showed a significant difference between the two groups, $F(1, 42) = 15.85$ , $p < 0.001$ , with an effect size of $\eta^2 = 0.27$ . Satisfaction with the chatbot was notably high, with 81.8% of participants reporting ease of use and interactivity.
<b>CONCLUSIONS</b>	These preliminary findings suggest that the Ai-Aun chatbot holds promise as an accessible and effective digital intervention for supporting mental health in older Thai adults.

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<b>AIMS</b>	This systematic review aimed to (1) provide an overview of components of family-involved mHealth physical activity interventions among community-dwelling older adults, and (2) examine the effects of these interventions on physical performance in community-dwelling older adults.
<b>METHODS</b>	A comprehensive search was conducted across six databases: Medline, PubMed, CINAHL, Embase, PsycINFO, and Scopus. Studies were selected based on the following eligibility criteria: (1) older adult participants aged 60 years or older, (2) any eligible physical activity interventions involving family members and delivered by mHealth technology, (3) outcomes related to physical performance, and (4) any intervention study design.
<b>RESULTS</b>	A total of 2,876 studies were initially identified, and 7 experimental and quasi-experimental studies met the eligibility criteria. The outcome measure of this review was physical performance, including both physical function and physical activity. Among these studies, 6 evaluated physical function, 2 assessed physical activity, and 1 addressed both domains. Among the physical function studies, 3 studies used the TUGT to measure functional mobility, while the other 3 employed self-report assessment tools. Within-group effect sizes (Cohen's $d$ ) ranged from 0 to 1.3, indicating outcomes from no change to very large effects. Between-group effect sizes were reported in 4 of 6 studies, ranging from 0.06 to 0.78, reflecting very small to medium effects. For physical activity, 1 study used an activity monitor, and another utilised a self-reported questionnaire. Within-group effect sizes ranged from 0.6 to 0.7, indicating medium to large improvements.
<b>CONCLUSIONS</b>	Although all individual studies reported positive trends in the physical performance following family-involved mHealth physical activity interventions, not all demonstrated statistically significant improvement. Due to variability in intervention protocols, physical conditions among older adult participants, and measurement methods, definitive conclusions regarding the effects of physical performance in these interventions for older adults remain limited, and further investigation is required.

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<b>AIMS</b>	This study aims to explore the differing ethical perceptions between older adults and nursing professionals in relation to AI-based companion devices used in smart home environments. The focus is on understanding how dignity, autonomy, and emotional reliance are interpreted and experienced across these two groups.
<b>METHODS</b>	A qualitative, two-arm interview study will be conducted in Shanghai. Twenty older adults aged 65+ and ten nursing professionals working in geriatric community or home care will be recruited through purposive sampling. Participants will be interviewed regarding their exposure to and perspectives on AI-powered home companions (e.g., voice assistants, robotic pets, smart monitors). Thematic analysis will be conducted using the four principles of biomedical ethics—autonomy, beneficence, nonmaleficence, and justice—as an analytical lens. The study will contrast users' lived experiences with the professional ethical concerns raised by nurses.
<b>RESULTS</b>	Preliminary insights from prior literature suggest that older adults may develop emotional attachment or dependence on AI companions, potentially prioritizing machine responsiveness over human connection. In contrast, nursing professionals often express concerns about reduced human interaction, compromised consent procedures, and blurred boundaries of care responsibility. The expected findings aim to identify cognitive and ethical gaps that can influence design and implementation.
<b>CONCLUSIONS</b>	By highlighting divergent perceptions between service users and providers, this study offers valuable insights into how smart home AI tools can be ethically integrated into aging-in-place strategies. The findings may inform user-centric design, enhance ethical training for caregivers, and guide policies that preserve human dignity while embracing technological care innovations.

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<b>AIMS</b>	This review aims to explore the benefits of simulation-based learning, both real and virtual in enhancing wound care competencies among nursing students.
<b>METHODS</b>	The databases CINAHL, ScienceDirect and PubMed were searched for relevant studies. Medical Subject Headings (MeSH) were employed to refine keywords identification. All retrieved articles were imported into EndNote for the screening process. The study selection process was documented using the PRISMA (Preferred Reporting Items for Systematic Reviews and MetaAnalyses) flowchart. A total of 206 articles were obtained, and only 5 included articles met the eligibility criteria.
<b>RESULTS</b>	The review found that simulation-based learning in wound care education significantly improves clinical skills acquisition, confidence, and decisionmaking. High-fidelity simulation provided authentic, complex scenarios that mirror clinical practice. Although the use of virtual wound care simulation was limited due to resource constraints, it still showed positive outcomes as supplementary tool. Integration of theoretical knowledge with practical experience, supported by structure debriefing, further enhanced learning outcomes.
<b>CONCLUSIONS</b>	Simulation-based learning provides beneficial outcomes to improve wound care knowledge and skill among nursing students. Clinical facilitators are suggested to consider applying face-to-face or virtual simulation-based learning according to advantages and resources.

**Tuti NURAINI<sup>1\*</sup>, Melati FAJARINI<sup>2</sup>, Hening PUJASARI<sup>1</sup>, Tissa Aulia PUTRI<sup>1</sup>,  
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<b>AIMS</b>	We developed education with augmented reality based card games. This study assessed the efficacy of a augmented reality based card games as educational strategy in improving awareness public of breast cancer.
<b>METHODS</b>	The random control trial design comprised 100 participants, 50 assigned to the intervention group and 50 to the control group. Participants were administered a validated questionnaire before and after the intervention. The intervention group received education through augmented reality-based card games, whereas the control group received information through a leaflet. The paired t-test and independent t-test were employed for statistical analysis.
<b>RESULTS</b>	The intervention group exhibited a substantial improvement in knowledge and awareness ( $p < 0.05$ ), in contrast to a negligible rise in the control group. Post-intervention scores exhibited a substantial disparity between groups ( $p < 0.05$ ).
<b>CONCLUSIONS</b>	The findings indicate that augmented reality-based card games improve public awareness in cancer prevention. Education for the community using augmented reality technology and games can be accepted by the community, especially young people.

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<b>AIMS</b>	This review aims to map the evidence regarding the application and development of emotion recognition based on physiological signals in the elderly.
<b>METHODS</b>	Followed by the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for scoping reviews (PRISMA- ScR), a literature search was conducted in Web of Science, PubMed, and Institute of Electrical and Electronics Engineers Digital Library (IEEE Xplore DL) databases in December 2024 and the reference lists of included studies were manually searched to identify additional articles. Literature screening and data extraction were completed by two authors independently. Any disagreements were resolved by negotiating with a third authors.
<b>RESULTS</b>	A total of 11 studies published between 2011 and 2024 were included. Current research primarily focused on applications in daily mental health assessment and monitoring for the elderly. Electroencephalogram (EEG) emerged as the most frequently utilized physiological signal for emotion monitoring in the elderly, with identified emotional states primarily categorized into two classic models: discrete emotion and dimensional emotion. All emotion monitoring devices adopted wearable designs, among which multimodal devices demonstrated superior performance compared to unimodal counterparts. The multimodal combination of Electrodermal Activity (EDA) and Heart Rate Variability (HRV) achieved higher emotion recognition rates than unimodal signals. This advantage stems from the complementary characteristics among different physiological signals. Researchers could develop emotion recognition models based on more precise hospital-based clinical physiological data, thereby providing additional practical avenues for people-centered healthcare practices.
<b>CONCLUSIONS</b>	Current study focuses on data collection in laboratory settings. Health monitoring data obtained through portable wearable devices in daily living environments can effectively address these limitations and is expected to become the primary data source for emotion recognition in the elderly within natural scenarios. Physiological signal-based emotion recognition creates an infrastructure for interdisciplinary collaboration.

**Sharon Hoi Lam PAK<sup>1</sup>, Edmond Pui Hang CHOI<sup>1</sup>, Pui Hing CHAU<sup>1</sup>**

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<b>AIMS</b>	This study aimed to explore the understanding, perception, and experience of technology-facilitated sexual violence and abuse (TFVSA) among adults in Hong Kong.
<b>METHODS</b>	The study adopted a qualitative descriptive design with thematic analysis. Thirty Hong Kong adults were recruited from April to August 2025 using convenience sampling. Semi-structured individual interviews with open-ended questions were conducted. The interview data were transcribed verbatim from the recordings and analyzed using Braun and Clarke's thematic analysis approach.
<b>RESULTS</b>	Five themes were identified from the interview. First, a pervasive veil of ignorance existed, where participants lacked knowledge on TFSVA and digital consent. Second, victims endured profound invisible wounds, representing a severe type of digital psychosocial harm that current healthcare and legal systems were unprepared to address. Third, a culture of complicity was enabled by platforms that prioritize the data flow over safety, fostering perpetrator anonymity and victim-blaming. Fourth, the passive bystander phenomenon emerged, where witnesses consciously declined to intervene due to fear, a diffusion of responsibility, and a lack of clear reporting mechanism. Finally, these issues are rooted in a systemic shortcoming – a gap between the rapid technological advancement and the development of protective laws, ethical codes, and educational safeguards.
<b>CONCLUSIONS</b>	The study provided qualitative evidence on the experience and perceptions of TFSVA among adults in Hong Kong. The findings, organized across five key themes, collectively indicated that prevailing ethical guidelines and legal frameworks are obsolete in the current digital age. To address this issue, it is imperative to foster a culture of proactive safety by clearly defining digital consent, legislating platform accountability, and strengthening protections for victims. Ultimately, the study provided an evidence-based foundation for healthcare professionals to develop comprehensive education and counselling programs, for technology developers to implement ethical principles in digital platforms, and for policymakers to reform legal and regulatory measures.

**Yue WU<sup>1</sup>, Yumei TIAN<sup>2</sup>, Mingyue ZHANG<sup>1</sup>, E GAO<sup>1</sup>, Lin LI<sup>1</sup>, Qi AN<sup>1</sup> & Hao ZHANG<sup>2</sup>**

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<b>AIMS</b>	Exploring the relationship between sarcopenic obesity and Chronic Pulmonary Disease (CLD) risk in middle-aged.
<b>METHODS</b>	This study conducted a regression analysis based on the data from the China Health and Retirement Longitudinal Study Cohort from 2015 to 2018 to explore the relationship between sarcopenic obesity and Chronic Pulmonary Disease.
<b>RESULTS</b>	Over a 3.6-year follow-up period, a total of 1,793 participants (12.7%) developed CLD. The cumulative incidence rates of CLD in the "normal weight without sarcopenia," "normal weight with sarcopenia," "obese without sarcopenia," and "obese with sarcopenia" groups were 34.99% (4937/14110), 35.32% (4984/14110), 16.28% (2297/14110), and 13.54% (1910/14110), respectively.
<b>CONCLUSIONS</b>	This study among Chinese adults demonstrated a significant association between sarcopenic obesity and increased risk of developing CLD, highlighting the importance of monitoring respiratory health in this population.

**Xu AO<sup>1,2</sup> & Wang YANMEI<sup>1</sup>**

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<b>AIMS</b>	To develop a random forest-based model predicting psychological crisis (anxiety/depression) risk in elderly within medical-elderly care institutions.
<b>METHODS</b>	A prospective cohort study (Aug 2025-Aug 2026) enrolled 500 elderly from 8 Shanghai consortium institutions. Variables included baseline characteristics (age, chronic diseases, cognitive function), monthly dynamics (group activity participation, abnormal behavior frequency, weight change), and endpoint events (GDS-15 $\geq$ 10 & GAI $\geq$ 8). A random forest model was built and optimized via ten-fold crossvalidation. Performance was assessed by sensitivity, specificity, accuracy, F1, and AUC. Variable importance and SHAP methods aided interpretation.
<b>RESULTS</b>	The model demonstrated good discriminative ability (AUC $\geq$ 0.85, sensitivity ~80%, specificity ~85%). Cognitive function, weight change, abnormal behavior frequency, and group activity participation were key predictors.
<b>CONCLUSIONS</b>	This prospective study successfully built a high-performing random forest model for early warning of psychological crisis in institutionalized elderly, supporting targeted interventions. Further validation and optimization across diverse populations are needed.

**Han SU<sup>1</sup>, Yan HU<sup>2</sup>, Caiyun SUN<sup>2</sup>, Yujiao ZOU<sup>1</sup>, Qi ZHANG<sup>2</sup> & Wei QIN<sup>2</sup>**

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<b>AIMS</b>	To conduct an in-depth exploration of the experiences and unmet needs of key stakeholders (nursing staff, IT professionals, patients, family caregivers) within digital intelligence-enabled nursing practice settings.
<b>METHODS</b>	Adopting a qualitative design, semi-structured interviews were conducted with purposively selected participants from a large general hospital in Shanghai. Data were collected from 17 participants, including 5 clinical nurses, 3 nursing managers, 2 IT professionals, and 7 patients or their family members. All interview recordings were transcribed verbatim and subjected to rigorous thematic analysis.
<b>RESULTS</b>	Analysis identified three core themes with specific sub-themes: (1) Alignment and Optimization of System and Clinical Needs: persistent gaps requiring iterative system adaptation, and critical need for enhanced functionality tailored to specialized clinical workflows.  (2) Challenges in Data Utilization and Value Realization: inefficiencies and limitations in foundational data capture processes, and significant difficulties in identifying, extracting, and leveraging meaningful nursing-sensitive outcomes from available data.  (3) Integrated Support Evolution: the necessity for synergistic development that combines robust informational support systems with capabilities for personalized patient guidance and engagement.
<b>CONCLUSIONS</b>	Greater attention should be directed toward balancing standardization and personalization in digital intelligence-enabled nursing practice. Future efforts could focus on enhancing the adaptability of digital technologies across specialized nursing contexts and advancing practice beyond mere data collection and information support toward the extraction of nursing-sensitive indicators. This shift is crucial for significantly improving nursing quality and demonstrating its value.

**Wing Man YIP<sup>1</sup> & Mei Wa YAN<sup>2</sup>**

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- AIMS** This study aims to explore the immediate effect of an Immersive - Virtual Reality (I-VR) relaxation experience on self-perceived stress levels in women in our local community. Middle-aged women who are working or taking care of their children have certain interpersonal expectations from family and society, and they are unaware of the stress that they may face in daily life events, which may pose harm to their mental health. It is believed that this pilot trial can connect new technology with the middle-aged women in community setting, with the debriefing session carried out by both social worker and nurses.
- METHODS** A single-group qualitative pre-test–post-test pilot study was adopted and carried out in a community center. Pre intervention questionnaires were given to them to fill in, gathering their socio-demographic data, followed by a 10-20 minutes I-VR session with sunrise and sunset beach natural scenes, accompanied by meditation voice guided content. Participants were invited to complete a post-intervention questionnaire assessing their perceived stress, emotional state, and attitudes afterwards.
- RESULTS** The descriptive results suggest that participants expressed a moderately positive experience with the Immersive VR nature themed with meditation intervention. Debriefing by nurse and social worker are provided after the I-VR trials, exploring their feelings and emotions. They stated benefits were perceived in terms of comfort, perceived relaxation, and emotional support.
- CONCLUSIONS** By distracting from daily stressors to meditative therapy, bringing clients into an immersive relaxing virtual environment away from the stressful environment, and attending debriefing session done by the allied health care workers shown to be a positive experience for middle aged women. Thus, this study suggests further future opportunities for the use of Immersive Virtual Experiences with the companionship by allied healthcare workers may help to ease the client’s emotions.

**Xiaochen WU<sup>1</sup>, Yingfeng ZHOU<sup>1</sup>, Yuye RUAN<sup>1</sup>, li LI<sup>2</sup> & Huiyi WANG<sup>1</sup>**

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- AIMS** To construct the knowledge graphs for Gestational Diabetes Mellitus (GDM) dietary field. It lays the foundation for the development of personalized recommendation system and intelligent question answering system for GDM.
- METHODS** Web crawlers were used to extract recipe data from cooking websites. Nutritional data and GDM dietary management-related data were systematically retrieved, and GDM-dietary rules in guidelines were manually extracted. Using the seven steps method to construct an ontology framework, utilizing natural language processing techniques to extract and align entities from preprocessed data, extracting rules based on a combination of rule matching and manual recognition, and storing them in the Neo4j database in a triplet standard format. The knowledge graph was visually presented using neovis.js + VUE front-end technology.
- RESULTS** A total of 610 recipes were obtained. Nutrition related data were sourced from 3 literatures and GDM dietary management related data were sourced from 10 literatures. The GDM dietary knowledge graph was constructed around five main entities: recipes, ingredients, ingredient composition, ingredient types, and GDM. The graph contains 3,224 knowledge entities associated through 6 types of relationships, forming 47,066 triples in total, and the visualization of the GDM dietary knowledge graph was completed.
- CONCLUSIONS** This study structurally integrated scattered information on diet and GDM, constructed a knowledge graph of GDM diet, provided knowledge storage and knowledge search functions, and laid an expandable and interpretable information foundation for GDM diet and nutritional intervention.

Asirot, Sean Daryl V., Brown, Keanna C., Julao, Krizelle Joy T., Ocampo, Apple G., Santos, Ralph Andrei M., Torres, Learae G.

- AIMS** This study aims to evaluate clinical instructors' assessments of nursing students' leadership potential, collaboration, and decision-making competencies during clinical placements in selected nursing schools in Pampanga, Philippines.
- METHODS** A descriptive-evaluative and correlational quantitative research design was used. Data were collected from 100 clinical instructors using a validated structured survey questionnaire (Cronbach's  $\alpha$ : leadership = 0.839, collaboration = 0.959, decision-making = 0.895). Statistical tools such as descriptive statistics, Pearson correlation, ANOVA, and multiple regression were applied to analyze competency levels and relationships among the variables.
- RESULTS** Clinical instructors generally perceived students as highly competent in emotional intelligence ( $M = 3.808$ ), communication skills ( $M = 3.916$ ), and collaboration ( $M = 4.078$ ). Significant positive correlations were observed between:
- Leadership potential and decision-making ( $p < 0.05$ )
  - Collaboration and decision-making ( $p < 0.05$ )
  - Leadership potential and collaboration ( $p < 0.05$ )
- However, competencies like proactive problem-solving and anticipating challenges received slightly lower ratings ( $M = 3.74$ ). The results emphasize the importance of clinical instructors in shaping students' core competencies critical for patient care and teamwork.
- CONCLUSIONS** Nursing students were rated as competent in leadership, collaboration, and decision-making, with strong links among these skills. However, areas like proactive problem-solving need improvement. Clinical instructors play a key role in developing these core competencies for effective patient care.

Yuhang LI<sup>1</sup>, Shi CHENA<sup>1</sup>, Xiaohui DONGA<sup>1</sup>, Xianying LU<sup>1</sup>, Xinyu CHEN<sup>1</sup>, Dingxi BAI<sup>1</sup>, Wen LUO<sup>1</sup>, Ting CAO<sup>1</sup>, Zihao SONG<sup>1</sup>, Chaoming HOU<sup>1</sup>, Jing GAO<sup>1</sup>

<sup>1</sup> School of Nursing, Chengdu University of Traditional Chinese Medicine

- AIMS** To systematically review the perceptions and attitudes of nursing students on the application of artificial intelligence in nursing education.
- METHODS** A comprehensive literature search was conducted across 10 databases, including PubMed, Cochrane, Embase, Web of Science, CINAHL, Scopus, China Science and Technology Journal Database, SinoMed, China National Knowledge Internet, and WanFang database, the inclusive years of articles searched were from 1969 to 2024. Two researchers independently screened the literature and extracted the data. The mixed methods assessment tool was used to evaluate the risk of bias in the included literature. The relevant data were extracted and synthesized according to the Joanna Briggs Institute's convergence synthesis method, ensuring the comprehensive integration of qualitative and quantitative results. These results were then integrated into the Technology Acceptance Model.
- RESULTS** A total of 22 articles were included, including 9 qualitative studies, 11 quantitative studies, and 2 mixed-method studies. According to the Technology Acceptance Model, the perceptions and attitudes of nursing students on the nursing education's adoption of artificial intelligence were integrated into ten categories of three comprehensive themes: (i) Nursing students' perceptions and attitudes of the ease of use of artificial intelligence in nursing education, including 3 categories; (ii) Nursing students' perceptions and attitudes on the usefulness of artificial intelligence in nursing education, including 4 categories; (iii) Nursing students' behavioral intention, including 3 categories.
- CONCLUSIONS** Overall, our study demonstrated that nursing students had an active willingness to utilize artificial intelligence. However, they acknowledged that certain issues persist regarding the ease and practicality of artificial intelligence in nursing education.

**Jiqiao LU<sup>1</sup>, Shuya LU<sup>1</sup> & Lin YANG<sup>1</sup>**

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- AIMS** Previous studies on chronic diseases have largely focused on single diseases, yet the newly defined Cardiovascular-Kidney-Metabolic (CKM) Syndrome reveals the urgent need for integrated approaches. This study aims to use data-driven method to comprehensively investigate CKM disease burden, identify the pattern varying from different ethnicity and predict critical CKM diseases progression.
- METHODS** We utilized the MIMIC-IV electronic health record dataset to examine CKM disease patterns, including conditions specified in current guidelines. A Dynamic Bayesian Network (DBN) was constructed based on clinical evidence to model temporal dependencies, with each disease represented by defined states. Mutual Information (MI) was applied for sensitivity analysis, and Conditional Probability Distributions (CPDs) were used to predict disease.
- RESULTS** The disease burden analysis showed fewer patients with stage 3 CKM (subclinical CVD) than stage 4 CKM (clinical CVD). Sensitivity analyses identified hyperglycemia as the strongest risk factor for type 2 diabetes (T2D), with White individuals more sensitive (MI = 0.047) than Black (0.031) and Asian populations (0.035); excess adiposity was the second key factor in Whites. For chronic kidney disease (CKD), Whites were more sensitive to metabolic syndrome, whereas Asians were more affected by hyperglycemia followed by MetS. In heart failure, CKD was the leading risk factor across all groups (MI = 0.019, 0.015, 0.009 in Black, Asian, and White populations, respectively), with Blacks most sensitive. Predictive performance for CKM diseases ranged from 0.61 to 0.85.
- CONCLUSIONS** We successfully developed a machine learning model based on DBN to capture the nuanced temporal associations among CKM diseases. The model demonstrated satisfactory predictive performance across multiple disease states. Our findings also highlight a gap in the routine identification of stage 3 CKM (subclinical CVD) patients in electronic health records, and reveal significant differences in disease patterns across population groups, underscoring the need for tailored screening and management strategies.

**Nurul SAFITRI<sup>1</sup>, Hening PUJASARI<sup>2</sup>, Laode Abd. RAHMAN<sup>2</sup>,  
Maya Arlini PUSPASARI<sup>3</sup>, Baskoro ABDIANSYAH<sup>4</sup>, Ester Mutiara Indah SILITONGA<sup>4</sup>,  
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- AIMS** RehatPod is an innovative solution designed to address the growing need for quality rest and relaxation in urban environments. This portable and ergonomic nap pod is equipped with advanced technology, including sleep monitoring and wellness-focused features that promote physical and mental well-being, such as aromatherapy, soothing music, or guided meditation, to enhance the napping experience and overall user benefits, powered by Artificial Intelligence (AI). The AI technology will enable RehatPod to learn and adapt to individual users' preferences and needs, providing personalized recommendations for optimal rest and relaxation. With its compact design and adjustable features, RehatPod can be easily integrated into various settings, such as campuses, workplaces, and public spaces. The objectives of this project are to conduct a feasibility study to determine the viability of RehatPod as a commercial product.
- METHODS** This study proposal outlines a design-based research approach that includes conducting surveys and focus group interviews with potential stakeholders to determine their needs and preferences; user-centered design to develop a design approach that prioritizes user comfort and experience; and AI integration to provide personalized recommendations for optimal rest and relaxation.
- RESULTS** The outcome is a feasibility study report that outlines the viability of RehatPod as a commercial product that not only meets the needs of urban citizen but also contributes to their overall well-being and productivity.
- CONCLUSIONS** The design-based research approach will allow a more effective, comfortable, and appealing blue print that cater to the evolving needs of users. RehatPod with wellness-focused features powered by AI has the potential to become an innovative solution for urban citizen who need quality rest and relaxation.

Younhee KANG<sup>1</sup>, Inkyung PARK<sup>1</sup>, Suemin KIM<sup>2</sup>, Dayoung CHOI<sup>3</sup>, Hyunggon PARK<sup>4</sup>

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- AIMS** This study aimed to develop an AI-driven prediction model to classify nursing shifts and to identify the most influential predictors in a medical ward.
- METHODS** Data from SMART-NURSE project were obtained from the medical ward of a single general hospital. Features included general work characteristics (admissions, discharges, procedures, surgeries, emergencies), nurses' stress, patient-related factors (severity and number of assigned patients), nurses' physical activity data (heart rate, distance traveled, energy expenditure), location-based movements, and nursing time (direct, indirect, moving, rest). Two models, support vector machine (SVM) and Extreme Gradient Boosting (XGBoost), were trained for comparison. The model was trained with a 7:3 split and evaluated using AUC, accuracy, precision, recall, and F1-score. Feature importance (FI) was calculated to identify key predictors, and one-way ANOVA was additionally performed for the top predictors to test differences across shifts.
- RESULTS** Between SVM and XGBoost, the latter achieved superior performance and was selected as the final model. The model achieved an AUC of 0.88 in the medical ward, with accuracy, precision, recall, and F1-score all around 0.73. The top three predictors were 'number of discharges', 'indirect nursing time', and 'direct nursing time'. ANOVA confirmed that discharges were significantly higher during day shifts than evening and night, and that indirect nursing time was greatest at night compared with day and evening. Direct nursing time, however, did not show significant shift differences.
- CONCLUSIONS** This study demonstrates that machine learning can effectively classify nursing shifts using multidimensional data. In the medical ward, number of discharges and indirect nursing time consistently explained shift differences in both FI and ANOVA, reflecting patient flow patterns and redistribution of tasks. Direct nursing time was influential in the machine learning model but did not show statistical differences across shifts, indicating that its predictive value may arise from interactions with other variables. These findings suggest that AI-driven, data-driven approaches such as the SMART-NURSE-Shift model may support more efficient staffing and workload management in medical wards.

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- AIMS** The study aimed to develop an AI model to predict nursing shifts (Day, evening, and night) by objectively assessing nursing time, working locations, nurses' physical activity, and associated factors in a surgical ward.
- METHODS** From July 2023 to August 2024, data from 187 nursing shifts of 24 nurses were collected using beacons, smartphones, and wearable devices as a substudy of the SMART-NURSE project on shifts. For model development, selected features included nursing time (direct, indirect, rest, and moving), working locations defined by 22 bidirectional links based on beacon detection, nurses' physical activity (heart rate, step count, moving distance, and energy expenditure), general work characteristics (admissions, discharges, procedures, surgeries, emergencies), nurses' stress, and patient-related factors (severity and number of assigned patients). Two models were employed: Support Vector Machine (SVM) evaluated by accuracy, and Extreme Gradient Boosting (XGBoost) evaluated by 10-fold crossvalidation using AUC, accuracy, precision, recall, and F1-score. Differences in features were examined through ANOVA.
- RESULTS** The XGBoost model achieved better performance, with an average AUC 0.90, Accuracy 0.80, precision 0.80, recall 0.80, and F1-score 0.79. 'Discharges', 'Admissions', and 'Indirect nursing time' were identified as the top three features for predicting nursing shifts, with feature importance values of 0.3481, 0.1356, and 0.0997 respectively. Discharges and admissions were more frequent in the day ( $1.9 \pm 1.446$ ,  $1.59 \pm 1.116$ ) and evening ( $0.33 \pm 0.741$ ,  $1.49 \pm 1.366$ ) than in the night ( $0.02 \pm 0.127$ ,  $0.11 \pm 0.483$ ). Indirect nursing time was longest during the night ( $462.0 \pm 85.7$ min) compared with evening ( $358.9 \pm 60.8$ min) and day ( $342.2 \pm 61.0$ min).
- CONCLUSIONS** This study demonstrated that machine learning effectively predicted nursing shifts with robust performance. Feature importance analysis identified 'discharges', 'admissions', and 'indirect nursing time' as key predictors, whereas nurses' physical activity contributed relatively little. These findings suggest differences across nursing shifts were captured more by task-related than by physical factors. Further studies in diverse clinical settings are warranted to examine whether work distribution is appropriately aligned with nurses' physical demands.

**Fatema AHMED<sup>1</sup>, Chen WU<sup>1\*</sup> & Kefang WANG<sup>1\*</sup>**<sup>1</sup> *School of Nursing and Rehabilitation, Shandong University, Shandong, China.*

<b>AIMS</b>	This Delphi study aims to provide a prioritized list of strategies, content, and delivery methods to guide future implementation efforts and improve primary and secondary prevention of conservative CKD care in Syria.
<b>METHODS</b>	A second-round Delphi study was performed using the input of 15 nephrologists involved in education and clinical practice. In the first round, we identified several potential strategies for CKD prevention education. However, consensus was not reached on all of them. We modified and refined these strategies based on the nephrologists' opinions. We asked them to re-evaluate and re-rank these modified strategies in the second round. Experts use predefined statements to score the effectiveness of CKD prevention strategies and delivery methods based on existing best practices specified in clinical guidelines, systematic reviews, and research studies. Descriptive statistics such as the median, interquartile range (IQR), and percentage agreement are used to assess consensus. Inferential statistics were used to measure participant agreement using Kendall's coefficient, and for stability between rounds, the Wilcoxon rank-sum test was used.
<b>RESULTS</b>	We identified (9 primary and 32 secondary strategies) of CKD prevention and unique evidence-based CKD strategies to implement within Syria and limited resource areas. Three strategies were deleted as not feasible and related to the Syrian context, and nine strategies were modified depending on experts' comments on rationale and suggestions related to culture availability and cost-effectiveness. We added one strategy to replace the Genetic screening strategies with early and regular screening for high-risk populations. Challenges to implementing evidence-based CKD strategies seem to exist in professional, organizational, and external contexts.
<b>CONCLUSIONS</b>	By synthesizing international and local nephrologists to fit with Syrian contextual realities, this study offers actionable strategies to strengthen CKD prevention in resource-limited settings like Syria. Prioritizing cost-effective tools, culturally adapted education, offline modules, Arabic translations, and nurse-friendly protocols provides a blueprint for similar conflict-affected regions.

**Yi CUI<sup>1</sup> & HongJing LIN<sup>1</sup>**<sup>1</sup> *Department of Respiratory and Critical Care Medicine, the First Hospital of Jilin University*

<b>AIMS</b>	Objective To explore the application of artificial intelligence in respiratory disease nursing, empower APNs to enhance care efficiency, and promote the development of nursing practice in the digital health era.
<b>METHODS</b>	Sort out the application scenarios of artificial intelligence, robotics, and machine learning in respiratory disease nursing, including the use of mobile health tools for patient engagement and monitoring, the construction of intelligent health systems and virtual care environments, the practice of ethical - technology integration, the use of augmented/virtual reality for education and simulation, and the focus on APNs' shaping of digital health policy innovation.
<b>RESULTS</b>	Artificial intelligence can optimize the respiratory disease nursing process. For example, mobile tools enable real - time collection and analysis of patient data, virtual environments facilitate rehabilitation training, ethical integration ensures the rational application of technology, education and simulation improve APNs' digital skills, and APNs can effectively participate in policy innovation.
<b>CONCLUSIONS</b>	Artificial intelligence brings new opportunities for respiratory disease nursing. APNs need to master digital health literacy, and through technology integration and ethical adherence, lead the digital transformation of respiratory disease nursing, and promote the coordinated development of care quality and policy innovation.

**Winnie Lai-Sheung CHENG<sup>1</sup>, Anson Chui-Yan TANG<sup>3</sup>, Roger WATSON<sup>1</sup>,  
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- AIMS** Nursing students often face challenges in accessing context-specific academic and emotional support in clinical learning environments. To address these challenges, this study aims to design and develop a chatbot prototype that can simulate conversations, provide clinical information, offer guidance, and engage in interactive learning activities relevant to various clinical scenarios.
- METHODS** The chatbot training process involved gathering detailed responses about nursing students' challenges, discomforts, and areas of tension during clinical education from clinical mentors and nursing students. The responses were analyzed to prioritize issues for chatbot development. The fine-tuning of the large language model (LLM) was conducted in two stages: (1) **Non-technical Interaction Tuning**, which created a dialogue corpus based on the data gathered to ensure empathetic and user-friendly conversations, and (2) **Domain-Specific Knowledge Integration**, which utilized authoritative nursing resources, including textbooks, training materials, and archived logs, to ensure accurate and context-specific responses. Ethical safeguards, including anonymization of student data, were implemented to protect privacy. Supervised Fine-Tuning (SFT) assessed the chatbot's performance using metrics such as ROUGE scores for response quality, accuracy for domain-specific replies, and user satisfaction from pilot testing.
- RESULTS** A chatbot prototype was developed, incorporating both non-technical interaction tuning and domain-specific knowledge integration. While the chatbot demonstrates promising capabilities in handling technical and nontechnical queries, its performance will be further evaluated by a pilot run with nursing students for user satisfaction, and its ability to handle realworld queries.
- CONCLUSIONS** These findings guide further refinement to ensure the chatbot meets the evolving needs of nursing students, and complement the role of clinical mentors. The ongoing evaluation underscores the chatbot's potential to become a valuable resource in nursing education.

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- AIMS** To explore the applications and challenges of AI-powered chatbots in clinical health education from the perspectives of both patients and nurses.
- METHODS** This study used purposive sampling to recruited inpatients, caregivers and nurses ( $\geq 1$  year of clinical experience). Data were collected via a sociodemographic questionnaire and semi-structured interviews, and analyzed using thematic analysis.
- RESULTS** A total of 46 inpatients and caregivers (23 male, 50%) and 14 nurses (all females) participated. Thirty-four patients and caregivers (73.9%) used AI-powered chatbots as a supplementary tool for accessing disease-specific information, primarily inquiring about therapeutic regimens (43.5%) and health education materials (34.8%). While 28 participants (60.9%) supported the use of AI-powered chatbots in clinical setting, they reported challenges such as verifying information accuracy ( $n=28$ ) and limited search precision ( $n=8$ ). Accordingly, they suggested developing medical domainspecific AI-powered chatbots, improving databases, and introducing nurseverified search strategies to ensure information accuracy and authority. All nurses reported using AI-powered chatbots in clinical work. Eight nurses (57.1%) expressed willingness to assist patients in using these tools appropriately for timely information acquisition, yet raised concerns regarding the accuracy of information. The majority ( $n=10$ ) encountered barriers when integrating chatbots into conventional health education frameworks. Patient-related challenges included low acceptance among older adults and insufficient health literacy to evaluate information reliability. While nurse-related challenges involved increased workload, pressure to continuously update knowledge, and difficulties in ensuring consistency and accuracy across diverse chatbot platforms. Core strategies proposed by nurses to address these challenges included proactive use of AI-powered chatbots, strengthening professional knowledge, and enhancing critical appraisal and evidence-based practice skills.
- CONCLUSIONS** These findings highlight the need to adapt conventional health education models and develop medically specialized AI systems. Collaborative efforts are essential to enhance information credibility, optimize user engagement, and support both patients and nurses in effectively leveraging AI-powered chatbots.

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- AIMS** The purpose of this study was to translate the MAIRS-MS into Chinese (MAIRS-MS-C) and examine the psychometric properties among undergraduate nursing students.
- METHODS** The translation and validation process in this study followed the guideline authored by Sousa and Rojjanastirat. 494 undergraduate nursing students participated in the study. The MAIRS was translated to Chinese through forward- and backward-translation steps, and then a panel review ( $n = 6$ ) was conducted to examine its content validity. The construct was validated using confirmatory factor analysis to assess its alignment with the original four-factor structure (cognition, ability, vision, and ethics). The reliability was assessed across items by item-total correlation and Cronbach's alpha.
- RESULTS** The item-level and scale-level content validity index of the MAIRS-MS-C was satisfactory ( $I-CVI = 1$  and  $S-CVI = 1$ ). The Cronbach's alpha value was 0.937 for the total scale, and 0.882, 0.817, 0.812, and 0.864 for cognition, ability, vision, and ethics, respectively. Confirmatory factor analysis revealed that the MAIRS-MS-C conformed to the four-factor model suggested by the original version.
- CONCLUSIONS** The MAIRS-MS-C is a valid and reliable tool for assessing the perceived readiness of AI technologies and applications among Chinese nursing students. Future studies should explore its applicability across educational levels and healthcare disciplines.

**Eloisa M. BONUS**

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- AIMS** This study aimed to develop and implement a hybrid teaching training program for university faculty, specifically nurse educators. After developing and implementing the training program, the main goal is to provide foundational knowledge, emphasizing online skill development and improvement, as well as practical application that can adapt to various situations, including weather changes and natural disasters. Ultimately, this research aims to inform institutional policies and faculty development efforts that enhance teaching quality in hybrid learning environments, ensuring educators are well-prepared to meet the evolving demands of higher education in a post-pandemic world.
- METHODS** This peri-experimental study evaluated an eight-hour hybrid teaching training program for nurse educators in Pampanga, Philippines, based on the Online Teaching Competence Framework for University Lecturers (OTCFUL). Using a one-group pretest-posttest design with purposively sampled participants (N = 31), the study assessed six competency domains through validated OTCFUL instrument.
- RESULTS** Results demonstrated statistically significant improvements across all domains ( $p < .001$ ) with large effect sizes (Cohen's  $d = 1.1-1.5$ ), particularly in digital content development ( $d = 1.5$ ) and online assessment ( $d = 1.4$ ). Participant feedback (85% positive) confirmed an enhanced sense of teaching confidence. These findings support the program as an effective and scalable model for faculty development in hybrid education contexts.
- CONCLUSIONS** The study identified key conditions for successful hybrid faculty development: hands-on activities, multimodal delivery, and continuous assessment. The findings highlight the value of structured, evidence-based hybrid teaching programs in the evolving post-pandemic educational landscape. It provides a replicable model for academic institutions aiming to improve faculty readiness for blended and online instruction, especially in practice-intensive fields like nursing. By equipping educators with the necessary skills and confidence, institutions can ensure hybrid learning environments are not only technologically effective but also pedagogically sound, inclusive, and focused on outcomes—ultimately leading to better teaching quality, increased student engagement, and a stronger higher education system.

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## AIMS

**Background:** Artificial Intelligence (AI) is transforming nursing education by enhancing teaching strategies, improving learning engagement, and expanding resource accessibility. However, concerns persist about over-reliance, ethical implications, and educators' readiness to integrate AI effectively in both pedagogy and clinical practice. Limited research captures the lived experiences of nurse educators navigating this digital shift.

The purpose of this study was to explore and understand the lived experiences of nurse educators in the Philippines regarding AI integration in nursing pedagogy and clinical practice.

## METHODS

A Husserlian descriptive phenomenological design was utilized, employing Colaizzi's method of analysis to extract the essence of participants' experiences. Purposive sampling recruited registered nurse educators with at least one year of teaching experience and direct use of AI tools such as generative AI platforms, adaptive learning systems, virtual simulations, and diagnostic support technologies. Data was collected through in-depth semistructured interviews, supported by field notes and reflective journaling. Trustworthiness was ensured through credibility, dependability, confirmability, transferability, and authenticity strategies.

## RESULTS

Findings revealed that AI reshaped teaching methods, promoted self-directed learning, improved cost-effectiveness, and enhanced simulation-based clinical training. Participants valued AI for expanding instructional resources and improving learner engagement. Challenges included ethical considerations, data privacy concerns, academic integrity issues, and disparities in student access to technology. Some educators expressed tension between AI-based and traditional teaching methods, stressing the need to maintain critical thinking and humanistic care.

## CONCLUSIONS

AI offers transformative potential in nursing education, supporting both classroom and clinical instruction. However, integration requires structured training, institutional support, and ethical guidelines to ensure responsible adoption. Educators emphasized that AI should complement, not replace, human interaction and experiential learning.

**Hazel ALCANTARA**

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- AIMS** The study aimed to explore how online learning self-efficacy influences the Unified Theory of Acceptance and Use of Technology constructs within the context of nursing education.
- METHODS** This study used a quantitative, causal-predictive research design to investigate the structural impact of online learning self-efficacy on the Unified Theory of Acceptance and Use of Technology constructs—performance expectancy, effort expectancy, social influence, and facilitating conditions—in predicting behavioral intention and actual use of online learning technologies among nursing students in Region 3, Philippines. A purposive sample of 253 students was surveyed using validated instruments. Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via WarpPLS version 4.0, assessing both direct and indirect effects, as well as the reliability and validity of the measures.
- RESULTS** The analysis revealed that effort expectancy and social influence strongly influenced behavioral intention, while performance expectancy and facilitating conditions had a weaker effect. Online learning self-efficacy significantly mediated all relationships, emphasizing the key role of self-efficacy in strengthening the link between Unified Theory of Acceptance and Use of Technology factors and adoption of technology.
- CONCLUSIONS** The study found that online learning self-efficacy significantly mediates the impact of Unified Theory of Acceptance and Use of Technology constructs on nursing students' behavioral intention and use of online learning technologies. Effort expectancy and social influence were the strongest predictors. The results highlight the need to develop both technological support and student self-efficacy to enhance effective technology adoption in nursing education.

**Christian Paolo INGAL**

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- AIMS** This study aims to psychometrically validate the Motivated Strategies for Learning Questionnaire (MSLQ) among Bachelor of Science in Nursing (BSN) students in a blended learning modality.
- METHODS** Grounded in Bandura's theory of self-efficacy, the study utilized a methodological design with 243 nursing students in the Philippines, assessing the MSLQ's reliability, validity, and applicability within a hybrid context. Data collection was conducted through an online self-report questionnaire, and analyses were performed using SPSS v27 and AMOS, focusing on internal consistency (Cronbach's alpha), confirmatory factor analysis (CFA), and model fit indices (RMSEA, CFI, TLI).
- RESULTS** Results revealed high internal consistency ( $\alpha = 0.950-0.954$ ), with most items aligning well with their theoretical constructs. However, items with low or negative factor loadings, as well as entire subscales such as Effort Regulation and Test Anxiety, demonstrated weak correlations and were excluded to improve model fit and construct validity. While CMIN/df and RMSEA indicated an acceptable model fit, low TLI and CFI scores suggested the need for further model refinement.
- CONCLUSIONS** The study concludes that a revised MSLQ may serve as a reliable tool for assessing nursing students' motivation and learning strategies in blended environments. It recommends developing a shortened, context-specific version of the MSLQ to enhance practical use and early intervention, ultimately supporting student success and instructional improvement in nursing education.

**Atiwat Kunlawong**

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- AIMS** To compare knowledge, health behaviors, and blood pressure levels among individuals at risk of hypertension, as well as their satisfaction with the use of digital health technology in nursing.
- METHODS** This study employed a quasi-experimental, two-group pretest-posttest design. Data were collected between November 2024 and April 2025 from outpatients at Udon Thani Municipal Hospital who had Stage 1 hypertension or higher. A total of 64 participants were selected, with 32 in each group. Descriptive statistics were used to analyze general information. Differences between groups were analyzed using Fisher's exact probability test, t-test, and Wilcoxon signed-rank test.
- RESULTS** After the implementation of digital health technology in nursing, the experimental group demonstrated significantly higher knowledge scores than the control group in all aspects, particularly in general knowledge about hypertension ( $p = 0.044$ ). Health behaviors related to diet and exercise also improved. The mean systolic and diastolic blood pressure levels showed significant differences before and after the intervention ( $p < 0.001$  for both). There was a significant difference in the diagnosis of hypertension between the experimental and control groups ( $p = 0.005$ ). Additionally, the experimental group reported a high level of satisfaction with the intervention (Mean = 4.3, SD = 0.4), which was significantly higher compared to before the intervention ( $p < 0.001$ ).
- CONCLUSIONS** Establishing a proactive chronic care system in the outpatient department requires effective interaction between patients and the healthcare team. The use of digital health technology enhances screening and care for individuals at risk of hypertension, contributing to more efficient and effective management within the hospital setting.

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<b>AIMS</b>	This study aimed to assess the preparedness of nursing schools in the Philippines to incorporate aerospace nursing education into the curriculum.
<b>METHODS</b>	This study employed computer simulations to evaluate the Aerospace Nursing Readiness Index (ANRI) in both composite (cANRI) and relative (rANRI) forms. A sample of 179 participants was selected from a target population of 333, representing 12 schools (11 in Luzon and 1 in Visayas). Surveys were used to assess curriculum gaps, faculty training, resource allocation, and student readiness. Data collection occurred in July 2024.
<b>RESULTS</b>	Schools exhibited a wide range of astronautic nursing readiness (cANRI 1.85-18.69), indicating significant disparities. cANRI positively correlated with lab equipment ( $\tau = 0.48$ , $p = .038$ ) and faculty aerospace experience ( $\tau = .46$ , $p = .069$ ). rANRI correlated with total faculty numbers ( $\tau = 0.66$ , $p = .003$ ). Notably, cANRI showed high sensitivity in the analysis.
<b>CONCLUSIONS</b>	The number of students and faculty does not seem to be the most important determinant, but other factors, such as the quality of the faculty or their workload, should be considered. This study contributes to the global outlook on aerospace education, enabling nursing programs to train providers in space environments. Additionally, it serves as a valuable resource for educators, policymakers, and healthcare professionals to develop aerospace nursing education.

**Kate BUCHANAN<sup>1</sup>, Sara BAYES<sup>1</sup>, Lisa WHITEHEAD<sup>1</sup> & David SEEDHOUSE<sup>2</sup>**

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- AIMS** To explore the integration of an ethical deliberation tool with a digital platform for midwifery education, with a focus on enhancing ethical competence, interprofessional collaboration, and reflective decisionmaking. The initiative aligns with international efforts to transform care through digital innovation and AI in midwifery.
- METHODS** These two phased implementation science projects explored digital platforms for ethical engagement. In phase one, a qualitative content analysis was conducted on 21 ethics-focused reflective assignments from postgraduate and undergraduate Midwifery students at a Western Australian university. The findings informed the development of 'Womancentred ethical grid', a learning tool designed to guide midwifery students' ethical deliberation. Phase two involved a collaboration between Edith Cowan university and Aston university to pilot a midwifery education arm of the existing online platform: the Deliberative Practice Network. The digital platform presents real-life, multifaceted ethical case scenarios to students. Midwifery students engage with these cases using structured tools such as polls, discussion threads, and the Think Screen, encouraging justification of decisions and peer learning.
- RESULTS** The pilot demonstrated that the digital platform significantly supports midwifery students in articulating woman-centred ethical deliberation, a critical skill for ethical practice. Students reported increased confidence in ethical reasoning and a deeper appreciation of the complexities of care. The digital platform also enhanced self-awareness, encouraged justification of viewpoints, and promoted interprofessional dialogue through its interactive features.
- CONCLUSIONS** The Values Exchange Digital Platform Network exemplifies how digital tools can transform midwifery education by embedding ethical deliberation into easy to access learning. Its novel approach fosters ethical deliberation skills through intercollegiate collaboration. As midwifery increasingly integrates AI and digital health, platforms like this ensure that ethical reasoning remains central to innovation.

**Ying WANG<sup>1</sup>, Xiaobei GUO<sup>1</sup>, Cuimeng YING<sup>1</sup>, Zhihui LU<sup>1</sup> & Zijing HUANG<sup>1</sup>**

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- AIMS** To explore the relationship between workplace violence (WPV) and physical and mental health status among nursing staff in a teaching hospital in China.
- METHODS** A cross-sectional survey was conducted in a comprehensive teaching hospital in Hubei Province, with 3681 nursing staff included. General information questionnaire, Patient Health Questionnaire-9 (PHQ-9), Generalized Anxiety Disorder-7 (GAD-7), Perceived Stress Scale-4 (PSS4), Connor-Davidson Resilience Scale 2 (CD-RISC2), Symptom Checklist90 (SCL-90) and WPV assessment scale were used to evaluate their physical and mental health status and WPV experiences. Pearson chi-square test and Mann-Whitney U test were used to analyze the current situation, influencing factors and physical and mental health status of WPV. After propensity score matching, binary logistic regression was used to analyze the association between WPV and psychosomatic symptoms.
- RESULTS** Among 3681 nursing staff, 53.6% (1974 people) were assessed by PHQ-9 as having mild to grade III Depression (mean score 7.00, range 5.00-10.00), and 34.5% (1270 people) were assessed by GAD-7 as having mild to grade III Anxiety (mean score 8.00, range 5.00-10.00); the mean score of Obsessive-compulsive symptom was 7.00 (5.00-10.00), the mean score of PSS-4 was 6.00 (4.00-8.00), and the score of CD-RISC2 was 6.00 (4.00-6.00). In terms of physical diseases, 1.47% (54 people) were diagnosed with Diabetes, 3.04% (112 people) were diagnosed with Hypertension, and 6.79% (250 people) were diagnosed with Ulcer gastroduodenal. The incidence rate of WPV was 33.4% (1228 people), and there were significant differences in gender, weekly working hours, professional title, living status and frequency of Alcohol use among WPV exposed persons ( $P < 0.05$ ). In addition, there was a significant dose-response relationship between WPV exposure and physical and mental health outcomes ( $P < 0.05$ ).
- CONCLUSIONS** WPV exposure significantly increases the risk of impaired physical and mental health among nursing staff. Addressing and preventing WPV can effectively improve their physical and mental health.

**Yuanyue Ren**

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- AIMS** Cooperative learning is widely implemented in nursing education. Although the positive outcomes of cooperative learning have been recognized, there is limited understanding of nursing undergraduates' experiences and expectations of cooperative learning in classroom settings. This study aimed to explore Chinese nursing undergraduates' experiences and expectations with in-classroom cooperative learning.
- METHODS** A descriptive phenomenological study was used. Face-to-face, semistructured interviews were conducted with fourteen second-year nursing undergraduates in December 2024. Participants were recruited using a combination of class teacher recommendations and snowball sampling. Data were analyzed using thematic analysis following Braun and Clarke's six-stage process.
- RESULTS** The analysis revealed three key themes based on the participants' perspectives: (1) double-sided experience, including perception of benefits, negative burdens; (2) perceived factors, including group structure and dynamic, task design and teacher role, personal traits, environmental factors; (3) future expectations, including adjustment of cooperative mechanism, form innovation and teacher guidance, personal improvement and environment optimization. Students expressed that responsibility imbalance and social pressure were the most significant problems when they participated in classroom cooperative learning. Group members actively taking personal responsibility was a common expectation among students.
- CONCLUSIONS** Nursing undergraduates' experiences were two-sided. Under the influence of continuous negative experience, students felt exhausted and expected teachers to intervene authoritatively. In order to improve students' cooperative ability, establishing good relationships and organizing cooperative learning training could be suggested.

**Li YALI<sup>1</sup> & Sun JUAN<sup>1</sup>**

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- AIMS** The purpose of this paper is to analyze the literature production of research on teaching ethics in nursing.
- METHODS** We searched the literature related to digital ethics teaching and learning included in the Web of Science database from its inception to December 2024, and used CiteSpace software to analyze the pattern of issuance, focusing on the dynamics of issuance, high-yield research entities, and highly cited literature.
- RESULTS** A total of 827 valid papers were included, and 65 sources of information were identified. Overall, the number of studies after 2020 showed a significant increase. The most prolific countries were the United States, Finland, and China, but further improvements in international collaboration are needed. The research hotspots focus on various aspects such as the transformation of digital teaching models, focusing on the ethics of emerging technologies, the enhancement of critical thinking and ethical decisionmaking skills development, and the diversification of ethical assessment methods and processes.
- CONCLUSIONS** The results presented in this paper can be used as a starting point for a comprehensive or systematic literature review and the search for more detailed data, information and knowledge in the field of teaching ethics in digital nursing. Teaching nursing ethics is gaining prominence in medical education and nursing practice, with research growing steadily in depth and breadth. In the smart era, success hinges on fusing technological innovation with deep ethical theory and humanism while properly addressing the resulting challenges. Interdisciplinary cooperation and communication should be strengthened in the future, aiming to utilize the advantages of technology to meet the ethical challenges of the new era to promote the innovation and development of teaching methods and contents, and to contribute to the cultivation of more nursing talents with good ethical literacy.

**Jea Joel Mendoza-DUNGCA**

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- AIMS** Telenursing, the delivery of nursing care through digital and telecommunication technologies, is increasingly recognized as a key innovation in healthcare systems. It improves accessibility, reduces hospital congestion, and provides vital support for patients in remote and underserved communities. While its integration into nursing practice and education has progressed globally, the Philippines has seen limited adoption. This lack of structured telenursing education within undergraduate nursing programs poses a barrier to adequately preparing future nurses for modern, technology-driven healthcare settings. This study aimed to assess the level of knowledge, perception, and intent to use telenursing among nursing students in the Philippines and to explore its potential inclusion in the nursing curriculum.
- METHODS** A descriptive quantitative research design was utilized. Data were collected through purposive sampling from 126 undergraduate nursing students at a university in Angeles City, Pampanga. A self-administered online questionnaire was used to gather information on participants' demographic profiles, internet and device access, familiarity with telenursing, perceived advantages and disadvantages, and views on required technologies. Frequency and percentage were used to describe participant profiles, while mean scores were calculated to evaluate levels of agreement regarding key aspects of telenursing.
- RESULTS** The results revealed that most students had moderate to high levels of knowledge and held favorable perceptions of telenursing. Participants acknowledged its benefits in improving healthcare delivery, reducing costs, increasing nurse efficiency, and enhancing patient communication. Despite recognizing potential technical challenges, the majority supported incorporating telenursing into the nursing curriculum to equip students with essential digital competencies.
- CONCLUSIONS** This study highlights a significant gap in nursing education related to digital health. To align with global trends and ensure future-readiness, nursing programs in the Philippines must integrate comprehensive telenursing education and hands-on training into undergraduate curricula.

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<b>AIMS</b>	This study aimed to investigate the attitudes and intentions of student nurses towards Artificial Intelligence (AI) in the context of nursing practice and to explore the relationship between their attitudes towards AI, their perceptions of AI utilization in nursing practice, and their intentions to adopt AI technology. Specifically, it investigated whether attitudes toward AI mediate the relationship between perceived utilization and intention to adopt AI technologies in nursing.
<b>METHODS</b>	A cross-sectional study was conducted among 200 student nurses from two government-owned nursing schools. Participants completed a structured questionnaire measuring their perceptions of AI utilization, attitudes toward AI, and intention to adopt AI technology. Mediation analysis was conducted using Hayes' PROCESS macro (Model 4) in SPSS to examine direct and indirect influence.
<b>RESULTS</b>	Perceived AI utilization in nursing practice had a significant positive effect on student nurses' attitudes towards AI ( $\beta = 0.450$ , $p < 0.001$ ) and their intention to adopt AI technology ( $\beta = 0.458$ , $p < 0.001$ ). Attitudes towards AI partially mediated the relationship between perceived AI utilization in nursing practice and the intention to adopt AI technology ( $\beta = 0.255$ ).
<b>CONCLUSIONS</b>	The findings suggest that student nurses had favorable perceptions of AI utilization in nursing practice, expressed high intentions to adopt AI technology, and held positive attitudes towards AI. Furthermore, student nurses' perceptions of AI utilization in nursing practice influenced their attitudes towards AI, which, in turn, affected their intentions to adopt AI technology. Nursing education programs should incorporate AI-focused coursework, training, and experiential learning to further enhance students' readiness and proficiency in utilizing AI technology. Additionally, healthcare institutions should consider creating a supportive environment for nursing students to explore and embrace AI, ultimately preparing them for the evolving landscape of AI enhanced healthcare practice.

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## **AIMS**

The objectives of this study are: (1) to investigate how nursing students use large language models (LLMs) in tasks and contexts, including course learning, clinical skills training, and academic research within nursing education and clinical practice; (2) to examine nursing students' willingness and perspectives on using LLMs in both teaching and practice; and (3) to identify the key drivers and barriers to the adoption of LLM technology among nursing students.

## **METHODS**

Employing a qualitative approach, we conducted semi-structured interviews with 26 nursing students from various academic levels. The study utilized the UTAUT2 model and Task-Technology Fit theory as a framework to analyze the factors influencing LLM use. Data were analyzed using thematic analysis, assisted by ChatGPT to complement manual coding.

## **RESULTS**

This study identified 63 secondary themes, mapped across 10 domains within the theoretical framework. Of these, 15 highlighted the alignment between nursing students' task characteristics and LLM technology features, 32 identified factors facilitating LLM usage, and 16 pinpointed barriers. Most participants were cautious about using LLMs for complex, high-risk clinical decisions and emotional support. The UTAUT2 model revealed that facilitating factors were primarily expectations related to academic performance, learning efficiency, and convenience, along with multifaceted social influences. Additionally, institutional and policy support, as well as fun and free versions of LLMs, positively impacted usage intent. Barriers included technical limitations, concerns about social stigma, interpersonal isolation, network restrictions, technology dependence, privacy, ethics, and payment issues.

## **CONCLUSIONS**

Nursing students' willingness to use LLMs is influenced by their expectations of academic improvement and task suitability, along with concerns about technology limitations and privacy. To facilitate adoption, nursing education must address these concerns while promoting balanced integration of LLMs into educational and clinical settings. This study provides valuable insights for educators and policymakers seeking to optimize AI use in nursing education.

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- AIMS** This study aims to identify the core dilemmas encountered by the elderly in accessing and utilizing digital health science popularization resources, grounded in their authentic needs, with a focus on providing empirical evidence and targeted solutions to optimize aging-friendly health science popularization.
- METHODS** A descriptive qualitative research method was adopted. Through purposive sampling, 20 elderly people aged 60 and above with experience in digital health science popularization were selected for semi-structured in-depth interviews. Thematic analysis was used to code the interview data and extract themes.
- RESULTS** Four overarching themes emerged from the data, encapsulating the primary challenges encountered by elderly users in engaging with digital health science popularization: Theme 1: Technical access barriers, characterized by difficulties in operating smart devices and navigating complex user interfaces; Theme 2: Information comprehension challenges, manifested in the overuse of professional jargon and inappropriate information presentation formats; Theme 3: Inadequate age-specific content relevance, reflected in the lack of customized materials addressing common health concerns among the elderly; Theme 4: Crisis of trust, evidenced by widespread skepticism regarding the authenticity and reliability of online health information.
- CONCLUSIONS** The age-appropriate transformation of digital health science popularization necessitates a focus on three interrelated strategies: 1) Technical optimization: Developing gerontechnological features such as enlarged font displays and voice interaction functionalities; 2) Content refinement: Creating accessible formats including illustrated explanations and short video tutorials; 3) Support system construction: Establishing a dual assistance framework integrating family caregiver support and communitybased guidance. This study contributes empirically grounded optimization pathways for the age-appropriate transformation of health science platforms, thereby facilitating the innovative advancement of age-friendly health science popularization initiatives.

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<b>AIMS</b>	With the rise of screen time observed among preschool-aged children, concerns have increased regarding its potential benefits and adverse effects on overall development. This study aimed to explore caregivers' perceptions of screen time, focusing on both its positive and negative impacts on children.
<b>METHODS</b>	Using a qualitative descriptive approach, the research utilized in-depth interviews to capture caregivers' daily observations and lived experiences together with factors that may influence their views such as parenting styles, and cultural attitudes toward technology. Thematic analysis was conducted to identify recurring patterns and themes, across the domains of cognitive, emotional, social, and physical development.
<b>RESULTS</b>	The results of this study revealed 9 major themes. Four themes reflected perceived benefits: (1) improved language and communication development, (2) improved cognitive and academic skill development, (3) emotional and moral changes in children from screen use, and (4) critical thinking and real-life application of digital media is improved. Two themes captured negative impacts: (1) negative physiological effects, and (2) negative psychosocial and behavioral impacts. Three themes for the recommendations: (1) active caregiver involvement and supervision, (2) promotion of physical and constructive alternative activities, and (3) health - promoting rationale for limiting screen time.
<b>CONCLUSIONS</b>	Findings revealed that while screen time was often seen as beneficial for language development, early academic learning, and digital literacy, excessive or unregulated exposure was associated with negative outcomes, including eye strain, headaches, sleep disturbances, emotional dysregulation, and imitation of inappropriate behaviors. Caregivers stressed the need for structured guidance and time limitations to promote healthy screen use, like redirecting their children toward physical play and social interaction. The study recommends a multifaceted approach to screen time regulation, emphasizing active caregiver involvement, the use of parental control tools, and the integration of non-digital activities to help balance leveraging digital resources and safeguarding the developmental well-being of young children.

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<b>AIMS</b>	This study aimed to determine the effect of clinical virtual simulation on knowledge retention and learning satisfaction among nursing students. Specifically, it compared the outcomes of students exposed to virtual simulation with those taught using low-fidelity simulation.
<b>METHODS</b>	A randomized controlled trial was conducted between February and April 2025 at Arellano University. Sixty nursing students were randomly assigned to experimental (n=30) and control (n=30) groups. Both groups underwent a case-based learning approach with identical objectives and lecture content. The experimental group utilized clinical virtual simulation, while the control group employed low-fidelity simulation in a realistic environment. Knowledge retention and clinical reasoning were measured using pretest, posttest, and delayed posttest assessments. A Likert scale was also used to evaluate learning satisfaction.
<b>RESULTS</b>	The experimental group showed significantly higher mean scores in knowledge retention both immediately after the intervention and at the twomonth follow-up ( $t=20.481$ , $p<.001$ ). Moreover, participants in the experimental group reported greater satisfaction with their learning experience compared to the control group. The findings confirm that clinical virtual simulation promotes not only immediate learning but also sustained knowledge retention over time.
<b>CONCLUSIONS</b>	Clinical virtual simulation is an effective pedagogical strategy that enhances nursing students' knowledge retention, clinical reasoning, and satisfaction with learning. Its integration into nursing curricula can provide a safe, engaging, and effective environment for developing essential competencies, contributing to improved patient care and educational outcomes.

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## **AIMS**

Chronic obstructive pulmonary disease and type 2 diabetes mellitus are common comorbidities, and their complex interactions significantly increase the difficulty of disease management. Traditional selfmanagement models face challenges such as low adherence, difficulty in information integration, inadequate personalized support, and inability to predict acute events in real time, and a new intervention paradigm is urgently needed. This article aims to systematically review how artificial intelligence -driven digital interventions can serve as a "new paradigm" to revolutionize self-management strategies for patients with COPD and T2DM, and to evaluate their application potential, existing evidence, and challenges.

## **METHODS**

This study systematically sorts out and analyzes the current relevant literature, integrates the application of AI technologies such as machine learning, natural language processing, computer vision, and data fusion in the management of chronic diseases, and focuses on the specific implementation path and effect of AI technologies in the management of comorbidities.

## **RESULTS**

At present, artificial intelligence empowerment is mainly reflected in AI-empowered accurate monitoring and early warning, AI-driven personalized intervention plans, AI reshaping education and communication models, and AI optimizing clinical decision-making and remote management. AI-based digital intervention represents a new paradigm to improve the efficacy of self-management in patients with COPD and T2DM, and is expected to fundamentally solve the core pain points of comorbidity management through intelligent, personalized and forward-looking characteristics. However, the widespread application of this paradigm still faces multiple challenges, including clinical validity verification, data privacy and security, algorithm transparency, medical regulation, and ensuring digital equity.

## **CONCLUSIONS**

Future research should focus on large-scale prospective clinical trials to validate their long-term benefits and promote interdisciplinary collaboration to co-design patient-centric AI solutions that seamlessly integrate with clinical workflows, ultimately achieving a paradigm shift from traditional management to precision empowerment.

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- AIMS** Digital health literacy (DHL) is a vital capacity for future nurses to appropriately navigate healthcare systems and effectively promote wellbeing among their clients. This scoping review explores the assessment of digital health literacy among undergraduate nursing students, the factors influencing it, and the potential outcomes associated with DHL.
- METHODS** Following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) extension guidelines, this scoping review synthesized published evidence on DHL among undergraduate student nurses. We utilized electronic databases and hand searching to identify relevant literature published from 2015 to 2025. A total of 41 articles were included.
- RESULTS** DHL has been evaluated among nursing students through self-reported measures, and alternatively described as eHealth literacy, media health literacy, nursing informatics skills, and decision-making ability regarding online health information. Majority of studies reported moderate to high DHL levels, except those from low-resource settings with poorer DHL levels. Moreover, some participants had inadequate skills in evaluating the quality of online health information and utilizing data to guide health decisions. Demographic variables, such as sex (males), urban residence, higher year level/academic performance, financial status, and Internet usage for health-related purposes, were related to higher DHL. Findings also showed that DHL was associated with outcomes in (1) learning and technology utilization (attitudes toward AI, creative thinking, technology enthusiasm); (2) physical health (diet, lifestyle behaviors); (3) mental wellbeing (mental health literacy, health anxiety, cyberchondria, academic stress, psychological resilience; and (4) healthcare competencies (knowledge about COVID-19 and Mpox, counseling skills, health communication intention, infection prevention behaviors).
- CONCLUSIONS** Understanding the DHL of future nurses and promoting the inclusion of this competency in nursing education will enable them to lead in promoting better population health. A multidimensional approach is crucial for a holistic reinforcement of DHL among future nurses across settings, while focusing on their advanced critical evaluation skills.

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<b>AIMS</b>	To construct a teaching model that integrates traditional Chinese medicine culture into "Critical Care Nursing" in the era of digital education.
<b>METHODS</b>	<p>1. Explore the integration points of traditional Chinese medicine. When introducing the organization and management of pre-hospital emergency care, the concept of "Unity of Heaven and Human" in traditional Chinese medicine should be integrated to guide students to consider the overall condition of patients during pre-hospital emergency care. When introducing disaster rescue, the concept of "Zhiweibing" should be integrated to guide students to pay attention to prevention before disasters occur. When introducing intensive care unit nursing, the Chinese medicine concept of "unity of body and mind" "seven emotions causing illness" should be integrated, which can guide students to learn traditional Chinese medicine emotional therapy (such as music therapy) can help patients restore calmness.</p> <p>2. Build a digital teaching model. For example, in the chapter of "Cardiac Arrest and Cardiopulmonary Brain Resuscitation", the integration point is the idea of "Life is more precious than gold". By encouraging students to discuss their thoughts on the emergency department internship online learning platform, the key words cloud map display is formed to deepen students' knowledge, skills and emotional impression of cardiopulmonary brain resuscitation. Besides, the course WeChat official account is used to push news information about emergency science popularization, so as to cultivate students' scientific research innovation spirit and social service awareness.</p>
<b>RESULTS</b>	Before class, the knowledge graph is used to preview course. During class, intelligent teaching tools is applied. After class, students consolidate the knowledge learned in class through knowledge graphs and virtual simulation experiments.
<b>CONCLUSIONS</b>	Exploring the integration of traditional Chinese medicine culture into the teaching model of "Critical Care Nursing" in the era of digital education has important theoretical and practical significance. We have made beneficial contributions to the inheritance and development of traditional Chinese medicine culture.

**Kim Chi DO THI<sup>1,2</sup>, Nuzul Sri HERTANTI<sup>1</sup>, Trung V. NGUYEN<sup>3</sup> & Yeu-Hui CHUANG<sup>1</sup>**

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<b>AIMS</b>	This systematic review and meta-analysis aimed to evaluate the effect of game-based interventions on nursing students' critical thinking-related skills
<b>METHODS</b>	Five English-language databases were systematically searched without year restrictions. Study quality was appraised using the Cochrane RoB-2 tool for randomized controlled trials and the Joanna Briggs Institute Critical Appraisal Tool for quasi-experimental studies. Narrative synthesis, meta-analysis, and subgroup analysis were conducted.
<b>RESULTS</b>	Six studies involving 521 nursing students were included. Various gamebased approaches were identified, such as digital serious games, gamification, crossword puzzles, and virtual gaming simulations. The duration of the interventions ranged from a single session to six weeks. No significant publication bias was detected. Although the overall effect of the interventions was not statistically significant under the random-effects model, subgroup analysis showed a moderate, statistically significant effect when game-based interventions were compared with traditional instruction (SMD = 0.42, 95% CI: 0.09–0.76).
<b>CONCLUSIONS</b>	These findings suggest that the effectiveness of game-based interventions may depending on the type of comparator, with stronger evidence of benefit when compared with traditional teaching methods.

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 Lean Rose B. GALLARDO<sup>1</sup>, Jose Emamuel GALECIA<sup>1</sup>, Lovely P.MADLANGBAYAN<sup>1</sup>,  
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<b>AIMS</b>	Artificial intelligence (AI) has been penetrating the academe; however, its possible effects to the student nurses are yet to be known. This study determined the student nurses' utilization of generative AI, critical thinking, and clinical judgment.
<b>METHODS</b>	This descriptive cross-sectional study involved 289 student nurses from a private school in Iloilo City, Philippines. Ethical clearance was granted. The data were collected using the adopted tools: Level of Utilization of Generative Artificial Intelligence, Critical Thinking Questionnaire (CThQ), and Nurses' Clinical Judgment Capability questionnaire last March 2025. These were analyzed using SPSS software version 26.
<b>RESULTS</b>	The results revealed that student nurses have moderate utilization of generative AI, strong critical thinking, and high clinical judgment. In critical thinking, the domains of analyzing (M=3.36), remembering (M=3.50), and understanding (M=3.62) were perceived to be the lowest. In clinical judgment capability, reflecting (M=3.98) is the area of concern. Generative AI utilization has a significant relationship ( $p < 0.5$ ) to the critical thinking skills and clinical judgment skills.
<b>CONCLUSIONS</b>	Increased used of generative AI tools contribute to higher perceived critical thinking and clinical judgment capability among the student nurses. Although there are high levels of critical thinking and clinical judgment, areas for improvement were identified. This study underscores the emerging role of AI in developing the skills of the student nurses needed for professional decisions. Incorporating the use of AI in nursing courses must be explored.

Tengyun SI<sup>1</sup> & Donglin LIU<sup>1</sup>

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<b>AIMS</b>	Investigate nursing postgraduates' subjective perspectives on LLM adoption, identifying key attitude patterns influencing usage intentions.
<b>METHODS</b>	1) Through semi-structured interviews with 12 nursing postgraduates, and based on a literature review to generate Q statements, the data were summarized, organized, numbered, and randomly arranged for future use.  2) Purposively sampled 18 nursing postgraduates from 2 universities  3) Participants sorted statements using forced distribution grid (-5 to +5) 4) Analyzed sorts with PQMethod software.
<b>RESULTS</b>	Three distinct perspectives emerged: Type 1 (Enthusiastic Adopters, 40%): Strong trust in LLMs for clinical decision support; Type 2 (Cautious Learners, 35%): Willing only for educational scaffolding under supervision; Type 3 (Ethical Skeptics, 25%): Concerned about accountability and data privacy risks.
<b>CONCLUSIONS</b>	Willingness is mediated by perceived clinical relevance and ethical risk assessment. Successful integration requires: 1) Type-specific training frameworks 2) Clear institutional guidelines for clinical LLM use 3) Enhanced AI literacy curricula.

**Chantelle LYNCH<sup>1</sup>, Wanjiku GATONGA<sup>1</sup> & Hugh DAVIES<sup>1</sup>**

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- AIMS** The aim of this study was to explore whether Nursing teaching staff have overcome the initial barriers to introducing immersive virtual reality (VR) in Nursing education.
- METHODS** Nursing teaching staff prepared immersive VR workshops for undergraduate students to attend over a period of one semester. In preparation, thirty-four immersive virtual reality headsets and controls were ordered. Ubi-Sim™ (Montreal, Quebec, Canada) software was downloaded onto the VR platform. To ensure fluency in the delivery of Ubi-Sim™, IT support was provided over a period of three months before launching the workshops. Training sessions were then provided to all nursing teaching staff including best practice debriefing sessions using the 4-phases of debriefing tool from Harvard's Centre for Medical Simulation.
- RESULTS** Staff evaluation indicated that the barriers to using immersive VR within nursing remain, however, strong consideration for its use in programmatic assessments may prove beneficial. Barriers were identified as technology challenges, concerns with appropriately integrating immersive VR into curricula, financial burdens and sourcing appropriate champions to advocate and promote immersive VR.
- CONCLUSIONS** This study explored whether nursing teaching staff have overcome the initial barriers to introducing immersive VR in nursing education. The findings suggest that while immersive VR integration in nursing is significant in enhancing education benefits, challenges such as technical support, resources with financial implications and staff training remain in some contexts. However, increased familiarity, institutional support and recognition of immersive VR's education benefits assisted educators to move beyond early implementation hurdles. Ongoing professional development and evidence-based strategies are essential to fully embed immersive VR into nursing curricula, to enhance student learning outcomes and promote study experience.

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- AIMS** This quantitative study explored the time management and allocation practices of nursing students during major examinations at Systems Plus College Foundation, seeking to understand their study planning and time utilization patterns in this critical period.
- METHODS** Employing a descriptive-correlational design, researchers surveyed 120 nursing students across all year levels. Data analysis used descriptive statistics to summarize trends and inferential statistics to examine relationships between variables, such as the impact of demographics or links between stress and procrastination.
- RESULTS** Findings revealed prevalent last-minute preparation, with 65% of students starting to study only 1-4 days before exams, though most allocated 3-6 hours daily. Significant barriers included environmental noise (Mean = 4.96), academic stress (Mean = 4.48), and procrastination (Mean = 4.42), indicating a stress-procrastination cycle. Adoption of modern study aids was low, with minimal use of digital planning tools (Mean = 2.96) and study timers (Mean = 2.85). Despite rating their strategies as moderately effective, a disconnect existed between perception and practice. Work status significantly predicted time management challenges, while other demographics did not.
- CONCLUSIONS** The study highlights an urgent need for targeted, hands-on interventions integrated into the nursing curriculum to improve study planning, focus enhancement, and digital tool literacy. Moving beyond optional seminars to required, practical skill-building sessions is recommended to address last-minute cramming, significant barriers like stress and procrastination, and underutilization of digital resources, fostering more effective time management for all students.

***Geraldine RIDAD*<sup>1,2</sup>, *Hsiao-Yean CHIU*<sup>1</sup> & *Joyce Kee-Hsin CHEN*<sup>1</sup>**

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- AIMS** The integration of Artificial Intelligence (AI) in nursing education and practice has grown rapidly in recent years. Literature highlights AI's potential to transform nursing care, enhance simulation and virtual learning, support clinical judgment, and enable personalized learning. However, concerns have also been raised regarding overreliance on technology, algorithmic bias, data privacy and security, implications for nursing scholarship and authorship, and the preparedness of students for AI-driven healthcare environments. These contrasting perspectives, along with inconsistent study results, underscore the need to systematically evaluate AI's impact on nursing education. This study aimed to determine the effects of AI on nursing students' learning outcomes—knowledge, skills, and satisfaction—through a meta-analysis following PRISMA guidelines.
- METHODS** Four databases (PubMed, Embase, CINAHL Plus, and Cochrane Library) were systematically searched. Data analysis was performed using R Studio, and methodological quality was assessed using standard risk-of-bias tools.
- RESULTS** A total of eight studies with 850 participants were included. Pooled results indicate that AI significantly improves students' knowledge (SMD = 0.61,  $p = 0.0195$ ). Subgroup analysis revealed consistent positive effects across both randomized controlled trials (RCTs) and quasi-experimental designs, though statistical significance was retained only in RCTs (SMD = 0.71, 95% CI: 0.11–1.31) under the random-effects model. While AI also demonstrated positive effects on students' skills (SMD = 0.12,  $p = 0.7715$ ) and satisfaction (SMD = 0.50,  $p = 0.1031$ ), these results were not statistically significant.
- CONCLUSIONS** Overall, current evidence suggests that AI can significantly enhance knowledge acquisition among nursing students, with comparable effects to traditional methods in terms of skills and satisfaction. However, the observed heterogeneity across studies highlights the need for further high-quality experimental research to validate and strengthen these findings.

***Thitiporn THIAMCHAN*<sup>1</sup>, *Jeeraporn KUMMABUTR*<sup>1</sup> & *Siriluck KAEWSRIWONG*<sup>1</sup>**

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- AIMS** This descriptive study aimed to examine factors influencing stroke preventive behaviors among patients with NCDs in the northern part of Thailand.
- METHODS** A multistage random sampling of 160 patients diagnosed with hypertension, diabetes mellitus, and/or hyperlipidemia was used to collect data using a questionnaire. Participants were selected using simple random sampling without replacement in primary care unit level. Research instruments included: (1) a general information questionnaire; (2) a stroke knowledge questionnaires with a Kuder–Richardson 20 (KR-20) reliability coefficient of .71; (3) a stroke preventive perception questionnaires including six dimensions perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action with Cronbach's alpha coefficients of .89, .94, .89, .89, .86, and .89, respectively; and (4) a stroke preventive behavior questionnaire with a Cronbach's alpha of .73. Data were analyzed using descriptive statistics and multiple regression analysis, enter methods.
- RESULTS** The results showed that participants had a good level of stroke preventive behaviors ( $\bar{X} = 27.53$ ,  $SD = 1.99$ ). Multiple regression analysis indicated that perceived barriers ( $\beta = 0.229$ ,  $p = 0.004$ ) and self-efficacy ( $\beta = 0.207$ ,  $p = 0.046$ ) significantly predicted stroke preventive behaviors, explaining 24.5% of the variance ( $p < 0.05$ ).
- CONCLUSIONS** In conclusion, nurses and other healthcare providers in primary care settings should prioritize reducing barriers and enhancing patients' self-efficacy with digital health technologies and AI-driven tools. This will encourage positive expectations for behavior outcomes and feel confident in their practice of appropriate behaviors to prevent stroke. For instance, community-based health promotion activities delivered via digital channels can improve access to healthcare services and reduce the travel burden for patients.

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<b>AIMS</b>	To systematically map the types, roles, outcomes, and contextual factors of AI tools used in emergency nursing practice.
<b>METHODS</b>	A scoping review was conducted using the JBI methodology and PRISMA-ScR guidelines. Six databases (PubMed, MEDLINE, CINAHL, EMBASE, Web of Science, ProQuest) were searched for English-language studies (2015–2025). Studies had to report on AI applications in hospital-based or prehospital ED settings involving nurses.
<b>RESULTS</b>	Thirty-three studies met inclusion criteria. AI tools identified included machine learning models (45%), clinical decision support systems (30%), chatbots (12%), and NLP tools (9%). Nurses engaged in triage (64%), monitoring (36%), documentation (24%), and decision support (30%). Outcomes included improved triage accuracy (up to 89%), reduced ED waiting times, and enhanced early sepsis detection. Barriers included limited AI literacy, transparency concerns, and alert fatigue; facilitators included user-centered design, integration with EHRs, and organizational support.
<b>CONCLUSIONS</b>	This review reveals that AI tools are actively supporting ED nurses across triage, decision support, and communication tasks. While outcomes such as accuracy and efficiency are promising, successful integration depends on nurse engagement, usability, and clear implementation strategies. Mapping existing tools and roles provides a foundation for guiding future design, education, and policy in AI-supported emergency nursing practice.