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NURSING IN THE NEW NORMAL:
Transforming Leadership and Accelerating Innovation

VIRTUAL CONFERENCE

October 21(Thursday) ~ 22(Friday), 2021

Elizabeth Iro
Chief Nursing Officer at
World Health Organization

Deva-Marie Beck
Co-Director, Nightingale
Initiative for Global Health

Joyce J. Fitzpatrick
Case Western Reserve
University

Greer L. Glazer
University of Cincinnati

Claudia K.Y. Lai
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Sunghee H. Tak
Seoul National University

Abstract Book

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Chief Nursing Officer (CNO)
World Health Organization

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International Co- Director
Nightingale Initiative for Global Health

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Greer L. Glazer RN, CNP, PhD, FAAN
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Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 1
Nursing leadership1

O-013

Patient-level and organizational-level factors influencing in-hospital falls: impact of integrated care system in Korea

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Aim(s): Falls and fall-related injuries occur infrequently; however, they cause health problems and increase the economic burden on patients. This study sought to investigate both individual and organizational factors influencing patient falls.

Method(s): For investigating factors for falls, we used the database from the National Health Insurance (NHI) and surveyed 86 hospitals accounting for 17.1% of the total hospitals, which had integrated care units. Mixed-effects logistic regression analysis used to identify the factors affecting patient falls.

Result(s): This study included 43,286 patients who were admitted to integrated nursing care units. The average fall rate was 0.85 cases per 1000 patient days, which the lowest in tertiary hospitals and the highest in general hospitals. Patients who experienced fall events during hospitalization had significantly longer hospital stays than those who did not. Among individual factors, age, transfer dependency and operation were factors significantly influencing falls in this study. Among the organizational factors, hours per patient days by nurse and the proportion of newly graduated nurses were strongly correlated with falls.

Conclusion(s): For preventing in-hospital falls, various fall prevention strategies are needed to manage patients at risk. In addition, organizational factors should be considered because patient factors are not modifiable in preventing patient falls.

Keywords: fall, elderly, nurse staffing, new graduated nurse

O-026

Desperate nurses: Psychological Distress in New Pandemics

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Aim: To assess the psychological distress among nursing professionals in hospitals, communities, and schools during a new pandemic outbreak.

Methods: A descriptive study using an online survey was conducted in June 2021 among nursing professionals who participated in the COVID-19 pandemic response. The Depression, Anxiety, and Stress Scale (DASS-21) and the Impact of Event Scale-Revised (IES-R) were administered to identify the status of psychological distress and the posttraumatic responses.

Results: 563 nursing professionals, including 364 staff nurses, 28 nurse managers, 25 infection control nurses, 58 public health nurses, and 88 school nurses, participated in the survey. The average score of psychological distress measured by DASS-21 in nursing professionals was 21.41±15.19. Assessed Predefined cutoff scores of depression, anxiety, and stress separately, 23.8%, 34.4%, and 26.7% of participants demonstrated more than severe levels of psychological distress. The post-traumatic stress score measured by IES-R was found to be 26.98 ±23.48 on average. 48.1% were identified as more than 'clinically concerned', and 33.9% were at a level where they suspected 'immune system suppression'. Psychological distress (F=9.84, p<0.001) and posttraumatic response scores (F=3.24, p=0.012) were significantly different by nursing professionals. Infection control nurses were assessed as the most psychologically suffered group and public health nurses and school nurses also reported higher scores than the averages in both evaluations.

Conclusions: At the frontline of pandemic response, nursing professionals are one of the most vulnerable groups who suffered psychologically as well as physically to pull off their own duties, requiring immediate intervention. Building a healthcare infrastructure considering the psychological impact of nursing professionals can alleviate the crisis in new Pandemics in the future.

Keywords: Nurses, Psychological Distress, COVID-19, pandemics

O-027

Cross-cultural comparison of nurses' experiences working during the onset of the COVID-19 pandemic in Korea and the U.S.

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3 University of Michigan, School of Nursing

Aim: To understand frontline nurses' experiences in South Korea and the United States (U.S.) during the early onset of COVID-19

Background: While the unprecedented nature of COVID-19 has left organizations and healthcare professionals ill-prepared, the responses varied across countries. We know little about nurses' experiences within their cultural context. This qualitative descriptive study fills that gap by exploring nurses' experiences working in hospitals during the first surge of COVID-19 in Korea and the U.S.

Method: Nurses from Korea and the U.S. were recruited via social media between April and May 2020. We conducted semi-structured telephone interviews, which were audio-recorded, transcribed, and translated. We performed thematic analysis and the themes formulated within each content area were compared and synthesized into novel constellations using NVivo 12.

Results: A total of 43 nurses from South Korea (n=21) and the U.S. (n = 22) participated. The commonly shared themes are 1) a sense of pride and duty, 2) increased workload and constant changes, and 3) perceived disposability. The differences were 1) sources of fear and 2) availability of personal protective equipment (PPE). Nurses' sense of duty and pride of the profession intensified during the pandemic, yet they shared perceived disposability by administrators. Workload also increased due to the constant changes without adequate staffing. Korean nurses reported stigma frequently, rather than fear, due to their proximity to patients and the potential to be carriers of the virus. However, the U.S. nurses reported fear due to the lack of PPE and the unknowns of the virus.

Conclusions: Across the U.S. and Korea, nurses struggled with similar yet unique challenges during COVID-19 while managing stigma and fear. The findings from this study underline the importance of protecting nurses from physical and mental harms while addressing the cultural, organizational, and systems-level considerations for the current nursing work environments.

Keywords: Cross-Cultural, COVID-19, Nursing, Workplace

O-025

Collaborative disaster governance recognized by nurses during a Pandemic

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3 Department of Nursing, Sang Myung University
4 Department of Nursing Science, Chungbuk National University

Aim: To identify collaborative disaster governance through the demand and supply analysis of resources recognized by nurses during the COVID-19 pandemic.

Methods: We used a mixed method, primarily qualitative and then quantitative study. Participants were 630 nurses practicing at public health offices, hospitals, and schools. In the beginning, forty-seven nurses were invited to learn about their resource use experiences during COVID-19. The themes from this focus-group study were used to develop the survey tool. Using the tool, an online survey was conducted among nurses. Demand and supply analysis was used to analyze which resources needed attention for supporting nurses.

Results: The 45 items from the in-depth interviews were delineated and three items were deleted through expert validation. The factor analysis yielded seven factors explaining a total of 65.66 % of the variance for the entire set of variables. Demand and supply analysis showed that supplies procurement, cooperation, education, and environment factors clustered in the high demand and supply quadrant while labor condition, advocacy, emotional support, and workload adjustment factors clustered in the high demand but low supply indicating strong needs for those resources were present. The nurses practicing at the public health offices and schools showed major factors plotted in the second quadrant, indicating weak collaborative governance of resources.

Conclusions: These findings showed that there was an unbalanced distribution among nurses resulting in major challenges in collaborative disaster governance during COVID-19. The collaborative disaster governance through improved distribution in future as well as the current pandemic is useful for helping nurses to achieve more required resources and more effective pandemic response.

Keywords: disaster governance; resources, COVID-19; pandemic disaster

Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 2
Nursing research methodology

O-055

Improving the Validity of Graduate Nurse Experience Survey through Cognitive Interview in Korean Context

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Aim(s): The process of participants reading and answering questionnaires goes through complex cognitive steps. When a foreign tool is translated and used, careful efforts are required so that the participants can understand and respond with correct meanings as intended by researchers in consideration of the cultural context. Cognitive interviews have an essential role in these circumstances but have been often overlooked. Therefore, this study aimed to explore participants' interpretation and understanding of the Graduate Nurse Experience Survey and improve its validity.

Method(s): The Graduate Nurse Experience Survey was initially developed by Casey and Fink to measure the stressors and challenges experienced by graduate nurses. It was translated into Korean by the committee's translation process. Six new graduate nurses who understood the intention of the study and had good communication skills were recruited. They were interviewed individually with the translated survey questionnaire and answered about semantic homogeneity, the meaning of the terms, and their responses to the questions. The thematic analysis method was used for reading transcripts and identifying patterns in meaning across them.

Result(s): This study's finding confirmed significant gaps between the researcher's intent and the participants' understanding when the survey items were used in the study. The major problems that were identified by cognitive interviews were 1) possibility of misinterpretation of concepts due to other words presented in the sentence, 2) inappropriate use of terminology, 3) terms that can be interpreted as multiple meanings, 4) grammatically misuse of subject or object, and 5) questions that lead to biased answers. As a result, nine out of 56 items of the survey were modified.

Conclusion(s): This study suggests that cognitive interviews serve as one of the useful strategies to prevent participant's response error by providing researchers with information about the participants' comprehension and interpretation of the items.

Keywords: validity, graduated nurse experience, committee translation, cognitive interview

O-024

Development and validation of a nursing response model to pandemic disasters

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4 Department of Nursing Science, Chungbuk National University

Aim(s): To explore the nursing responses and experiences among nurses practicing at different types of institutions against the COVID-19 pandemic, to develop and validate a nursing response model for use in future pandemic disasters.

Method(s): We used a mixed method, primarily qualitative and then quantitative study. Participants were 46 nurses for 14 focus group interviews and 563 nurses for an online survey. Participants were nurses working at public health offices and hospitals, as managers, and as school nurses. In the qualitative phase, the interview protocol was developed to conduct focus-group interviews by the international team workshops. Forty-six Korean nurses practicing in the different settings were invited to learn about their experiences during COVID-19. The themes found from this focus-group study were used to develop a tool. Using the tool, an online survey was conducted among nurses. Exploratory and confirmatory Factor analysis were performed using the AMOS to extract the new factor structure of the dataset and to establish the structural validity of the developed tool.

Result(s): The main themes from the focus-group interviews through comparative analysis were situational awareness, emotional responses, strategies, nursing values, and remains from the COVID-19 pandemic. 47 original items under the five domains of nursing response on a pandemic disaster were delineated and 42 final items' content validity was established by experts and practitioners. Exploratory factor analysis indicated that three distinct factors were underlying nurse responses to the pandemic response items and that these factors were internally consistent. In the confirmatory factor analysis, three-factor model showed an acceptable fit.

Conclusion(s): The developed nursing response model to pandemic situations was delineated based on nurses' experiences and it is not surprising that nurses learned how to work and deal with an unknown crisis or in an unfamiliar situation. The created nursing response model to a pandemic can be used to prepare for a future pandemic or crisis.

Keywords: Nursing response, Nursing, COVID-19, pandemics

O-046

The Unheard Voices of Bereaved Parents - Perceptions on End-of-life Care and Bereavement: A Content analysis and Topic modeling approach

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Aim(s): The purpose of this study was to explore parents' perceptions regarding the child's end-of-life care and bereavement who lost their child from life-limiting or -threatening condition among pediatric palliative care recipients.

Method(s): Bereaved parents were recruited from a specialized pediatric palliative care service in a teaching and research hospital in South Korea and asked to complete a web-based questionnaire. Parents were eligible if their child was diagnosed with life-limiting or -threatening condition and received pediatric palliative care and bereaved 6 months before the study enrollment. Questionnaire consists of demographic information and 3 open-ended questions which asked parents about care at their child's end-of-life: what aspects of care need to be improved; any meaningful or empowering events; any advice for healthcare professionals and/ or other bereaved parents. A total of 66 parents completed the questionnaire. The open-ended responses were independently analyzed using inductive content analysis and latent Dirichlet allocation topic modeling method.

Result(s): Themes from content analysis aligned with topics from LDA topic modeling and three categories emerged: quality communication and decision-making support to help parents to prepare their child's death and dying, provision of home-based care at the end-of-life to allow meaningful family time regardless of the place of death, and systematic bereavement support for bereaved parents and siblings to facilitate individual way of grieving and to foster a solidarity with bereaved parents.

Conclusion(s): The retrospective assessment of bereaved parents' perceptions on end-of-life and bereavement care highlights needs for anticipatory guidance and communication support, home-based end-of-life care, and a standardized yet personalized bereavement support. As South Korea expand access to pediatric palliative care, the findings of this study need to be considered as a priority for researchers, healthcare professionals, and policy-makers to increase access and enhance the quality of pediatric palliative care.

Keywords: Pediatric palliative care, bereavement, child, parent

O-033

Caregivers' Level of Knowledge and Educational Need for Febrile Convulsions: A Mixed-methods Research

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Aim(s): This research aims to examine caregiver's knowledge and educational demands for febrile convulsions (FC) while analyzing caregiver experiences on FC.

Method(s): Concurrent mixed-methods design was used for this study. Quantitative data was collected with structured questionnaires from 166 caregivers whose children attend four preschools located in cityB. Qualitative data was collected from 7 caregivers who have an experience on FC using semi-structured interview. The data for this research was collected from October 23rd, 2020 to March 29th, 2021. For quantitative analysis, descriptive statistics, t-test, one-way ANOVA and Scheffe test were done. For qualitative analysis, data was analyzed using the Nvivo 12.0 program.

Result(s): In quantitative analysis, the correct answers of FC knowledge was only 35.9%. The 39.4% of the participants saying that the education is "needed very much," and 53.3% of the participants saying that it is "needed". The demand for information on FC was 16.80±2.26 with the range of 6 to 18. As for the need for general information on FC, 81.6% of the participants thought that it is "needed very much." In qualitative analysis, "Negative perception and inadequate response due to lack of knowledge" emerged as a main theme.

Conclusion(s): The results show a need to improve caregiver's knowledge of FC and its management, and a high demand for relevant education. The experience of the caregivers' FC allowed us to identify the content and requirements of education related to FC. The findings suggest the need to develop and evaluate caregivers' educational interventions about FC since education can resolve caregiver's ignorance and lack of knowledge.

Keywords: Febrile convulsions, Caregivers, Educational need, Mixed-methods design

Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 3
Maternal and child health

O-037

How parents provide care for Infants receiving Vaccination: Cases Report

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Immunization for young children is of strong necessity for their health due to lower immunity. However, immunization can cause adverse effects in various types which call as 'Adverse Events Following Immunization' (AEFI). The AEFI usually does not cause high severity and can occur in various types such as skin rash and redness, fever, and pain. In case of severe side effects; anphylactic shock may occur. Hence, parents will fear and are anxious. Some parents could not provide care for their infants to relieve the adverse events appropriately. Thus, the issue of how parents provide care for vaccinated infants is very important, particularly for nurses in providing health care for infants, including parents. This cases report was aimed at exploring the situation of how parents provide care for their infants in regard to vaccination at one hospital in Thailand. Ten parents were selected using purposive selection. The inclusion criterion was parents or caregivers of infants aged 2-12 months. Data was collected by interview and observation using interview guidline and observation record form. Content analysis was done. The findings were presented with descriptive reporting.

The findings revealed all parents took their infants for vaccination without knowing about the names and benefits of the vaccines. Eight mothers did not check the immunization handbook. Two grandmothers gave medicine for relieving fever of the infants both before and after vaccination. During vaccination, some parents could not hold their infants appropriately. Some of them did not know about how to support their infants during injection. One mother relieved fever of the infant by soaking in warm water mixed with lime juice. Two parents applied balm and herbal medicated oil for relieving edema and pain at injection area. Three parents applied herbal powder at the vaccinated area to decrease inflammation. Two parents did not provide tepid sponge for their infants. All of them did not know of and thus did not observe AEFI events. Ultimately, the cases report reflects limitation of knowledge, believe, and practice among parents in relation to vaccination care for their infants. Thus, nurses and health personnels should create and provide family health education program for enhancing relevant knowledge, believes, and skills for parents of infants.

Keywords: Vaccination, Infants, AEFI, Parental behavior

O-008

Post-discharge coping difficulties and influencing factors of pregnant women with gestational diabetes mellitus: A cross-sectional study

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Aim(s): To identify coping difficulties after discharge and influencing factors of pregnant women with gestational diabetes mellitus.

Method(s): A convenience sampling method was used to select 252 women with gestational diabetes mellitus from four tertiary hospitals in Shandong Peninsula in China as the object of investigation. Using demographic questionnaire, quality of discharge teaching scale, readiness for hospital discharge scale and post-discharge coping difficulty scale to investigate the current status of post-discharge coping difficulties in women with gestational diabetes mellitus. Multiple linear regression analysis was used to explore the factors of coping difficulties after discharge.

Result(s): The score of discharge difficulty scale for pregnant women with gestational diabetes mellitus was (5.22±0.97) which is not optimistic. Results of correlation analysis show that there was a strong negative association between quality of discharge teaching and post-discharge coping difficulty (r=-0.840). Readiness for hospital discharge also showed strong negative correlation (r=-0.734) with post-discharge coping difficulty total score. Age, education level, type of birth, parity, quality of discharge teaching and discharge readiness are six factors that significantly influence in post-discharge coping difficulties, which could explain 69.0% of the variation of post-discharge coping difficulty.

Conclusion(s): The study showed that difficult situation of women with gestational diabetes mellitus after discharge needs to be solved. Health professionals should focus on advanced age, low level education, primipara and cesarean section puerpera with gestational diabetes mellitus, strengthen health education, improve the quality of discharge teaching and discharge readiness, so as to reduce the level of difficulties after discharge.

Keywords: Puerpera With Gestational Diabetes Mellitus; Post-discharge Coping Difficulties; Influencing Factors

O-018

Impact of marital satisfaction, fetal attachment, and depression on quality of life among Korean pregnant couples

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Aim: Pregnant couples during the third trimester feel very difficult to expect something happening after childbirth. The aim of this study was to explore an impact of marital satisfaction, fetal attachment, and depression on quality of life among Korean pregnant couples

Method: With correlational study design, a total of 127 pregnant couples during week 28 to 32 were recruited at local clinics via convenience sampling. After obtained the informed consent, both husband and wife were asked to completer the measures with no discussion between them. A self-administered questionnaire included scales of marital satisfaction, fetal attachment, prenatal depression, and quality of life.

Results: The mean age of pregnant women was 32.4 years and of their spouses was 34.5 years. Their mean marriage duration was 2.6 years and 16.5% of pregnant couples had more one child. Pregnant women showed higher scores in depression than their spouses' (t=5.15, p<.001) whereas their spouses had greater scores in marital satisfaction (t=−16.17, p<.001) and quality of life in physical domain (t=−10.61, p<.001) and in mental domain (t=−8.65, p<.001) than their wives'. However, the wives' marital satisfaction, fetal attachment, and depression were not related to their husbands' one. Quality of life in mental domain in pregnant women was higher when their depression score was lower (β=−.44, p<.001). In case of their spouses, higher fetal attachment (β=.28, p=.002) and lower depression (t=−44, p<.001) explained greater quality of life in physical domain. Spousal quality of life in mental domain was affected by higher marital satisfaction (β=.30, p=.001) and lower depression (β=−.41, p<.001).

Conclusion: Both pregnant couples need to manage their levels of depressive symptoms to have better quality of life during the third trimester. There is a need to explore various factors to enhance quality of life in pregnant couples while considering family (a set of mother-father-fetus) dynamics.

Keywords: family relationship, pregnant couple, prenatal depression, quality of life

O-051

COVID-19 care experience: Reflection on nursing care in the Obstetrics and Gynecology Department of a medical center in Taiwan

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Aim(s): Year 2020 is the International Year of the Nurse and the Midwife, but due to the COVID-19 pandemic, nurses face severe challenges and threats. This article was a reflection of personal nursing experience in clinical practice in the Obstetrics and Gynecology Department of a medical center during the beginning period of facing the COVID-19 threat.

Method(s): To prepare for COVID-19, the medical teams in the setting immediately held a meeting on January 26, 2020 to discussed coping strategies, including early high-risk identification, strictly implementing visitor management, adjusting care models, and implementing employee education; in order to protect women, newborns and health workers safety. From January to December 2020, there were no confirmed COVID-19 cases and ten suspected cases in our department. The nurses reflected on infection control measures, adjusted nursing care, dialogue with patients and families, with nurses and medical team members.

Result(s): We summarized six themes, including: a). Enlarge patient criteria to early identify high-risk cases and block COVID-19 overseas, b). Strict enforcement of preventive measures and be brave and fearless, c). Master information and overcome difficulties, d). Routine adjustment and stabilize clients' state of mind, e). Innovation and development of preventive product, f). Support the front line and joint epidemic prevention.

Conclusion(s): During the period of January to December, 2020, no confirmed COVID-19 cases and nosocomial infections were noted in the unit. We implemented Virtual Private Network check, and high-risk assessment, included travel history, occupation, contact history, cluster to early risk identification, we also doing visitor management and revise care delivery models, due to those strategies, even nurse face severe challenges and threats, the quality of patient care and treatment was maintained.

Keywords: COVID-19, coping experience, nurses, reflections.

Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 4
Nursing education 1

O-023

Factors associated with critical thinking cognitive skills among students studying in associate degree in health-related study prior to admission to nursing programs

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The importance of fostering critical thinking (CT) in nursing education is highly recognized worldwide. Despite this, CT studies of Asian nursing students are limited, particularly for students studying associate degree (AD) in health-related studies, with whom majority would continue their studies in nursing after graduation.

Aim(s): To investigate CT abilities and dispositions among these AD students and to determine the associated factors with their CT cognitive skills.

Method(s): A convenience sample of 80 health-related AD students from a community college in Hong Kong were recruited in this cross-sectional study. The valid and reliable study questionnaire included the California Critical Thinking Skills Test (CCTST), the California Critical Thinking Disposition Inventory (CCTDI), and students' profiles. Correlation analysis was performed by using SPSS 26.0.

Result(s): The mean age of the students was 19.38 ± 0.97, with 67.5% (n=54) were female. The mean CCTST scores was 17.93 ± 4.23 and the five subscales: induction, deduction, analysis, inference and evaluation were all in moderate level. The mean CCTDI score was 277.76 ± 20.78 and positive disposition towards CT was shown in only four subscales: open-mindedness, analyticity, confidence in reasoning and inquisitiveness. There was a significant moderate correlation between students' overall CCTST scores and other variables including university admission examination total score (r=0.260, p<0.001), Chinese score (r=0.136, p=0.049), GPA (r=0.166, p=0.016), CT subject grade point (r=0.226, p=0.001) and CCTDI subscales: truth seeking (r=0.251, p<0.001), analyticity (r=0.208, p=0.003), inquisitiveness (r=0.200, p=0.004) and maturity of judgement (r=0.249, p<0.001).

Conclusion(s): This is probably the first study to investigate the CT among AD students studying in health-related studies. The results showed that the factors associated with their CT cognitive skills were multifactorial. Strategies tackling these factors should be developed to strengthen their CT. Future studies should also involve more community colleges.

Keywords: Community college students, Critical thinking skill, Disposition, Nursing Education

O-031

Utilizing Design Thinking in the Development and Evaluation of a Pre-loaded Diluent and Medication Syringe

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Aim(s): Design Thinking is a human-centered problem-solving solution. It seeks innovative solutions for different issues by starting from human needs. The process includes empathizing, defining, ideating, prototyping, and testing. Innovation is a new trend for nursing education and talent training, but nursing-related research that combines design thinking with innovative research and development is lacking. In this study, cross-disciplinary instructors used design thinking to lead a team of nursing students in innovating on a Pre-loaded Diluent and Medication Syringe. The completed pilot test provides implementation and research directions for innovation education.

Method(s): The researchers created 15 questions regarding ease of operation, safe use, environmental friendliness, and economic benefits for their self-developed Pre-loaded Diluent and Medication Syringe. The research team then demonstrated the device to 40 invited nursing students with registered nurse licenses, who were then asked to complete the questionnaire, thus allowing score-based comparisons between this innovative syringe and traditional syringes used in drug administration. The data was analyzed using descriptive and inferential statistics.

Result(s): The results of the research showed that there was no significant difference on the "applicable to all types of wards" question for ease of operation, but the other 14 items all showed significant differences (P<.05). The reason for that insignificant difference may be due to unmet needs for micro-administration of special drugs and reuse of pediatric surplus; this prompted the research team to carry out develop on a Drug-mixing Syringe Feasible for Multiple Administrations.

Conclusion(s): Based on the evaluation results, the research team developed a syringe more optimized to meet clinical needs. The study provides cross-disciplinary guidance to students in the process of nursing innovation, and narrows research gaps in related fields.

Keywords: design thinking; nursing innovation; cross-disciplinary collaboration; medical devices

O-014

Literature Review of Delirium, Dementia, Depression (3D) Assessment Scales and Care Interventions for Older Adults

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Aim(s): Regardless of the clinical setting—whether intensive care unit (ICU), general and geriatric wards, or long-term care facilities—health care professionals often have difficulties in distinguishing between delirium, dementia, and depression (3D) for older adults due to many various assessment scales. Therefore, an evidence-based literature review of 3D assessment scales and care interventions among older adults is warranted.

Method(s): This literature review is divided into three parts: epidemiology, assessment scales, and care interventions for older adults. The authors used key words delirium, dementia, depression, assessment, interventions, and older adults with systematic review or meta-analysis to identify the valuable 3D reviewing literature.

Result(s): The longer an older adult has delirium or depression, the higher are their chances of developing dementia. Thus, delirium and depression may be the predisposing factors of dementia among older adults. Because the symptoms of 3D often overlap and have a complex relationship among older adults, the care interventions are also interrelated. Health care professionals caring for older adults with 3D should have evidence-based knowledge and judgment based on a 3D assessment scale to make the best decisions regarding nonpharmacologic interventions at the appropriate time and manner.

Conclusion(s): In summary, first, epidemiologic studies on 3D in the geriatric population have revealed that the risks of 3D increase considerably with aging. Delirium and depression seem to be the predisposing factors of dementia among older adults. However, healthcare professionals in the clinic settings, geriatric ward and long-term care facilities have the difficulties in differentiating between them due to many different assessment scales. Second, the CAM, MMSE, and GDS scales are the most frequently validated assessment scales for 3D in older adults, but the assessment scales are too long to be used efficiently. Finally, many evidence-based pharmacological and non pharmacological interventions of 3D have been reported. Base on the literature of 3D, a mini-3D assessment scale and care interventions are developed that would be very useful for healthcare professionals in the clinic settings, geriatric ward and long-term care facilities.

Keywords: delirium, dementia, depression

O-054

Factors related to readiness for practice for nursing students: A systematic review

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Aim: Readiness for practice is the quality of new graduates possessing the attributes that prepare them for success in their workplaces. Feeling adequately prepared for nursing care contributes to a successful transition into the nursing role and facilitates new nursing graduates' integration and retention at the workplace. However, the factors that contribute to graduate nurses' perceived readiness for practice are still undetermined. Moreover, how education and practice can better prepare them is an ongoing discussion in the literature. This systematic review aimed to identify effective strategies and factors related to nursing students' readiness for practice.

Method: A search was conducted from January 1980 to November 2020 on EMBASE, PubMed, SCOPUS, Web of Science, CINAHL, Cochrane, and three Korean databases (RISS, KSI, and DBPia), using a combination of keywords: "nursing student," "student nurse," "readiness for practice," "job readiness," "work readiness," "preparedness for practice," "job preparedness," "work preparedness," and "attitude." The selection was made independently by four reviewers, and the reviewers assessed the methodological quality of included studies. Mixed-Method Appraisal Tools were used to evaluate the methodological quality of the identified research papers.

Result: A total of 14,468 studies were identified from the database search and 19 met the inclusion criteria for the review. The findings revealed two main factors: learning environment and cognitive ability are crucial to nursing students' readiness for practice. The learning environment included clinical practice time, number of preceptors, supervisors' feedback, theory-practice integration, and simulation-based programs. The cognitive ability of students included situational awareness, critical thinking, emotional intelligence, and social intelligence.

Conclusion: This literature review highlights the importance of the educational environment in improving the cognitive ability of nursing students, thereby enabling their preparedness for better practice.

Keywords: cognitive ability, learning environment, nursing students, readiness for practice, systematic review

Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 5
Clinical nursing

O-022

Prevalence and Influencing Factors of Post-Intensive Care Syndrome in ICU Survivors; A prospective multicenter cohort study

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Aim(s): Intensive care unit (ICU) survivors are at risk of developing Post-intensive care syndrome (PICS), which are new or worsened mental, physical, and cognitive impairments after critical care treatment. The purpose of this study was to investigate the prevalence and influencing factors of PICS in Korean ICU survivors.

Method(s): This was a second year study of a prospective cohort project that followed survivors of 19 ICUs in four university hospitals in Busan, Korea. The survivors who had been admitted to the ICU for more than 24 hours participated. A total of 891 survivors responded to the Intensive Care Experience questionnaire at the time of ICU discharge, and 617 of them completed a phone or face-to-face survey about PICS at 3 and/ or 6 months after discharge. PICS was evaluated with an integrated measurement tool, the Post-intensive Care Syndrome questionnaire. We also measured the prevalence of each domains of PICS using the Hospital Anxiety and Depression Scale, the Posttraumatic Diagnosis Scale, the Activities of Daily Living scale, and the Montreal Cognitive Assessment. We analyzed the influencing factors of PICS using multivariate linear regression and logistic regression.

Result(s): The average PICS score of our participants was 9.14±8.35. The prevalence of anxiety, depression, and PTSD, which are PICS mental domains, were 13.1%, 23.7%, and 15.6%, respectively. The prevalence of non-independent ADL case was 19.9%, and 40.2% of participants had mild cognitive impairment. Factors that significantly increased PICS score were frightening experience during ICU admission, female gender, low education, low BMI, functional comorbidities, unaware of ICU admission, and discharge other than home.

Conclusion(s): Approximately 13~40% of survivors experienced multiple impairments of PICS after discharge from the ICU. The results of our study warrant the further research on PICS influencing factors, especially the modifiable ones such as ICU experiences.

Keywords: Intensive Care Units; Prevalence; postintensive care syndrome; survivors

O-028

Discharge process and its association with post-discharge prognosis in patients with heart failure

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Aim(s): Heart failure (HF) is a burden on healthcare resources with much of the cost responsible for repeated hospitalization. Predictive models have developed for post-discharge prognosis for HF. However, those models included non-modifiable individual-level factors (e.g., lab), and the predictive power of those models was limited. This implies that additional factors need to be added considered, which could be factors related to the discharge process. The aim of this study was to explore the relationship between discharge process and 2-year prognosis in patients who discharged from hospital due to HF exacerbation.

Method(s): Medical records were reviewed to identify patients who admitted due to HF exacerbation. Information related to the discharge process available from the medical records included post-discharge follow-up schedule, patient education contents related to self-care, and the presence of caregivers during the patient education. The 2-year prognosis was defined as the composite of HF-related events, including emergency department visit, readmission, or death due to HF exacerbation. To explore the association between components related to the discharge process and 2-year prognosis, multivariable cox proportional hazards regression model was used.

Result(s): Of 201 patients, 41 had at least one of the HF-related event. The post-discharge clinic appointments were scheduled on 8 days after discharge. Patients received one area of the education contents, and about 70% of their caregivers attended during the education. In the Cox regression model, the caregiver presence during the education was independently associated with a longer time to HF-event (hazard ratio: 0.48). However, the number of education contents provided and post-discharge follow-up appointment were not associated with the time to HF-event.

Conclusion(s): We found that presence of caregivers during the patient education is the protective factors from adverse prognosis in patients with HF. Our result highlights the importance of family engagement in the HF management.

Keywords: heart failure, discharge, caregiver

O-044

The Effects of Family Intervention on Adaptation among Families with Spinal Cord Injury Persons

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Objective: People faced with spinal cord injury is a crisis situation that professional nurse needs to provide care for enhancing adaptation of the whole family system. However, systematic review has shown that family intervention for crisis situation of spinal cord injury person and family system are lacking in Thailand. Therefore, this study was aimed at investigating the effects of family nursing intervention on adaptation among family with spinal cord injury person.

Method: Quasi-experimental study with two group pre-posttest design was conducted. The concept of Family Resiliency was applied. The sample consisted of 30 families with spinal cord injury male persons who were admitted at Khon Kaen Hospital, Thailand. The sample was randomized to control group of 15 families admitted in orthopedic ward B and received traditional nursing care until discharge, and 15 families of experimental group admitted in orthopedic ward A who received the family nursing intervention until discharge. The study tool comprised of 2 parts: first, the family nursing intervention package for experimental group that comprised of family nursing guideline of assessment, planning, implementation, and evaluation, including the family handbook that was provided to the families for caring the spinal cord injury persons at home. The second part was collecting data tools which consisted of structured interview tools in relation to self-care behavior of spinal cord injury person, family health care functioning, and anxiety standard test of family member, and the person with illness. Content validity of the family nursing intervention was done by 5 experts, which resulted in the Content Validity Index (CVI) of 0.92. Two collecting data tools were tried out with 10 similar families and calculated for reliability using Cronbach's alpha coefficient; the self-care behavior was 0.87, and family health care function was 0.82. Data analysis was done by SPSS for window; frequency, mean, standard deviation, and t-test.

Results: Family adaptation in term of personal self-care behavior among experimental group was significant difference from the control group at level of $p < .02$. Family health care function among experimental group was significant difference from the control group at level of $p < .03$. The anxiety score of persons in the experimental group was significant difference from the control group at level of $p < .04$. The anxiety score of family in experimental group was significant difference from the control group at level of $p < .00$.

Conclusion and suggestions: the family nursing intervention could enhance adaptation of family with spinal cord injury person in term of self-care behavior, family health care function, and anxiety. Thus, this nursing intervention could be applied to use with similar families. Long-term study should be done for monitoring and supporting the family adaptation continuously.

Keywords: Family Nursing Intervention, Spinal Cord Injury, Family Resiliency

O-048

Self-efficacy, Symptom, and Quality of Life in Breast Cancer Survivors

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Aim(s): In Korea, 5-year cancer relative survival rate of breast cancer has been increased over years, and the quality of life of those survivors is challenged by side effects of cancer treatments, psychological and social effects. Self-efficacy, one's belief in his or her capabilities, has positive effect on quality of life in patients with breast cancer. The purpose of this study was to evaluate symptoms, self-efficacy, and quality of life (QOL), and identify factors associated with quality of life among breast cancer survivors (BCS) in Korea.

Method(s): A descriptive correlational study was conducted. A total of 190 BCSs participated in this study. BCSs' symptoms, self-efficacy, and quality of life were measured. Descriptive statistics, Pearson's correlation, t-test, and multiple regression analysis were conducted to identify contributing factors of quality of life.

Result(s): Among subscales of self-efficacy for coping, the mean value of self-efficacy for seeking information was the highest. The second highest subscales were maintaining activities and accepting/positive attitude/decision-making. The most significant symptom was fatigue (3.26±2.74), and the mean value of QOL was 69.61(±20.80). Associations between self-efficacy subscales and QOL were all significant and positive, weak to moderate in size ($0.288 \leq r \leq 0.35$, $p<.001$), and there was negative and high correlation between symptom severity and QOL ($r=-0.52$, $p<.001$). Multiple regression analysis demonstrated that symptom severity ($\beta=-.42$, $p<.001$), self-efficacy for seeking spiritual coping ($\beta=.18$, $p<.05$), and functional status ($\beta=-.18$, $p<.05$) significantly predicted BCSs' QOL and explained 37.5 % of the variance.

Conclusion(s): Self-efficacy for seeking spiritual coping, symptom severity, and functional status were significant contributing factors of QOL of breast cancer survivors. In addition to managing physical symptoms, it is recommended to assess self-efficacy for spiritual coping to provide holistic care to BCSs to improve QOL.

Keywords: self-efficacy; breast cancer; cancer survivors; quality of life

Abstract

Oral Presentation

October 21 (Thursday), 2021

Concurrent session 6
Community or public health nursing

O-043

The Healthy Food Environments of Afterschool-care Program for Low-income Children in South Korea: Mixed-method Research

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Aim(s): Diet-related disparities negatively affect children's physical and mental health and their health-related quality of life. These inequalities are influenced by the diverse circumstances in which children live and grow. Community Child Care Centers (CCCs) is the representative social welfare policy to provide afterschool care programs, including meal services for low-income children in South Korea. In this context, the physical and social environments of CCCs, as a significant environmental agent, influence dietary intake, behaviors, and patterns of low-income children. To use mixed-method, we explore the eating behaviors of low-income school-aged children attending CCCs and its food environments to influence children's eating behaviors.

Method(s): We applied concurrent mixed methods: a self-reported survey with 349 school-aged children and 34 service providers in the seventeen CCCs conducted. A total of three centers participated in the participatory observations and interviews. The quantitative data were analyzed using descriptive statistics, and the qualitative data were analyzed using content analysis applying NVivo R 1.

Result(s): As a result of the survey and participatory observation, children's eating behavior was not healthy as we expected. The child's eating behavior score was 58.95 out of 100. Among the five sub-domains, the 'diversity' factor, representing the diversity of meals, was the highest (67.91), and the 'balance' factor, representing a balanced diet, was the lowest (50.26). Besides, various dietary problems, including overeating and unbalanced eating, were observed. Interestingly, the perceptions of the center's food environment in which service providers responded and the results of our participatory observations and interviews were quite different. In other words, they replied that the center's environment was healthy, but in reality, based on participatory observation and interviews, a significant gap existed.

Conclusion(s): To alleviate socioeconomic diet-related disparities among children, we propose urgently establishing a food environment that can support healthy eating. Furthermore, it is necessary to improve service providers' awareness of a healthy eating environment, including healthy donation.

Keywords: Feeding behavior, Health status disparities, Mixed-method research

O-045

Nurse safety in home healthcare: Korean advanced practice nurses' experiences

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Aim(s): The vast majority of home healthcare nurses in Korea are female and work alone when conducting home visits. While promoting patient safety, home healthcare nurses are often exposed to unpredictable risks in various environments, such as car accidents, infection, or violence. This qualitative descriptive study aimed to describe the safety of home healthcare nurses in Korea.

Method(s): Data related to nurse safety were obtained from the study, which was conducted in 2019 to explore home healthcare nurses' perceptions of patient safety. In the original study, data were collected from a total of 20 home healthcare nurses from 11 general hospitals and one primary care clinic through individual, face-to-face, semi-structured interviews, and were analyzed using a conventional content analysis approach.

Result(s): Two main themes emerged regarding nurse safety in home healthcare settings: exposure to various situational risks and useful strategies for promoting nurse safety. Situational risks include verbal violence or sexual harassment from patients or formal/family caregivers, exposure to possible infection from patients with communicable diseases following their discharge from inpatient settings, car accidents, severe weather, uncontrolled pets, and in-home visits conducted alone. Useful strategies for promoting nurse safety include: conducting home environment assessments during the first visit, using personal protective equipment, maintaining the vehicles used for home visits, and developing institutional protocols or legal protection to make safer environments for nurses.

Conclusion(s): Our findings highlight the importance of nurse safety in Korean home healthcare settings. Health system leaders should consider the potential risks that home healthcare nurses confront when they practice alone in various environments. More studies are needed to investigate testable interventions that can improve the working conditions for home healthcare nurses, thereby leading to the development of environment and culture characterized by safety for both patients and nurses.

Keywords: home healthcare, nurse safety, qualitative study

O-050

Predicting Health Expenditures of Home- and Community-based Care Programs Using a National Insurance Reimbursement Data

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Aim(s): This study was to predict health expenditure trajectory of the patients who utilized home- and community-based program from January 1, 2014 to October 31, 2019 using a pooled administrative data collected by the health insurance review assessment service.

Method(s): We used a secondary data from the national health insurance reimbursement data. Data were analyzed with SAS 9.4 version. Univariate and multivariate regression models were performed for the prediction of total health expenditures of hospital-based home care services and home- and community-based care programs and other community-centered public health services. Independent variables were patient's age, year of data, type of insurance, total number of days that the patient was treated (including the number of days of administration), type of treatment(surgery vs non-surgery), regional location, male/female, primary medical diagnosis, secondary medical diagnosis, main subject area (oriental medicine, dentistry, surgery, internal medicine, etc)

Result(s): The hospital-based home care recipients' health expenditure model were explained 26.58% from the regression model (n=630018), while community-based care recipients' one model explained 57.34% (n=7887) with the same set of variables. There were significant regional differences among the health expenditure for both models and age, year, type of insurance, non-surgery, primary medical diagnosis of hypertension, stroke, diabetes, cancer, dyslipidemia, and dementia (reference: ischemic heart disease) were significant predictors, and secondary medical diagnosis of hypertension, stroke, diabetes, renal failure, dementia were significant predictors.

Conclusion(s): This study results showed that the clear comparison of hospital-based treatment and community-based services using the accessible administrative data and the prediction of medical expenditures with current collected information retrieved from the patients' reimbursement system could be used to evidence-based policy making and sound resources allocation at the national level.

Keywords: health expenditure, national insurance reimbursement data, prediction

O-001

Macronutrients and Micronutrients Role during the SARS-CoV-2 Pandemic

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Aim(s): The purpose of this study was to determine the effect of nutrients on immunity levels during the SARS-CoV-2 pandemic.

Method(s): In the absence of sufficient data on the effects of nutrients on SARS-CoV-2 patients, this narrative review was conducted using the terms "SARS-COV-2" OR "Covid-19" OR Corona AND Nutrient OR Vitamins OR Minerals from September 2020 to May 2021 in electronic databases (Scopus, PubMed, Springer, and Science Direct). Where articles or abstracts were published in English, all types of articles were included, as were references to previously published papers. The relevant keywords led to the identification of 80 studies.

Result(s): Nutritional status is critical in developing, providing, and expressing immune responses against disease. Certain proteins have an inhibitory effect on ACE-I and result in decreased ANG-II. Omega-3 fatty acids have been shown to improve oxygenation in patients with SARS-CoV-2, whereas carbohydrates do not affect the recovery of patients infected with SARS-CoV-2. Furthermore, Vitamin A contributes to the immune system's upregulation, and Vitamin D inhibited cytokine storms, specifically IFN-γ and TNF-α. Vitamin E may enhance the efficacy of vaccines, and Vitamin C inhibited the production of TNF-α and increased the production of IL-10. Vitamin B Complex promotes lymphocyte proliferation and evolution and protects against SARS-CoV-2 infection. In SARS-CoV-2, decreased serum Vitamin K levels are associated with decreased lung tissue elasticity.

Conclusion(s): This study established that nutrients play a role in this disease. Nutrients can be critical in preventing SARS-CoV-2 infection and managing SARS-CoV-2-infected patients.

Keywords: : SARS-COV-2, Macro nutrients, Micronutrients, Immunity.

O-019

Community process and mechanisms influencing the adolescent and young adults' risky sexual behavior: A systematic review

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Aim(s): The purpose of this review is to examine associations between community process and mechanisms and adolescent and young adults' risky sexual behavior (RSB), in addition to the review of the concept and measurements of community process and mechanisms used in each study.

Method(s): We used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guideline in this review. A literature search was conducted in August 2020 for the following eight electronic bibliographic databases: Cumulative Index to Nursing and Allied Health Literature, Cochrane Library, EBSCO, PubMed, PsycINFO, Web of science, DataBase Periodical Information Academic, and Research Information Sharing Service. From 11,216 identified articles, 588 articles were found for the full-text screen. After applying inclusion criteria, 24 articles were included. Furthermore, we manually searched 2 eligible articles through inclusion criteria and added them to the reference list. In total, 26 articles were used in this review.

Result(s): The community process and mechanisms include collective efficiency and social support, community safety, and community norm. Decent size of studies examined collective efficacy and social support (11 studies) and community safety (17 studies). The concept of collective efficacy encompasses collective efficacy and control, social cohesion, community involvement, sense of community, social trust, and community assets and resources. In term of the relationships with adolescent and young adult's RSB, a majority of them were not significant. Community safety also showed inclusive relationships with adolescent and young adult's RSB.

Conclusion(s): Community process and mechanisms are intangible assets of community. In this review, we found that community process and mechanisms partially support the occurrence of adolescent and young adult's RSB, although many of these relationships were not significant. This partially supported evidence presents the importance of community process and mechanism such as collective efficacy, community safety, and community norm to prevent the occurrence of adolescent and young adult's RSB.

Keywords: risky sexual behavior, adolescent, young adults, community process

Abstract

Oral Presentation

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Concurrent Session 7
Mental health

O-012

PTSD and Resilience Should be Considered for North Korean Defectors' Adaptation to South Korean Society

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Aim(s): This study aimed to identify the influence of North Korean defectors' cultural orientation, post-traumatic stress disorder (PTSD), and resilience to their adaptation to South Korean society, and to provide evidence for North Korean defectors to improve their adjustment to South Korean society.

Method(s): 171 North Korean defectors aged 19 years or older who live in South Korea completed a structured questionnaire including the Individualism-Collectivism Tool, the PTSD Checklist civil version, the Korean version of the Conner-Davidson Resilience Scale, and the Social Adaptation Problem Scale during November 2019. The participants were 171 North Korean defectors who live in S-city and G-province in South Korea. The collected data were analyzed using SPSS/WIN 22.0. Descriptive statistics, independent t-test, ANOVA, Pearson's correlation coefficients, and multiple regression were conducted.

Result(s): 71% were female, 43% were in their 20s, and 44% were students. 77.4% had horizontal values including horizontal individualism and horizontal collectivism. 24% were classified as PTSD groups. The resilience among North Korean defectors is 66.37±15.80 out of 100. Adaptation to South Korea scored 31.07 ±7.10 out of 40. Factors affecting adaptation in South Korea were PTSD and resilience, which accounted for 46.6 percent of adaptation. PTSD is the most influential variable in adaptation, accounting for 37.7 percent and resilience accounts for 8.8 percent of adaptation in South Korea.

Conclusion(s): To increase the level of adaptation of North Korean defectors to South Korean society, nursing intervention for the defectors suffering from PTSD should be implemented as a priority. Education and program development that can increase resilience would be helpful. When counseling on mental health for North Korean defectors who entered South Korea, conditions for PTSD should be assessed in priority. Nursing interventions should include linking North Korean defectors who suffer from PTSD or who are at high risk to community-related clinics.

Keywords: Adaptation; Cultural Orientation; PTSD; Resilience

O-020

Disability Acceptance and Depression of Korean Adults with Disability: Analysis of the 2018 Panel Survey of Employment for the Disabled

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Aim(s): Although many research studies on mental health problems have been conducted in Korean adults with disability, there is limited literature about disability acceptance and depression in this population. Therefore, the purpose of this study was to examine the relationship between disability acceptance and depression in a sample of Korean adults with disability.

Method(s): This study used data from the 2018 Panel Survey of Employment for the Disabled (PSED, 2nd wave 3rd) collected by the Korea Employment Agency for the Disabled (KEAD). Variables selected for this study include demographic variables (gender, age, marriage status, and employment status), disability related variables (disability level, types of disability, and disability acceptance), and depression. As preliminary analyses, Chi-Square tests were used to compare proportions of depression by demographic variables and disability related variables. All significant variables from the Chi-Square tests were included in the final logistic regression to determine their effects on depression in this sample.

Result(s): Study findings indicate that the overall depression rate in this study was 14.2% (n = 532 out of 3,755 participants). About 13.4% of the participants fell into a low level of disability acceptance, 57.5% into a middle level, and 28.9% into a high level. Logistic regression found that participants with a low level of disability acceptance, compared to those with a high level of disability acceptance, significantly increased the risk of depression by 5.7 times. Among demographic variables, older adult group, married and divorced status, and unemployment significantly predicted higher depression rate. However, gender, disability level, and types of disability were not significantly associated with depression in this study.

Conclusion(s): Considering our findings, health prevention programs such as routine screening and early treatment of depression and psychological or counselling services focusing on improved acceptance toward their disability, should be expanded at public level.

Keywords: Disabled Person, Korean, Mental Health

O-060

Nurses' experiences of the COVID-19 crisis

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Aim(s): The aims of this qualitative study was to develop a situation-specific theory to explain nurses' experiences of the COVID-19 crisis. The research question was "What is the nurse's experience process for the COVID-19 crisis?"

Method(s): Participants were 16 hospital nurses who experienced the COVID-19 crisis. Data were collected through individual in-depth interviews from September 2020 to January 2021.
Theoretical sampling method was applied to the point of theoretical saturation. Transcribed interview contents were analyzed using Corbin and Strauss's grounded theory method.

Result(s): A total of 38 concepts and 13 categories were identified through the open coding process. As a result the core category was 'Overcoming the suffering alone having to go through the dedication of the COVID-19 hero image, and becoming an being independent nurse'.
The causal condition was 'The chaos of being exposed unexpected pandemic defenselessly', 'The shock caused by the nursing care field reminiscent of a battlefield' and 'Moral distress from failing to patient's protect human dignity'. The contextual condition was 'Feeling like being scapegoat of a hospital organization', 'Increasing uncertainty due to unpredictable state of COVID-19' and 'Relative deprivation due to inappropriate treatment'. The action/interaction strategies was 'Efforts to find a breakthrough' and 'Getting the nurse's minds right' and the intervening condition was 'Gratitude for those who care for broken heart' and 'Getting used to myrself due to repetitive work'. As a result there were two types of nurses' experiences of the COVID-19 crisis; 'Becoming an being independent nurse', and 'Resignation from an unchanging reality'.

Conclusion(s): This study shows that social support system and improvement of treatment are important for nurses experiencing in COVID-19 crisis. It is essential to develop a social support system for nurses who care for COVID-19 patients, and to enact strategies and nursing laws to improve the treatment of nurses.

Keywords: : Nurses; Qualitative research; Grounded theory; COVID-19

O-041

"Breaking the Silence": Stories of COVID-19-Related Racial Discrimination Against People of Asian Descent

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Objectives: In response to COVID-19-related racism and discrimination against people of Asian descent in the United States, a storytelling video project, "Voices Against Racism and Stigma" was initiated to capture real life personal stories of Asian Americans who directly or indirectly experienced racial discrimination and xenophobia during the height of the pandemic. This paper provides insights into individuals' experiences of racial discrimination and xenophobia during COVID-19.

Methods: We used snowball sampling technique to recruit individuals of Asian descent who are willing to share their direct or indirect experienced racial discrimination and xenophobia. We used the virtual meeting platform, Zoom, to conduct audio/video-recorded interviews. Our team members (n=3) reviewed individual stories using a thematic narrative analysis.

Results: We interviewed 22 individuals of Asian descent from a various region, age groups, educational background, and experiences with racial discrimination and xenophobia. The shared stories included personal and community experiences ranging from verbal harassment to physical assaults, from past trauma to the fear of COVID-19 related racism, and from vulnerability to cultural resiliency. Our viewers commented that the storytellers' shared stories encouraged them to "speak up" openly about their own experiences with racial discrimination and xenophobia during COVID-19.

Conclusions: Racial discrimination is a key social determinant of poor mental health outcome which can deter access to health care. As mental health-related stigma has played an important role in Asian Americans' decisions on whether or not to access mental health resources, the findings have nursing implications for storytelling intervention planning with a focus on education about racism, discrimination, and improving mental health outcomes and health care access.

Keywords: Racial Discrimination, mental health, Asian Americans, COVID-19

Abstract

Oral Presentation

October 22 (Friday), 2021

Concurrent session 8
Nursing education 2/Health technology

O-004

Technology readiness trait - does it has a role to accelerate patient's adoption of e-health?

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Aim(s)： The COVID-19 pandemic has catalysed the digital transformation of healthcare but the extent to which patients are ready to adopt e-health is yet to be determined, including middle-income countries. Among the many patient determinants of e-health being studied, an innate trait called "technology readiness" is underexplored in clinical research. Study aimed to examine the role patient's technology readiness (TR) in relation to e-health literacy (eHL) that influence e-health adoption

Method(s)： A cross-sectional survey was conducted in a tertiary hospital in Malaysia. A total of 276 adult in-patients with hypertension, diabetic mellitus and coronary heart disease had completed eHealth Literacy Scale, Technology Readiness Index (2.0), behaviour and perceived use of digital technology in addressing health problem. Hierarchical linear regression analysis using entry block was performed to examine the effects of the four subdomains of TR on eHL after controlling for other independent variables.

Result(s)： Patients had moderate TR (mean =3.03). Regression model shows TR is a strong determinant of eHL (R^2 =.295, P<.001) with its subdomains (optimism, innovativeness and discomfort) significantly influencing eHL ($|\beta|$ = 0.28-0.40; P values < 0.001), except for the subdomain insecurity. Among the 97.1 % of patients owning the smartphone, about 24% and 12% used mobile health apps and fitness devices, respectively. The low 22% patients read health-related materials presents a concern in view that digital materials are often heavily textual.

Conclusion(s)： The deployment of digital health interventions should incorporate assessment of patients' TR for targeted strategies. Design and delivery of technology-based interventions that are tailored to patient's TR will enhance better patient engagement and adoption of e-health.

Keywords： digital health, e-health literacy, technology adoption

O-009

Sensor monitoring to determine daily functioning among post-stroke older people at the home setting: a pilot study

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Aims: Stroke incidence is in the second rank of death leading cause and the third of disability reason. Most of post-stroke patients are older people. Initial assessment of the current daily functioning to determine the kinds of rehabilitation needed is essential. However, the objective and actual measurements are limited. We determined daily functioning among post-stroke older people in the community by using sensor monitoring and matching it with the Functional Independence Measure (FIM).

Methods: Sixteen home-dwelling post-stroke older people participated in this pilot study. We measured daily functioning by using a PAM AM300 sensor device and FIM. Stroke and fall history, blood pressure, pain, walking speed, grip strength, leg muscle strength, balance, fall risk, fear of falling, self-efficacy, and nutritional intake were also measured.

Results: Sensor monitoring showed that most participants' time was spent on activities inside houses, and very little time was spent on doing sports activities. These findings were matched with FIM results where only one-fourth of participants had complete independence in locomotion walking, and half of them had modified independence in locomotion stairs. These two functions are mainly needed to have independent daily functioning. In addition, walking ability, fear of falling, walking speed, and self-efficacy were significantly different with sensor index activity.

Conclusion: Sensor monitoring and FIM could be combined to determine daily functioning description and ability to consider the type of rehabilitation needed by post-stroke patients in the community.

Keywords: sensor monitoring, FIM, post-stroke older people, daily functioning

O-021

Development of Text Messaging Library to Support Exercise Behavior for Patients With Peripheral Artery Disease: Using The Behavior Change Wheel Framework

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Aim: Peripheral artery disease (PAD) is a chronic atherosclerotic obstructive disease accompanied by functional impairment. Text messaging interventions were used to provide feedback related to target goals, enhance motivation, and remind without restricting places, thereby lead to improve physical activity. Therefore, timely intervention through text messages appropriate for participants' situations will help change to targeted behavior. This study aimed to establish of text message library using behavior change wheel (BCW) framework to support the intervention program developed for exercise behavior for patients with PAD.

Method: Based on the BCW framework, this study was conducted in three stages: First, we identified exercise barriers in PAD patients and analyze behavior mechanisms to mapping them to behavioral capabilities, opportunities, and motivation models (COM-B). Second, to overcome exercise barriers, we selected and linked the appropriate intervention functions to behavioral changes. Third, we developed a library of text messages by intervention functions according to the levels defined in the BCT taxonomy.

Result: In the first phase, we reviewed the existing literature and interviewed 15 patients with PAD, classifying the barriers to exercise performance into six categories: (a) lacking time, (b) poor condition, (c) unwillingness to exercise, (d) leg pain, (e) bad weather, and (f) forgetting exercise. In the second phase, we selected five intervention functions (training, enablement, estimation, persuasions, and environment restructuring) of the BCW framework for behavioral change by overcoming the barriers, and each barrier and intervention function were linked. In the third stage, we were mapping the barrier-intervention function-BCT taxonomy label and developed a total of 113 text messages according to the definition of the BCT taxonomy label.

Conclusion: We developed a text messaging library based on the BCW framework. In the following studies, we will utilize the text messaging library for exercise interventions to change the sedentary behavior of PAD patients.

Keywords: Behavior change, Exercise, Peripheral artery disease, physical activity, Text messaging

O-049

Nursing Students' Anatomy Learning Experiences Using Mobile App During COVID 19 in Korea: A Mixed Methods Study

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Aim(s): In nursing education, human anatomy is a primary course for nursing students in which they learn the function and structure of the human body, which is essential to taking care of patients. The purpose of this study is to evaluate the efficacy of the mobile anatomy app on nursing students' self-directed learning, learning flow, and satisfaction to explore the nursing students' human anatomy learning experiences during COVID 19 in Korea.

Method(s): A mixed-method approach using the convergent design was used to explore students' self-directed learning, learning flow, satisfaction, and learning experiences. Data were collected through online questionnaires and reflection diaries from nursing students who used the mobile app between September and December 2020 in Gyeonggi-do in January 2021. The students used the Human Anatomy Atlas App for 15 weeks. This app was developed by publisher Academya in Korea so that medical personnel could understand human anatomy more easily and learn quickly. Quantitative data were analyzed using SPSS 23.0, and qualitative data were assessed using thematic analysis with ATLAS.ti 9.

Result(s): Survey results indicated positive outcomes in self-directed learning, learning flow, and satisfaction. The students stated that studying through the mobile app felt like an indirect practice, while reviewing through pictures, three-dimensional videos, and quizzes helped their learning. The experience acquired by using the mobile anatomy app was derived with three core themes and six sub-themes, where it was found that the students experienced a "convenient and useful mobile learning method to learn anatomy easily by repetition." The students stated that they could learn conveniently and easily anytime, anywhere by using the mobile anatomy app in the non-face-to-face class during COVID 19 and that it was effective as a valuable complementary learning tool.

Conclusion(s): The mobile anatomy app allowed nursing students to practice and review core human anatomy with repeated use. Students learned anatomy conveniently, easily and efficiently during the COVID19 by using the app as a non-face-to-face learning method.

Keywords: anatomy, education, mobile app, nursing

O-010

Development of an Online Practicum Program in Critical Care Nursing for Undergraduate Students

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Aims: The clinical practicum is crucial in facilitating the transition from academic to professional setting. However, the coronavirus disease 2019 pandemic has created many challenges in clinical placement for undergraduate students, especially regarding critical care nursing. This study aimed to develop an online practicum program to supplement the critical care nursing clinical practicum for undergraduate students.

Methods: This methodological study utilized the Analysis, Design, Development, Implementation, and Evaluation model. Content validity was measured by 13 critical care nursing experts. In addition, to establish clinical validity, SERVQUAL was used to measure satisfaction with the online practicum program among 30 undergraduate students. The online program was applied in the fall and spring semesters of 2020 and 2021, respectively, at a nursing college in Korea.

Results: We developed the online practicum program based on a literature review and the nursing college's learning outcomes. Seven video clips, three case studies, and two scenarios of computer-based communication simulation were developed through cooperation among the investigators and clinical nursing professionals. The item-level content validity index scores were >0.91, acceptable to verify this program. The mean scores for perceptions regarding the online practicum program were significantly higher than those for expectations (mean difference 0.53, p<.001). The mean difference was most increased in the order of assurance and responsiveness.

Conclusion: Online practicum programs could supplement clinical practicums for undergraduate nursing students in case clinical placement in intensive care units is challenging. Further research should be conducted to evaluate the learning effectiveness of hybrid online programs in critical care nursing practicums for undergraduate students.

Keywords: Clinical practicum, Critical care nursing, Online learning, Undergraduate student

Abstract

Oral Presentation

October 22 (Friday), 2021

Concurrent session 9
Aging

O-061

A Structural equation Model for COVID-19 Vaccine Hesitancy among Korean Adults

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Purpose: This study aims to identify the factors influencing COVID-19 vaccine hesitancy among Korean adults. We investigated the main effect of eHealth literacy, social responsibility, self-efficacy on COVID-19 vaccine hesitancy and the moderating effect of age on the relationship between their factors and the vaccine hesitancy as well as the moderating effect of age on the relationship among their factors.

Methods: Data were collected using online questionnaires from 500 men and women in their 20s to 60s, using online survey research panel registered in Korea Policy & Research Group. Data were analyzed using SPSS/WIN and Smart PLS (Partial Least Square) structural equation model.

Results: The fitness of the hypothetical model was good. The standardized root mean square residual (SRMR) was .007, which explained 18.5% of COVID-19 Vaccine hesitancy. eHealth literacy and social responsibility had significant positive effects on self-efficacy, and eHealth literacy, social responsibility, and self-efficacy had significant negative effects on COVID-19 Vaccine hesitancy. Age had also significant moderating effects on COVID-19 Vaccine hesitancy as well as self-efficacy.

Conclusion: To reduce the COVID-19 vaccine hesitancy among Korean adults, a strategic approach considering age-related characteristics may be required when enhancing health information motivation, and behavioral skills.

Keywords: Age, COVID-19, Health literacy, Social responsibility, Vaccines

O-052

The discrepancies of perspectives in emergency transfer between the family of residents and staff in a nursing home.

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Aim: The purpose of this study was to identify discrepancies of perspectives in emergency transfer between the family of residents who experienced emergency transfer from a nursing home (NH) and the staff of the NH to an emergency department (ED).

Method: This was a qualitative study using inductive qualitative content analysis. We conducted semi-structured individual interviews between January and May 2021 at an NH in Osaka, Japan. Qualitative data focused on the appropriateness of emergency transfer. This study was approved by the Institutional Review Board of the institution to which we belong.

Results: We selected four cases (swelling of the left greater trochanter, frequent bleeding, oral bleeding, and symptomatic epilepsy) of emergency transfers and interviewed the families (two daughters and two sisters) of the residents and the NH staff. The reason for the small number of cases is that the research was being conducted in real-time. The families and staff differed in perspectives on emergency transfer. Conflict two factors included "peaceful end of life" for the families and "transfer just in case" for the NH staff. The families hoped the residents would have a peaceful end of life. Meanwhile, NH staff stated that they often make transfer decisions just in case, against their best clinical judgment, because of convincing the family feeling anxiety.

Conclusion: The discrepancies of perspectives on emergency transfer between families and staff were clarified. We plan to increase the number of cases in the future to further clarify the appropriateness of the emergency transfer from NH to the ED.

Keywords: emergency transfer; nursing home

O-056

Association of physical activity change from midlife to early old age with health-related quality of life among older adults: A Korean health panel survey (2009-2017)

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Aim(s): Empirical evidence about the association between physical activity (PA) and health-related quality of life (HRQOL) among older adults has been accumulated. However, few studies have addressed the prospective association between mid-life PA and HRQOL among older adults. This study aimed to identify the influence of PA change from midlife to early old age on the HRQOL of early old age.

Method(s): This study is a secondary data analysis from Korean Health Panel Survey. A total of 1022 with responses of major variables were finally selected. HRQOL was measured using EQ-5D-3L and the amount of physical activity was calculated as the score of the Metabolic Equivalent Task minutes per week(MET-min/week) using the conversion method of the International Physical Activity Assessment. The PA level was classified into three groups('Active', 'Minimally active', and 'Inactive'). Logistic regression analysis was conducted to examine the association of the 8-year PA changes with older adults' HRQOL.

Result(s): The total amount of PA had declined from 1266.05(SD = 1253. 91) in 2009 to 1,852.68(SD = 1750.08) in 2017(p <.001). In 2017, the percentage of the sample with inactive PA levels was increased from 30.0% to 41.8%, while the percentage of those with active PA levels was decreased from 22.3% to 11.5%. HRQOL was also significantly decreased from 0.96(SD = 0.07) in 2009 to 0.94 (SD = 0.08) in 2017(p <.001). Compared to the increased PA level, when PA level at early old age was decreased, HRQOL was more likely to be at the bottom 10% HRQOL of the sample(OR = 1.91, 95% CI = 1.01-3.63).

Conclusion(s): The findings indicate that physically active lifestyles through middle- and older age are essential for health benefit in early old age. PA is influential in promoting HRQOL, particularly for those relatively inactive during middle age.

Keywords: Physical activity, Health-related Quality of Life, Early old age

O-035

Secondary Data Analysis on the Changes of Dietary Behavior of Shift Work Nurses: A Longitudinal Study

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Aim(s): The aim of this study was to identify the changes in dietary behavior of shift work nurses and its influencing factors over time.

Method(s): This study was a secondary analysis study based on the Shift Work Nurses' Health and Turnover study. Data of 165 shift work nurses who were followed for all three time points (before shift work (T0), after 6 months (T1), and after 18 months (T2) of shift work) were analyzed. Dietary behavior, depression, and fatigue were measured. Stress and frequency of walking, muscular and flexibility exercise were also measured. Data were analyzed using SPSS 25.0 to acquire descriptive statistics, generalized estimating equations and multiple linear regression analysis.

Result(s): Dietary behavior of shift work nurses was poorer at T1(27.79±5.30) and T2 (27.86±5.44) compared to T0 (31.84±5.49). However, dietary behavior at T1 and T2 were not different. Analysis with GEE had shown that shift work duration (B=−2.570, p=0.000 at 6 month and B=−3.257, p=0.000 at 18 month), depression (B=−1.198, p=0.026) and fatigue (B=−1.024, p=0.037) had negative effects on shift work nurses' dietary behavior. We conducted additional multiple linear regression analysis for T1 and T2. The factors related to dietary behavior at T1 were frequency of walking (B=0.713, p=0.001) and fatigue (B=−1.958, p=0.016). The related factors at T2 were frequency of flexibility exercise (B=0.903, p=0.000) and depression (B=−2.637, p=0.004).

Conclusion(s): These findings demonstrate that dietary behavior deteriorated and sustained as poor once the shift work started. Shift work itself, depression and fatigue were major factors that influence shift work nurse's dietary behavior. Physical activities such as walking and flexibility exercise may also affect shift work nurses' dietary behavior. Efforts to decrease depression and fatigue by offering regular counseling, and adapting forward shift rotation are urgently needed to maintain good dietary behavior. Also, exercise programs for shift work nurses in the hospital are required.

Keywords: Dietary Behavior; Nurses; Shift Work;

Abstract

Oral Presentation

October 22 (Friday), 2021

Concurrent session 10
Nursing leadership 2

O-006

Comparison of Patients Satisfaction after Pilot Project on Improvement of Medical Battalion's Function

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Aim(s): In the current Army health care delivery system, soldiers have received primary health care from the medical company. If the symptoms get worse, they are transferred to the medical battalion or military hospital. However, the medical company has a problem in providing timely care because of the lack of medical personnel and equipment, which worsens patient conditions and reduces patient satisfaction. Therefore, we conducted a pilot project that the medical company focuses on the role of evacuation and the medical battalion reinforces functions of primary health. The purpose of this study was to compare patient satisfaction in health care before and after the pilot project.

Method(s): This study was a nonequivalent control group pretest-posttest design, recruiting 82 soldiers who experienced in medical services before and after pilot projects. The patient satisfaction was investigated as in 4 criteria: accessibility, system infrastructure, care coordination, and patient-centeredness. The pilot project was conducted from September 2019 to April 2020, and the data were from January 2019 to March 2020.

Result(s): The results of independent t-test showed that the soldiers evaluated the system infrastructure sector was significantly increased (p=.003) while the accessibility was decreased (p=<0.001) after the pilot project compared to before the pilot project. The care coordination and the patient-centeredness were increased as well after the pilot project, but their figures were not statistically significant.

Conclusion(s): This study identifies that the pilot project on improvement of medical battalion's function has a positive impact on patient satisfaction. In addition, it suggests that strengthening strategies on accessibility should be prioritized in order to expand the pilot project.

Keywords: Patient satisfaction, Primary health care, Soldiers

O-011

Generational differences in job value and satisfaction among new graduate female nurses in Korea

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Aim(s)： Workplaces are characterized by generational differences in job value, which is related to job satisfaction. In the nursing context, different generations of nurses have distinct experiences of job satisfaction. This study aimed to identify generational differences in job value and satisfaction among new graduate female nurses in Korea and to compare the factors associated with job satisfaction.

Method(s)： This cross-sectional and correlational study performed a secondary analysis of data collected between 2014–2015 and 2017–2018 via the Graduates Occupational Mobility Survey. Eligible cases were full-time, registered generation Y or Z nurses working at a hospital. Generation Y was defined as individuals born between 1990 and 1991, and generation Z as those born between 1995 and 1996. Multiple linear regression analysis was performed using the Statistical Package for the Social Sciences version 25.0 to identify factors related to job satisfaction for each group.

Result(s)： The sample comprised 280 participants (n = 151 and n = 129 from generations Y and Z, respectively). Most of the new graduate nurses had worked for 13–18 months (59.3%), were paid less than the average salary of the participants in each group (60.4%), and conducted shift work (72.9%). Nurses' life satisfaction and person-job fit significantly associated with job satisfaction in both generational groups. Salary and reputation value increased job satisfaction in generation Y, while overtime and task value were significantly associated with job satisfaction in generation Z.

Conclusion(s)： Our findings confirmed that different factors were associated with job satisfaction according to the generation. Thus, different strategies should be considered to maximize job satisfaction of nurses in each generation. Our findings can contribute toward the development of initiatives taken to improve job satisfaction of new graduate female nurses.

Keywords： generation, job value, job satisfaction, nurses

O-040

Improvement of patient safety in Hospital by Escalating Nurses Knowledge about Continuity of Care and SBAR Communication

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Introduction: Patient safety in hospitals is essential to improve the quality of health care services. Effective communication is an important part to influence quality improvement and maintaining patient safety. SBAR communication is a verbal communication tool between health professions and nursing practitioners in providing continuous nursing care or continuity of care.

Purpose : This study examines the relationships between nurses' knowledge of the continuity of care and SBAR communication and nurses' perceptions of patient safety implementation at hospital X in Jakarta.

Methods: The design of this study was correlative with a cross-sectional approach. The proportional random sampling was used to collect data from 156 nurses. The data collection has used a questionnaire consisting of a questionnaire focusing on the characteristics of nurses, SBAR communication and continuity of care knowledge, and nurses' perceptions on the implementation of patient safety. Questionnaires were distributed via Google forms. The data that has been obtained were analyzed using the Chi-Square test and logistic regression.

Results: The multivariate model results showed that the variable that most affects nurses' perceptions on the implementation of patient safety is SBAR communication knowledge (p=0.036).

Conclusion: It is recommended that improving nurses' knowledge in the continuity of care and SBAR communication can enhance patient safety.

Keywords: Continuity of care, nurse perception, patient safety, SBAR communication

O-053

Health problems, turnover intention, and actual turnover of shift work nurses: A prospective longitudinal study

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Aims: Turnover intention has been used as a proxy variable for turnover. However, the relationship between turnover intention and turnover was inconsistent. Hence, this study aimed to examine the association between turnover intention and actual turnover by using prospective longitudinal data with a time lag of 12 months. We also explored the association between health problems (sleep disturbance, fatigue, and depression) and turnover intention and turnover, and the mediating role of turnover intention.

Methods: This study was a secondary data analysis study using Shift Work Nurses' Health and Turnover (SWNHT) project data, a prospective longitudinal cohort study targeting shift work nurses. We analyzed health problems, turnover intentions, and actual turnover within 12 months. Descriptive statistics, Pearson's chi-squared test, independent t-test, univariable logistic regression, multiple logistic regression, and causal mediation analysis were performed.

Results: The participants were 491 female nurses working shifts. One hundred twelve (22.8%) nurses had a turnover intention, and thirty-eight (7.7%) nurses actually left their job within 12 months. Among the 112 nurses who had the turnover intention, 22 nurses left their job (OR 5.54. 95% CI 2.79-10.99). In logistic regression analysis, sleep disturbance and fatigue were associated with both turnover intention and actual turnover, but depression was only associated with turnover intention. In causal mediation analysis, turnover intention mediated sleep disturbance, fatigue, and depression (sleep disturbance OR 1.31, 95%CI=1.02-1.60; fatigue OR 2.11, 95%CI=1.50-2.68; depression OR 1.34, 95%CI=1.02-1.72), and natural direct effect of sleep disturbance was also significant (OR 2.66, 95%CI=2.07-3.21).

Conclusion: We found that turnover intention was a strong predictor of actual turnover. Sleep disturbance, however, might cause turnover even if the nurse had no turnover intention. Therefore, early interventions for preventing and alleviating sleep disturbance of shift work nurses are urgently needed.

Keywords: Night shift work, Nurse, Personnel turnover, Sleep disorder
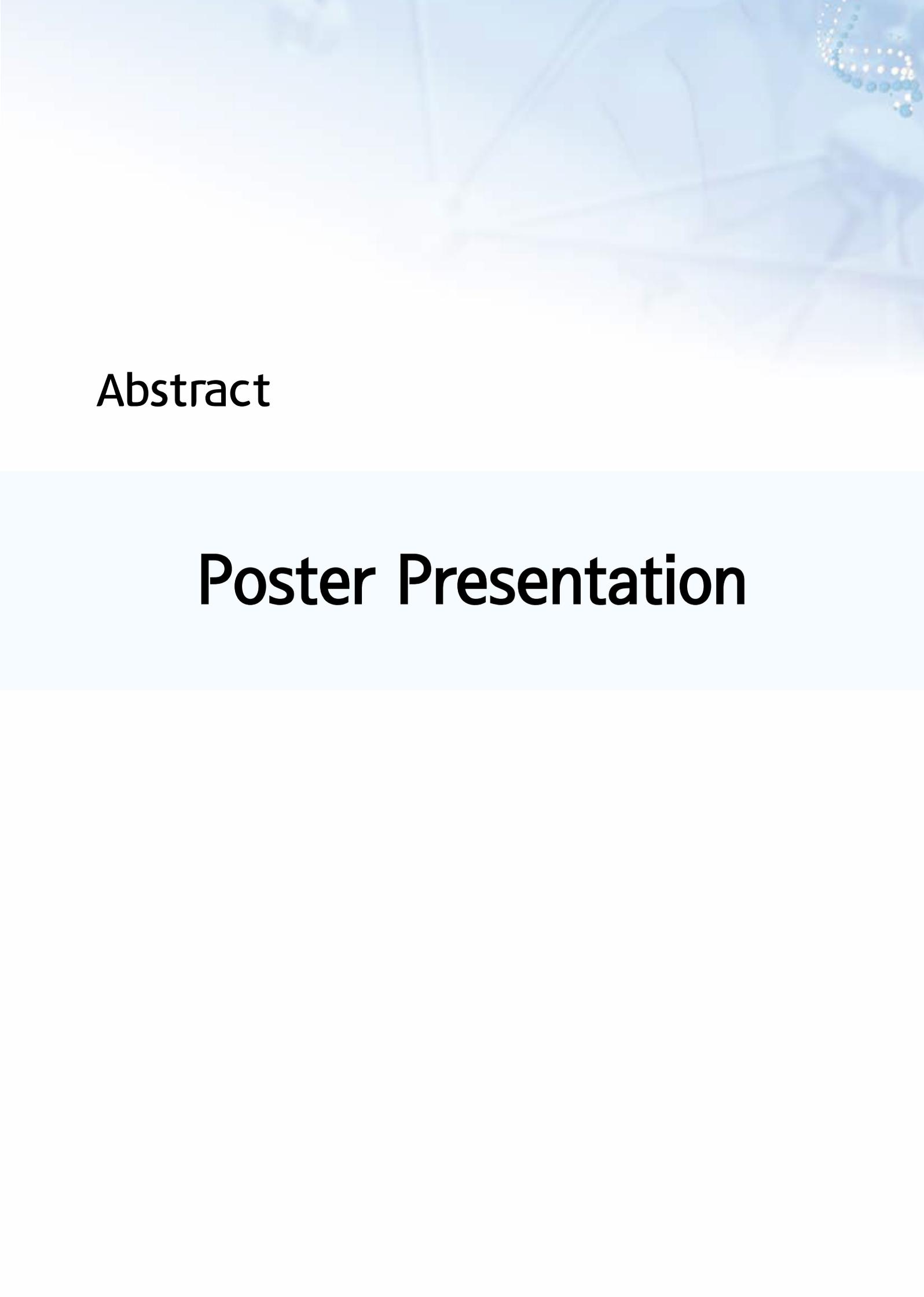
Abstract

Poster Presentation

P-001

Decision-making of fertility preservation in female cancer survivor

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Aim: In recent years, advances in cancer and assisted reproductive technology have made it possible to fulfill the hopes of female cancer survivors who wish to have children. The purpose of this study is to clarify men's thoughts on the decision-making of fertility preservation in female cancer survivor.

Method: A semi-structured interview was conducted with the approval of the University Research Ethics Review Committee to which the researcher belongs.

Result: Analyzing the content of the narrative from a man without a child in his 40s, the following five categories were extracted: "Fertility is a need for self-realization, but also a difficult decision to make", "being in the situation with the anticipation for the future and for his own hopes", "wife's thoughts and balancing between her medical conditions and childcare", " thoughts of family members other than the wife", and "reproductive rights in marital agreement".

Conclusion: Support for fertility preservation for female cancer survivors should be a support that leads to the improvement of the quality of life after treatment while prioritizing the treatment of cancer. A man's thoughts on the decision-making for female cancer survivors' fertility-preservation regarded reproductivity as a need for self-realization and at the same time a difficult decision to make. In addition, the man tended to think that it was a decision based on their reproductive rights in the marital agreement, upon considering such factors as being in the situation with the anticipation for his own hopes and future, the wife's thoughts and the balance between medical condition and childcare, and being aware of the thoughts of family members other than the wife. The care that allows the couple to make decisions together, with sufficient consideration from the husband will be essential in the future.

Keywords: female cancer survivor, fertility preservation, decision-making, men

P-002

Validity and Reliability of the Korean version of the Self-Care of Diabetes Inventory

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Background: Self-care in daily life is important for diabetic patients to maintain target blood sugar, prevent complications, and improve their quality of life. AADE proposes seven areas of self-care. Among self-care tools currently used, the majority of them only focus on one part of self-care. Therefore, a tool that enables practical evaluation and understanding of self-care, including psychological area, problem solving ability, and complication prevention is needed.

Purpose: To evaluate validity and reliability of the Korean version of Self-Care of Diabetes Inventory (SCODI).

Methods: Type 2 diabetic patients (N = 210) from a university hospital who agreed to participate in this study from November 1st, 2018 to June 30th, 2019 were enrolled. Content validity, construct validity, and criterion-related validity were evaluated. Cronbach's α was used to assess reliability. IBM SPSS Amos and SPSS WIN 22.0 software were used for data analyses.

Results: The SCODI Korean version consisted of 40 items in four dimensions. Four factors (activity-nutritional behavior, health-adherence behavior, health-promotion behavior, diet-restriction behavior) in the dimension of self-care maintenance, two factors (health status monitoring, symptom recognition) in the dimension of self-care monitoring, three factors (glucose self-control, problem solving behavior, consultative self-care) in the self-care management dimension, and one factor (Self-care Confidence) in the dimension of confidence were extracted. Confirmatory factor analysis supported good fit and reliable scores for the Korean version of the SCODI model (x^2/df <5, RMSEA < 0.1, CFI ≥ 0.9, GFI ≥ 0.9). The Korean SCODI showed a high positive correlation coefficient of .75 with SDSCA, confirming the convergent validity. Cronbach's α was 0.92 for the overall scale and 0.69 to 0.90 for the four dimensions.

Conclusions: The Korean version SCODI is a valid and reliable instrument for assessing self-care of patients with type 2 diabetes in Korea.

Key Words: diabetes, self-care, self-efficacy, validity, instrument development

P-003

Influence of Positive Psychological Capital on the Nursing Performance of Nurses in Hospitals: Mediating Effect of Job Crafting

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Aim: The purpose of this study was to identify the positive psychological capital on nursing performance by Nurses in Hospitals and the mediation effects of job crafting.

Methods: A convenience sample of 199 subjects were recruited from five institutional general hospitals in G city. The collected data was analyzed frequency, percentages, T-test or ANOVA, Pearson's correlation coefficients and hierarchical multiple regression with SPSS/WIN 22.0. program.

Results: 107 of the subjects were aged between 26 and 29 years old with 53.8%, and 60.3% of the subjects was less than five years of clinical experience . The nursing performance averaged 2.98±0.23 out of 4. Positive psychological capital of the subjects showed positive correlations with job crafting(r=.64, p<.001) and nursing performance (r=.43, p<.001). There was a positive correlation between job crafting and nursing performance (r=.47, p<.001). Job crafting had a partial mediating effect in the relationship between positive psychological capital and nursing performance.

Conclusion: This study provided basic data for developing the program to improve nursing performance, and it is necessary to repeat the study including variables related to nursing performance in the future.

Keywords: Positive psychological capital, Job crafting, Nursing performance.

P-004

Education Strategy Based on the Stages of Change to Promote Self-Management in Adults with Type 2 Diabetes Mellitus Receiving Blood Glucose-Lowering Drugs: A Mixed-Methods Study

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Aim(s): To investigate the barriers and facilitators associated with blood glucose-lowering drugs (BGLDs) and to assess the effect of a Stages of Change (SOC) education program on glycemic control and outcome.

Method(s): This study used a mixed-methods design, with 70 adults with type 2 diabetes mellitus (T2DM) divided into two groups termed "Informed" and "Uninformed." During phase I, focus group sessions were used to ascertain the barriers and facilitators to taking BGLDs medication. Phase II was conducted as a randomized controlled trial (RCT) in which the informed group received 4 sessions of BGLDs education-based SOC training. The group classified as uninformed received no education at all. Both groups were followed for 6 months, and baseline, 4 weeks, and 6-month assessments were conducted.

Result(s): Phase I enrolled 22 participants. The themes of knowledge, alternative treatment, planning, medication satisfaction, and diabetes-related beliefs served as facilitators. Health problems, socioeconomic status, and inadequate professional health care were identified as inhibitory themes. Metformin was the most frequently prescribed BGLD for this group. After adjusting for baseline, post-, and follow-up intervention, fasting plasma glucose (FPG) levels were decreased ($P=0.001$ and $P=0.049$, respectively). Additionally, 2-hour plasma glucose (2-hPG) decreased significantly post-intervention ($P=0.000$). The Homeostasis Model Assessment of Insulin Resistance (HOMA-IR) revealed a significant decrease in insulin resistance during the follow-up period after adjusting for baseline differences ($P=0.011$).

Conclusion(s): Training based on SOC has beneficial effects on outcomes in adults with T2DM. Key word: Diabetes Mellitus, BGLDs, HOMA-IR, Self-Management, SOC.

Key word: Diabetes Mellitus, BGLDs, HOMA-IR, Self-Management, SOC.

P-005

Development of Virtual Reality Simulation Contents Based on Core Nursing Skills for Intravenous Cannulation

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Aim(s): Intravenous (IV) cannulation is an essential nursing skill that nursing students and novice nurses must possess to treat various ill patients. Nursing skills for IV require experiential learning, but nursing students are large limited to observation in that environment. Simulation provides a means for training in a less threatening environment in which nursing students are not exposing patients to unnecessary suffering. Virtual Reality Simulation (VRS) can reproduce a clinical environment where users can interact with patients and virtual resources and practice content as often as needed. This study focused on developing core nursing skills for IV cannulation of VRS.

Method(s): This methodological study developed a VRS program addressing core nursing skills of IV cannulation for nursing students and novice nurses. In the simulation, 3D methods provided virtual environments accessed using a head-mounted display and hand-tracking device. The scenario was developed based on the guideline and verified by four nursing professors.

Result(s): The IV cannulation of VRS content was developed based on core nursing skills using 29 IV procedures. 3D production was performed based on the preparations required for intravenous fluid injection, and unreal engine level design and program function implementation, effects, animation, and 2D UI/UX work were performed.

Conclusion(s): The IV cannulation of VRS content supports practical education of nursing and novice nurses having limited hospital experience. It may contribute to practice nursing skills and education of nursing students having limited IV cannulation experience.

Keywords: Virtual reality, Nursing, Simulation

P-007

The effect of grief counseling base on Swanson Caring Model for early adult students after bereavement

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Abstract: Accident injury is a common life crisis for men and women over 20 years old in early adulthood. The purpose of this study was to explore the effect of grief counseling base on Swanson Caring Model for early adult students after the death of classmate who had been together for five years. For 43 students, using the grief counseling strategy, after two months of counseling, 86% of the students felt that the degree of grief counseling had improved by using the grief counseling questionnaire.

Method(s): Based on Swanson's five steps of understanding, being with, doing for, empowering, and maintaining belief, this study develops grief counseling strategies for junior high school students in early adulthood, including observation, listening, learning, and caring. Secondly, the teacher should accompany and share the experience and feelings of getting along with the dead students. Thirdly, the teacher should endow the students with the ability to produce the video of the dead students' reminiscence, share the responsibility of helping the dead students with the farewell ceremony and provide the company of the parents. Finally, the teacher should continue to trust the dead students in the process of caring, Early adult students who wholeheartedly support their bereaved friends. To provide care and care for the early adult students who lost their friends for one month from February to march in 110, and to evaluate the effect of grief counseling with self-administered grief counseling evaluation questionnaire in April, and to understand the students' mood in the latest week with mood thermometer.

Result(s): The questionnaire of grief counseling evaluation was recovered to 86%, and the strategies of counseling were analyzed. The preparation of commemorative video was made by group consultation, individual care of tutors and farewell video production of the deceased students and blessing to angels. The improvement of the measures to the grief of early adult students was 85-90%. After one month after the end of the farewell ceremony, there were still 5-10% of the students in the week of April 7, 110. At the time point of two months after the bereavement of friends, there were still slight difficulties in sleeping, restlessness or depression.

Conclusion(s): Based on the Swanson Caring Model, this study developed a grief counseling strategy suitable for early adult students after their bereavement, and analyzed its effectiveness. With the passage of time and the implementation of counseling strategies, the degree of grief of early adult students has improved, but a small number of them still feel slightly negative emotions and distress due to the bereavement of their friends. This study aims to provide a reference for class tutors to help students with special events through the application of Swanson Caring Model.

Keyword(s): Grief counseling, Swanson Caring Model, early adult students, bereavement

P-008

Factors Related to Patient Satisfaction in Hospitalized Older Adults

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Purpose: The purpose of this study was to identify factors related to patient satisfaction in hospitalized older adults.

Methods: Out of 12,507 people who participated in the patient experience survey conducted by the Ministry of Health and Welfare in 2019, 294 adults aged 60 or older who were hospitalized in 2018 and 2019, were analyzed. For data analysis, we utilized descriptive statistics, independent sample T test, Pearson correlation, and multiple regression analysis with weights.

Results: As a result, relevant factors increasing patients' satisfaction were achievement of the expected outcome of treatment (β=0.39, p<.001), positive hospital environment (β=0.33, p<.001) and regular doctor's attitude (β=0.22, p=.006). However, nurse's attitude and patient safety activities were not significant related factors that increased patient satisfaction in older adults. Additionally, 26.2% of participants in the single-variable analysis said that health care provider did not perform hand hygiene before giving medication. Hand hygiene of health care providers significantly increased patient satisfaction (t=−2.43, p=.017). Therefore, they need to pay more attention to hand hygiene.

Conclusions: Based on the results of this study, it is necessary to check various requirements that hospitals should improve in order to increase the patient satisfaction of the elderly.

Keywords : Elderly, Hospital, Patient's satisfaction, Patient's safety

P-009

Emergency nurse perception of importance on patient safety management, job stress, and patient safety management activity

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Aim: This study aimed to investigate the relationship between perception of importance of patient safety management, job stress and patient safety management activities among emergency department nurse.

Method: The cross-sectional study design and self-reported survey was used. The subjects were 142 nurses working at emergency department as shift nurses located in a hospital at Gyeonggi-do. Data were collected from July 20 through September 25, 2020. The data was analyzed using SPSS version 25.

Results: The mean score of perceived importance of patient safety management was 3.69 (out of 5), job stress was 2.94 (out of 4), and patient safety management activities was 4.24 (out of 5). Charge nurse perception of importance of patient safety management was higher than acting nurse (t = -2.00, p = .049). There are significant difference in job stress according to age (t = -2.12, p = .035), marital status (t = 2.08, p = .040), education (F = 4.04, p = .020), work experience in emergency department (F = 3.38, p = .037), total clinical experience (F =3.71, p = .027), and number of reports regarding safety accidents annually (F =2.86, p = .039). The patient management activity of nurse aged over 30 was higher than aged under 29 (t = -2.31, p = .022). There was a significant positive correlation between recognition of the importance of patient safety management and patients' safety management activities (r = .28, p = .001).

Conclusion: The results suggest a need to raise awareness of the importance of patient safety management and provide administrative support for continuous participation in patient safety management activities.

Keywords: emergency nursing, job stress, patient safety, safety management activity

P-010

Factors influencing nurses' performance regarding care at COVID-19 ward

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Purpose: The purpose of this study was to identify the effect of fear of COVID-19, ethical sensitivity, nursing professionalism, and social support on nurses' performance with respect to care at COVID-19 wards.

Methods: Nurses (N=132) who work at COVID-19 wards at three hospitals were recruited from April 1 to May 31, 2021. Data were analyzed using descriptive statistics, t-test, ANOVA, and multiple regression analysis with SPSS/WIN 23.0 program.

Results: Nursing performance was found to have significant positive correlations with ethical sensitivity (r=.75, p<.001), nursing professionalism (r=.67, p<.001), and social support (r=.67, p<.001. There was a positive correlation between ethical sensitivity and nursing professionalism (r=.64, p<.001), nursing professionalism and social support (r=.64, p<.001). Multiple regression analysis for nursing performance revealed that the most powerful predictor was perception of ethical situation(β=.29, p<.001) in the sub-area of ethical sensitivity. Perception of ethical situation, support from colleague, professional ethics, the role of nursing service, and originality of nursing explained 70.0% of the variance in nursing performance.

Conclusion: Based on the results of this study, intervention programs can be tailored to help nurses' performance directed at improving ethical sensitivity, bolstering support from colleague, and nursing professionalism.

Keywords: COVID-19, Infections, Nursing

P-011

Physical, psychological, and social characteristics influencing suicidal ideation of disaster victims

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Aim: This study aimed to identify the factors affecting suicidal ideation of disaster victims such as typhoons, heavy rains, fires, and earthquakes.

Method: Data were obtained from the long-term survey on life changes among disaster victims in 2019 by the National Disaster Management Research Institute. The study included 2,234 victims of natural and social disasters in Korea between 2012 and 2018. Suicidal ideation was assessed using the Korean version of the Composite International Diagnostic Interview developed by the World Health Organization. Demographic characteristics of disaster victims, disaster-related characteristics (disaster type, disaster duration, injury/disease damage), physical characteristics (subjective health status), psychological characteristics (depression, anxiety, posttraumatic stress disorder, resilience), social characteristics (social support, social adaptation) were analyzed as influencing factors. The data were analyzed using the chi-square test, t-test, and binominal logistic regression.

Results: The results showed that the factors affecting suicidal ideation were injury/disease damage, depression, and social support. The odds ratio of suicidal ideation was higher when there was injury/disease damage (OR=1.89, CI=0.07~0.48), the higher the depression (OR=1.31, CI=1.18~1.47), the lower the social support (OR=0.94, CI=0.90~0.99).

Conclusion: It is needed for psychosocial support strategies and health promotion programs that can reduce suicidal ideation of disaster victims.

Keywords: Disasters; Disaster victims; Suicidal ideation

P-012

The Impacts of Stress and Motivation on the Preventive Health Behavior of Cardiovascular disease among Premenopausal Women with metabolic risk factors

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Aim(s): Metabolic syndrome is a strong predictor of cardiovascular disease, and its prevalence increases rapidly after menopause in women. Therefore, the prevention of cardiovascular disease in women with risk factors for metabolic syndrome requires an early approach from a nursing science perspective. Health behavior is the result of the interaction between cognitive, emotional, and psychosocial factors. This study aims to provide basic data for the development of interventions to promote preventive health behavior of cardiovascular disease by identifying the subjects' motivation along with psychosocial stress and assessing their impact on health behavior.

Method(s): A cross-sectional survey design was used. Data were collected from a total of 176 subjects with pre-menopausal women aged 30-49 years who had risk factors of metabolic syndrome and analyzed by the SPSS/WIN 25 program for real numbers, percentage, means, standard deviations, t-test, ANOVA, Pearson correlation coefficient, Scheffe test, and multiple regression analysis.

Result(s): In this study, psychosocial stress showed a negative correlation with the motivation($r=-.55$, $p<.001$) and preventive health behavior of cardiovascular disease($r=-.61$, $p<.001$), and the motivation showed a positive correlation with the preventive health behavior of cardiovascular disease($r=-.61$, $p<.001$). Factors affecting preventive health behavior of cardiovascular disease showed that psychosocial stress ($\beta=-.347$, $p<.001$) and motivation ($\beta=.451$, $p<.001$) were significant factors with a total explanatory power of 52.2% ($F=32.91$, $p<.001$).

Conclusion(s): These results indicate that in order to promote preventive health behavior of cardiovascular disease in premenopausal women with metabolic syndrome risk factors, there is a need to focus on providing interventions that improve motivation and reduce psychosocial stress in the workplace, community, and hospital settings.

Keywords: Cardiovascular Diseases, Health Behavior, Metabolic Syndrome, Motivation.

P-013

Effects of the Clinical Core Competency Empowerment Program for New Graduate Nurses led by Clinical Nurse Educator

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Aim(s): This study aimed to develop a clinical core competency empowerment program (CCCEP) according to existing educational guidelines and assess the effectiveness of the developed program.

Method(s): A prospective, single-arm repeated-measures, experimental design was used, with nurses' competencies evaluated three times, and educational satisfaction evaluated once after intervention. The CCCEP is a 38-hour, 8-week program comprising three empowerment modules: basic, system-based, and practical competency. The program's educational contents were composed based on clinical competency items outlined by the Korean Nursing Association's educational guidelines. Six experts verified the content validity of the program, which was .95. The inclusion criteria were (1) new graduate nurses, and (2) nurses assigned to a ward. The exclusion criteria were nurses who (1) were experienced, (2) resigned during the program, (3) assigned to an intensive care unit or emergency department. The clinical core competency measurement comprised 64 questions and 7 sub-domains, and the study's reliability was Chronbach's α=.97. The educational satisfaction tool developed comprised six items rated using a 5-point Likert scale ranging from 1 (not very satisfied) to 5 (very satisfied) and one descriptive item. The CCCEP, led by a clinical nurse educator, was offered to 47 participants, all new graduate nurses, in an educational hospital from March to July 2020.

Result(s): Participants' competency was assessed before, immediately after, and 8 weeks after the CCCEP was implemented. Results indicated that participants' clinical core competencies had significantly improved following the intervention (F=31.65, p<.001). Specifically, their data collection (F=14.32, p<.001), basic nursing care (F=48.70, p<.001), communication (F=32.35, p<.001), critical thinking (F=9.92, p<.001), teaching and leadership (F=3.72, p<.032), and nursing management (F=8.25, p<.001) showed significant improvement. The average of educational satisfaction was 4.78±0.52.

Conclusion(s): These results suggest that the use of the CCCEP could improve new nurses' clinical core competencies and the quality of nursing practice.

Keywords: nursing education, clinical competence, empowerment, clinical nurse educator

P-014

Factors Influencing Turnover Intention Among Male Nurses in Korea

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Aim(s): This study aimed to predict turnover intention among male nurses in Korea, specifically by identifying the level of organizational commitment, job satisfaction, and individual-level factors

Method(s): The Results were obtained based on a secondary analysis of data previously collected from 306 male nurses in 16 regions of Korea from December 2014 to February 2015. We analyzed data previously obtained from all regions in Korea using a model for turnover intention among male nurses, specifically including one megacity, six major cities, and nine states. The inclusion criteria were as follows: 1) male nurses who had worked at their current hospitals for more than three months and 2) gave their consent to participate. The data collection process was conducted at 60 medical institutions nationwide. We visited a hospital that allowed participation in the study and identified a list of male nurses who met the inclusion criteria. Male nurses who wished to participate in the study responded to a paper-based self-report questionnaire. Specifically, questionnaires were distributed to a total of 330 male nurses, resulting in 312 responses (rate of 94.5%). Of those, 306 (92.7%) were subjected to analysis, as six were excluded due to missing answers. Data were analyzed via descriptive statistics, t-tests, a one-way ANOVA, and a multiple linear regression.

Result(s): Turnover intention significantly differed based on several factors, including marital status (t=6.08, p=.014), education (F=5.53, p=.004), hospital location (F=9.33, p=<.001), total nursing experience (F=7.63, p=<.001), nursing experience in the current workplace (F=4.52, p=.004), voluntariness of the current workplace (t=5.46, p=.020), role models (t=19.25, p=<.001), and annual income (F=3.48, p=.004). Meanwhile, the predictors of turnover intention included job satisfaction (β=−.21, p<.001), organizational commitment (β=−.45, p<.001), annual income (β=−.07, p=.054), medium city residents (β=.09, p=025), undesired workplace (β=.07, p=039), and work stress (β=.16, p<.001); these factors accounted for 56.6% of the total variance.

Conclusion(s): To lower the rate of turnover intention among male nurses, strategic interventions should be implement based on the factors identified in this study.

Keywords: male nurse, personnel turnover, job satisfaction, organization, regression analysis

P-015

Factors related to suicide ideation among older people by level of frailty: A national representative study

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Aim: South Korea is a super-aged society with higest suicide rate in the world, and frailty has become a prevalent issue among older people. Considering that frailty level affects psychosocial factors among older people, it is worth investigating the differences in individual and interpersonal factors related to suicide ideation (SI) according to frailty level. This study investigated the factors associated with SI among robust, pre-frail, and frail older people.

Method: A total sample of 10,047 Korean older people from the 2017 National Survey of Older Koreans were included in this cross-sectional descriptive study. The respondents were classified into three groups based on the comprehensive Korean frailty index. Chi-square and logistic regression analyses were utilized in this study.

Result: The robust (3.0%), pre-frail (6.1%), and frail (11.1%) groups had experienced SI. No common factors were associated with SI among the groups; however, younger age and low satisfaction with spouses were common associated factors in the pre-frail and frail groups. The total sample analysis results that related factors with SI were younger age, higher number of chronic diseases, lower levels of subjective health status, more depressive symptoms, and more satisfactions with spouses and children. In the analyses using specific samples by frailty levels, robust older people with high number of chronic diseases and depressive symptoms were more likely to have SI. In pre-frail group, the highly associated factors with SI were female, younger age, lower levels of subjective health status, more feeling of burdensomeness, and lower satisfaction with spouse. In frail group, those with younger ages, more depressive symptoms, less satisfied with their spouses and child had more SI.

Conclusion: Satisfaction with family and depressive symptoms were significant factors in lessening SI, suggesting that older people need more family support and care as frailty progresses.

Keywords: frailty, suicide ideation, older people

P-016

The influence of role conflict, super leadership of head nurses and nursing organizational culture on organizational commitment perceived by male nurse

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Aim: The purpose of this study was to identify the influence of role conflict, super leadership of head nurses and nursing organizational culture on organizational commitment perceived by male nurses.

Method: The participants in this study were 221 male nurses who have worked for over 0.5 year in hospitals. Data were collected through a structured self-administered survey from December 7 to 30, 2021. The questionnaires included role conflict, super leadership of head nurses, nursing original culture and organizational commitment. The IBM SPSS 25.0 program was used for data analysis which included descriptive analysis, t-test, ANOVA, scheffe' test, Pearson correlation coefficients, and hierarchical regression analysis.

Results: The organizational commitment had significant positive correlations with super leadership of head nurses, innovation-oriented culture and relationship-oriented culture, and had significant negative correlations with role conflict and work-oriented culture. Hierarchical regression analysis showed that innovation-oriented culture (β=.32), number of beds ($\geq$1000 beds, β=.30; 500-999 beds, β=.22; 300-499 beds, β=.22), work-oriented culture (β=-.22), role conflict (β=-.21), super leadership (β=.21) and department (operating room, β=-.17) were significant factors organizational commitment.

Conclusion: The education and human resource management improving positive organizational culture, role conflict and super leadership are needed to increase organizational commitment among male nurse.

Keywords: Organizational commitment, Organizational culture, Role conflict, Super leadership

P-018

The Relationship among Good Death Perception, Attitudes toward Advanced Directives and Attitudes toward Euthanasia in Nursing Students

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Aim(s): This study amis to identify the relationship among good death perception, attitude toward advanced directives and attitude toward euthanasia in nursing students.

Method(s): The participants of this study were nursing students from two Nursing Universities located in Seoul and Chungcheongnam-do. The number of subjects required for this study was 152 when calculated using the G power 3.1 program, with a significance level of α = .05, a medium effect size of .15, a power of .90, and 11 factors. It was calculated. A 10% dropout rate was considered, and 170 subjects were surveyed to increase statistical reliability. Data were analyzed using frequency, percentage, T-test, Pearson's correlation, and multiple regression analysis.

Result(s): There was a positive correlation between the perception of good death and their attitude toward advanced directives (r = .380, p <.001). There was a positive correlation between the perception of good death and their attitude toward euthanasia (r = .269, p <.001). The presence of good death (β = .384) and death-related education experience (β = .172) demonstrated positive influence on attitude toward advanced directives (F = 11.65, p <.001). Awareness of good death (β = .270) and not having religion (β = .207) demonstrated influence on attitude toward euthanasia (F = 10.84, p <.001). Among the general characteristics, the presence or absence of death-related educational experience showed a significant difference in the attitude toward the advance directive, and the presence or absence of religion showed a significant difference in the attitude toward euthanasia. It was found that the perception of a good death had an effect on the attitude toward advance medical directive and the attitude toward euthanasia.

Conclusion(s): From the above results, it is important for nursing students to work in the field of end-of-life care in the future, so it is important to raise awareness of the good death. For this, the development of a systematic and standardized curriculum is recommended.

Keywords: Death with Dignity, Advance Directives, Students, Nursing

P-019

Work competence of nurse aides' in a skill-mixed model hospital: the perspectives from both nurse aides and nurses

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Aim(s): Nurse aides provide a major support for long-term care services. However, research findings regarding the various aspects of nurse aides' work competence that may facilitate or impede their work performance remain inconsistent. To compare th-e differences between the nurse aides' and registered nurses' perceptions of the nurse aides' work competence.

Method(s): This study was designed as a cross-sectional study, and convenience sampling w-as employed to recruit a sample that comprised 220 nurse aides and registered nurs-es who had served for more than three months at a regional teaching hospitalin southern Taiwan. The instruments consisted of the demographic data and the 36-it-em Nurse Aides' Work Competence Scale.

Result(s): There are no significant differences between the self-perceived and the nurse-s' reported overall work competence of nurse aides. The results showed that th-e nurse aides had room for improving their work competence in terms of "pro-blem solving" and "activity design". The nurse aides and resisted nurses differe-d significantly in terms of "activity design" because the nurse aides' perception of their work competence in "activity design" was more positive than that repo-rted by the registered nurses.

Conclusion(s): Nurse aides should be incorporated into cross-disciplinary teams. Activity design could be handled by other healthcare providers such as physical therapists or senior social workers.

Keywords: Nurse aide, institutional healthcare, work competence, registered nurse.

P-021

Mediating Effect Of Attitude toward Advertisement on the Relationship between COVID-19 Involvement and Behavioral Intention of Social Distancing in Loss versus Gain Advertising Context

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Purpose: Purposes of this study were to identify the relationship among involvement in COVID-19 (IiC), attitude toward advertisement (AtA), and behavioral Intention to social distancing (BItSD), and to investigate the mediating effect of AtA in a loss versus gain advertising context.

Methods: The participants were 379 adults who have been consecutively living in Korea since January 2020. The participants were randomly assigned to one of two advertisements and participants' age, gender, and living locations were matched between two groups using an online survey system.

Results: Hierarchical regression revealed that IiC had a significant positive influence AtA (β = 0.33, p < .001). With IiC and AtA as predictors and BItSD as the dependent variable, IiC (β = 0.16, p < .002) and AtA (β = 0.32, p < .001) had a significant positive effect on BItSD. In the relationship between IiC and BItSD, 16% of the variance was explained by AtA (R^2 = .30). The Sobel test confirmed the significant mediating effect of AtA (Z = 6.07, p < .001).

Conclusions: We found that IiC affects BItSD since Korean adults recognize the risks and seriousness of COVID-19 infection or transmission through IiC. Induced positive attitudes or emotions through involvement in the COVID-19 preventive behaviors including social distancing and vaccination are helpful to increase the BItSD. Thus, health care and information providers should give an accurate message, which induces a positive attitude, to recognize that our world is a risk of the COVID-19.

Keywords: COVID-19, Social distancing Information seeking behavior, Attitude, Risk reduction behavior

P-022

Moderating effect of school connectedness between weight bias internalization and depression among overweight and obese adolescent girls

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Aim(s): Aim of this study was to identify moderating effect of school connectedness in relationship between weight bias internalization and depressive symptoms among overweight and obese adolescent girls.

Method(s): In cross-sectional study design, 99 overweight and obese adolescent girls in high schools (aged 13~15 years) was reported their weight bias internalization, school connectedness, and depressive symptoms with self-report questionnaires. Using SPSS PROCESS macro, multiple regression and simple slope analysis were performed to test moderating effect of school connectedness.

Result(s): Weight bias internalization was positively associated with depressive symptoms (B=0.25, t=9.17, p<.001), whereas school connectedness was negatively associated with depressive symptoms (B=−0.28, t=−11.00, p<.001). In addition, interaction between weight bias internalization and depressive symptoms was significant associated factor for depressive symptoms (B=−0.01, t=−2.62, p=.009). Weight bias internalization, school connectedness, and their interaction explained 45.4% of the variance in depressive symptoms. According to simple slope analysis, among the overweight and obese girls with higher school connectedness than 22.62 points (ranged −61.08~31.92), weight bias internalization was not associated with depressive symptoms, while among the overweight and obese girls with lower school connectedness than 22.62 points, weight bias internalization was associated with depressive symptoms.

Conclusion(s): High school connectedness might relieve depressive symptoms associated with weight bias internalization among overweight and obese adolescent girls. Thus, maintain positive school environment and attached relationships with teachers and peers associated with high school connectedness might be essential to relieve depression due to weight bias internalization.

Keywords: adolescent, weight prejudice, schools, depression

P-023

Critical thinking, Nunchi, and clinical practice satisfaction among Nursing student with hands-on experience clinical practice during COVID-19 situations

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Aim: This study is to investigate the comparison of critical thinking, Nunchi, and clinical practice satisfaction among nursing college students during the COVID 19 pandemic in Korea.

Method : A quantitative, cross-sectional, descriptive design is used. Data collection is completed through an online self-administered survey from April 2021- May 2021 among 106 fourth-grade nursing college students in S-city . This survey includes sociodemographic questions, the 27-item Critical thinking, the 12-item Nunchi, the31-item clinical practice satisfaction. Result : In this sample (N=106), 66%(n=70) experienced in the hospital practice. Critical thinking was mean 3.82 (±0.43), Nunchi mean 4.26(±0.53) and Clinical practice satisfaction mean3.71(±0.62). Nunchi was a positive relationship with clinical practice satisfaction. (r=211, p=.030).

Conclusion: The results of this study can be utilized to educate nursing students and supply to basic data for to improving interpersonal and communication skills.

Key Words : clinical practice, COVID-19, nursing student,

P-024

The relevance of Japanese versions of the Moral Efficacy Scale (J-MES) and Hospital Ethical Climate Survey (J-HECS) to continuing ethical education and on-site ethics-related meetings

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Aim: To investigate the effect of continuing ethical education and on-site ethics-related meetings on the moral efficacy of clinical nurses and examine their perception of ethical climate in the workplace.

Methods: A quantitative cross-sectional study was conducted by administering Japanese versions of the Moral Efficacy Scale (J-MES) and Hospital Ethical Climate Survey (J-HECS) to 300 nurses working at four hospitals in Japan. Respondents who underwent ethical education within the past year were considered one group, and the second group consisted of those who did not. Further, groups were formed based on the conduction of ethics-related meetings in respondents' respective departments. The total and subscale scores of J-MES and J-HECS were calculated, and group scores were compared using the Mann-Whitney U test.

Results: The 300 questionnaires that were distributed, generated 191 valid responses with a collection rate of 63%. The J-MES scores of the group that continued ethical education did not differ significantly from the group that did not receive it. Analysis of the J-HECS scores show that the group with ethical education had a significantly more positive perception of ethical climate in their workplace than the group that did not receive it ($p < 0.05$). Moreover, the nurses who participated in on-site ethics-related meetings at their wards had higher J-MES and J-HECS scores than those who did not ($p < 0.05$).

Conclusions: Merely providing ethics education may not affect the moral efficacy of nurses. Further research is required to clarify the kind of ethics education/training needed to enhance moral efficacy. Furthermore, an environment in which ethical issues can be discussed within a department positively influences the moral efficacy of nurses. It is clear that the opportunity to simply discuss the patient positively influences the nurse's perception.

Keywords: Nursing ethics, Moral efficacy, Moral distress, Ethical climate

P-025

Incidence and Risk Factors of Cardio-Cerebrovascular Disease in Korean Menopausal Women: finding from the Korean Genome and Epidemiology Study

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Aim(s): Cardio-cerebrovascular diseases is the most common and fatal disease among middle-aged women. However, the risk of cardio-cerebrovascular diseases in middle-aged women has been underestimated compared to men, so related studies are insufficient. Therefore, we examined the incidence and risk factors of cardio-cerebrovascular diseases among Korean menopausal women.

Method(s): We identified 1450 menopausal women, aged 40-69 years, without cardio-cerebrovascular diseases at baseline survey from a community-based cohort of the Korean Genome and Epidemiology Study and followed them biennially for 14 years. Cardio-cerebrovascular diseases were defined as hypertension, acute coronary syndrome (i.e., myocardial infarction and coronary artery disease), or cerebrovascular diseases.

Result(s): Among the 1450 menopausal women (i.e., mean age 56.71 ± 7.28 years), 326 (22.5%) cases represented unnatural menopause. The overall incidence of cardio-cerebrovascular diseases was 20.19 per 1000 person-years. Unnatural menopause, which is a strong predictor of cardio-cerebrovascular diseases, in tandem with a family history of cardiovascular disease, blood pressure, abdominal obesity, and duration of menopause at the same age, was also independently associated with the development of cardio-cerebrovascular diseases.

Conclusion(s): Prevention of cardio-cerebrovascular diseases through blood pressure and abdominal obesity management is vital for women with unnatural menopause and long duration of menopause.

Keywords: cardio-cerebrovascular diseases, incidence, risk factors, menopausal women

P-027

Development and Effect of Home-Based Exercise Program for Prevention of Sarcopenia in Hemiplegic Patients

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Aim(s): The purpose of this study was to develop and verify the effectiveness of the home-based exercise program for prevention of sarcopenia in hemiplegic patients.

Method(s): The study design was a non-equivalent control group pretest-posttest design. Data were collected December 20, 2020 to April 19, 2021, and the experimental group of this study comprised 26 patients at the B rehabilitation welfare center located in G city, and the control group was 26 at the U rehabilitation hospital located in U city. Data analysis was performed using the SPSS/WIN 25.0 Program, and the preliminary homogeneity test was analyzed by independent t-test, χ^2-test, or Fisher's exact test, Mann-Whitney U test. The hypothesis test of this study was analyzed by ANCOVA, which compared the scores after the pre-scores of each dependent variable were treated as covariates and controlled. Cronbach's alpha was used for the reliability test.

Result(s): The results showed the effectiveness of the home-based exercise program for hemiplegic patients. There were significant differences between the controlgroup and experimental group in patients' muscle mass (F=8.26, p=.006), muscle strength (F=7.99, p=.007) and quality of life (F=12.19, p=.001). But, there were rejected in patients' daily life movements (F=0.33, p=.565), balance (F=0.04, p=.841) anf dynamic posture control ability (F=3.48, p=.068).

Conclusion(s): In conclusion, the home-based exercise program was effective in improving muscle mass, muscle strength and quality of life in hemiplegic patients. Therefore, we hope that the home-based exercise program developed in this study will be utilized as an intervention for prevention of sarcopenia in hemiplegic patients.

Keywords: Hemiplegic Patient, Home-based exercise, Quality of Life, Sarcopenia

P-028

Development of a Suction Set for Rapid Emergency Nursing Care and Verification of its Effectiveness

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Aims: Suction is one of the nursing procedures applied to oxygenate patients and maintain airway patency in hospitals. To prepare for occasional emergencies in the ward, a strategy is needed to implement prompt suction care. This study aimed to develop a suction set to provide rapid suction care in emergencies and assess its efficiency.

Methods: Five ward nurses were recruited to interview users regarding their requests for suction sets. A supply list for suction set development was selected based on the participants' opinions. A tool was developed to measure satisfaction with the suction set, and content validity was verified by five experts. The content validity index of the developed tool, was .91. The developed tool consisted of 15 items in four areas: six items of convenience, two items of credibility, four items of suitability, and three items of specificity. Satisfaction with the suction set were measured for 76 nurses from Jun to July 2021. The suction preparation duration before and after using the suction set were measured for 31 nurses in the ward during June 2021.

Results: The suction set consisted of a latex suction catheter 6 Fr., a polyvinyl chloride suction catheter 14 Fr., poly-gloves, a straight connector, a polyvinyl chloride line, and saline. The average suction set satisfaction score was 61.05 ± 11.81, and the satisfaction of participants who performed suction care over 10 times per month was significant low than others (F=5.78, p = .005). The average suction preparation durations in a general condition and while using the developed kit were 58.50 ± 22.92 and 13.82 ± 6.46 s, respectively. Thus, using the developed suction set significantly reduced the suction preparation duration (t = 11.35, p < .001).

Conclusions: The effectiveness of the suction set was verified through satisfaction surveys and measurement of suction preparation time. In an emergency, shortening the suction preparation duration using a suction set is necessary for providing rapid and efficient nursing care.

Keywords: suction, time-to-treatment, nursing, emergency treatment

The Authors appreciate and respect the reviewers' opinions, and have revised the abstracts. The edited text is marked with a red font color in the abstracts.

P-029

Factors Affecting on Turnover Intentions of Emergency Department Nurses who have Experienced Verbal Abuse

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Aim(s): The purpose of this study was to identify the factors that influence turnover intentions of emergency nurses who have experienced verbal abuse.

Method(s): The subjects for this study consisted of 158 nurses work at small and medium-sized hospitals and general hospital. The collected data were analyzed according to frequency, percentage, mean and standard deviation, t-test, one way ANOVA, Scheff□ test, Pearson Correlation Coefficient and Multiple regression.

Result(s): The research found that the factors that effects of emergency nurses' turnover intentions were emotional labor (β=.291, p<.001), age (β=−.251, p=.042) and nursing satisfaction (β=.185, p=.012). The explained variance for turnover intention was 24.3% (F=11.102, p<.001).

Conclusion(s): In conclusion, in order to decrease the turnover intention of emergency nurses, various efforts are needed, to prevent situations in emotional labor. And in order to reduce emotional labor, diverse efforts are needed to avoid verbal abuse situation systematically. Institutional measures should be made to improve the working environment and treatment of emergency nurses and reduce turnover intention.

Keywords: Response to Violence, Emotional Labor, Turnover Intentions, Emergency D

P-030

Relationship between the educational support needed by care managers in providing end-of-life care at home in Japan, experiences of providing end-of-life care, and acquired basic certificates

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Aim(s): This study aims to establish details of the relationship between the educational support needed by care managers in providing end-of-life care at home in Japan, the experiences of providing end-of-life care, and the acquired basic certificates.

Method(s): Data collection period: August to October of 2020. Data collection method: Anonymous self-rating questionnaire survey by using postal services. Study participants: Care managers working at in-home care management office in City A, Japan. Survey items: "Demographics", "basic certificates that are a prerequisite for acquiring a care manager qualification", "whether or not having experience of end-of-life care as a care manager", and "educational support needed to provide end-of-life care as a care manager". In the analysis, the descriptive statistics values of each item were calculated, and a chi-square test and residual analysis were performed after cross tabulation.

Result(s): We distributed questionnaires to 672 establishments in City A, and collected 372 responses, and of these 342 (91.9%) were determined as valid. There were 308 (90.1%) care workers with experience of end-of-life care as a care manager. The most needed educational support for end-of-life care as a care manager was support to understand the "progress of illnesses", 248 (72.5%) of all participants. For the basic certificates, nurses and assistant nurses were statistically significantly fewer than other basic certificates care managers (p < .05). The second most needed educational support needed was "pain control", 186 (54.4%) of all participants. The number of participants who need "pain control" educational support was statistically significantly smaller among those with experience of end-of-life care as a care manager (p < .05).

Conclusion(s): The most needed educational support for end-of-life care as a care manager was support to understand the "progress of illnesses". For the basic certificates, nurses and assistant nurses were statistically fewer than other basic certificates care managers.

Keywords: Care managers,End-of-life care

P-031

Nursing outcomes related to patient education in nurse-led clinics: A systematic review

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Aim: Determination of nursing outcomes related to the patient education in nurse-led clinic based on Nursing Outcomes Classification.

Methods: The systematic review was conducted using the PRISMA guidelines and the revised downs and black checklist to assess the study quality. We searched Pubmed, Embase, Web of science, and Scopus from January 2000 to December 2019. After conducting a study-relevant analysis, a total of 11 RCTs were obtained that met the inclusion and exclusion criteria for this review.

Result: The breast self-examination and self-care behavior were the outcomes examined in the "functional health" domain and the "self-care" class. In the "physiologic health" domain and the "cardiopulmonary" class, the examined outcomes were cardiac enzymes, LVEF, lipid levels, hypertension, chest radiographs, urinary nicotine test, chest pain, and blood/urine tests. Perception of disease, HBA1C, and FBS were considered the studied outcomes of the "therapeutic response" class. The outcomes investigated in the "psychosocial health" domain and the "psychological well-being" class included anxiety and depression. The outcomes of the "health knowledge and behavior" domain were investigated in three classes of "health behavior", "health management" and "knowledge health condition". "Health behavior" included the number of smoking and cessation times, drug consumption, pharmaceutical compliance and vaccination rate. The "health management" class outcome's was self-efficacy. The "knowledge health condition" class was patients' knowledge. The two classes of "health and life quality" and "satisfaction with care" were studied in the "perceived health" domain, and the outcomes included life quality and patients' satisfaction.

Conclusions: The strengths of the reviewed studies encompass investigating outcomes due to the lifestyle-related chronic diseases; however, there were gaps in the reviewed investigations. Further studies are needed to determine the effects of patient education provided in nurse-led clinics in terms of psychological health domain and family/society health outcomes.

Keywords: Education, Nurse Roles, Patient

P-032

Structural Empowerment, Psychological Empowerment and Quality of Nursing Work Life in Clinical Nurses

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Aims: Nurses as the largest group of health care providers should have a good quality of working life in order to provide quality care to their patients. As a result, consideration should be given to the nurses' work life and its related factors. The purposes of this study were to explore the impact of structural empowerment, psychological empowerment on the quality of nursing work life.

Methods: This cross-sectional study was conducted on 134 nurses from December 28, 2020, to January 6, 2021. The structured questionnaire consisted of demographic information and Condition of Work Effectiveness questionnaire, Psychological Empowerment Instrument and Quality of Nursing Work Life Scale was used. Data were analyzed using the SPSS 25.0 software. For statistical analysis T test, one way ANOVA, Pearson's correlation coefficient, and hierarchical multiple regression were used.

Results: The mean scores of structural empowerment, psychological empowerment, and quality of nursing work life were moderate level. Gender, perceived health condition, satisfaction of income, and current work unit were associated with differences in levels of quality of nursing work life. Structural empowerment and psychological empowerment were significantly positively correlated with quality of nursing work life. In the final model, gender, perceived health condition, satisfaction of income, structural empowerment, psychological empowerment were significant predictors of quality of nursing work life; the model predicted 62.0% of the variance in quality of nursing work life.

Conclusion(s): In this study, structural empowerment and psychological empowerment were identified as major influencing factors on the quality of nursing work life, and psychological empowerment was shown to mediate between structural empowerment and quality of nursing work life. Therefore, further research is needed to develop and apply programs that can improve structural and psychological empowerment. It also requires organizational and institutional efforts to increase psychological empowerment and structural empowerment.

Keywords: empowerment, nurses, work-life balance

P-033

Difficulties felt by care managers in providing support for end-of-life care service clients

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Aim(s)： This study aims to identify difficulties faced by care managers when providing end-of-life care at home, and contribute the findings as basic data for developing educational programs for care managers.

Method(s)： Study participants were care managers working at 672 in home care management office in the Tokai region in Japan. An anonymous self-rating questionnaire survey was conducted using postal services between September and October of 2020. Comments provided in the open-ended question, "In what aspects do you feel it to be difficult when providing the end-of-life care" were organized into codes, and a qualitative and inductive analysis was performed.

Result(s)： Questionnaires were sent to 672 establishments, and 372 responses were collected. There were six categories "Problems with the long-term care insurance system" "Difficulty in improving the medical treatment environment suited to the end-of-life stage" "Anxiety due to lack of knowledge about the progress of the end-of-life care period" "Difficulty in providing support for the family" "Limitations of the role as care managers" and "Difficulty in sharing information and collaborating with medical professionals".

Conclusion(s)： Care managers do not think that the present Long-term care Insurance System provide sufficient welfare services for the insured service clients at the end-of-life stage, and think that there is room for improvement. Care managers were aware of the necessity to provide end-of-life care services suited to the progress of illnesses, but they were also aware of their lack of specific knowledge of this. In addition, despite the necessity for cooperation with medical professionals, care managers felt that it is difficult to cooperate with medical professionals due to lack of information sharing, and the limitations in providing support for service clients as care managers. These issues make care managers feel it difficult to provide service clients with sufficient services.

Keywords： Care manager, Difficulties , End-of-life care, In home care management office

P-034

Effects of an action-guided intervention on optimistic bias and protective behaviors regarding endocrine disruptors in young women

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Aims: This study examined the effects of an action-guided intervention on reducing optimistic bias about reproductive health risks related to endocrine disruptors and improving protective behaviors against endocrine disruptors.

Methods: A quasi-experimental design with a nonequivalent comparison group was used with a pretest and double posttest. A convenience sample of 139 young adult women was recruited through social network services from May to June 2020. Unmarried women aged 20-29 years with a regular menstrual cycle and no present illness were included. They were sequentially numbered, and those with odd and even numbers were assigned to the experimental (n=69) or control (n=70) group, respectively. An action-guided intervention based on the knowledge-to-action framework of Graham et al. was administered by one nurse interventionist. A 60-minute online education session and a 30-minute booster session were provided to seven small groups, while the comparison group received a leaflet. Data were collected via email at baseline and at 4 and 12 weeks post-intervention. Descriptive statistics, repeated-measures ANOVA, and the McNemar test were conducted.

Results: A significant difference was found in protective behaviors between the groups (F=81.21, p<.001), the effects remained consistent over time (F=59.96, p<.001), and there was an interaction effect of group and time (F=41.26, p<.001). However, the proportion of women with optimistic bias about reproductive health risks related to endocrine disruptors was only significantly lower in the experimental group than in the comparison group at 12 weeks post-intervention ($\chi 2$=33.55, p=.031).

Conclusions: The action-guided intervention was effective in improving protective behaviors against endocrine disruptors by providing information on specific sources of endocrine disruptors and their health consequences, as well as detailed behavioral strategies. Optimistic bias takes more effort to change; thus, accurate knowledge and information should be provided to women to build realistic awareness of the health risks of endocrine disruptors.

Key words: endocrine disruptors, optimistic bias, protective behavior

P-035

Clinical Nurses' Knowledge of End of Life Care Decision

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Aim(s): This study aimed to explore the level of knowledge of end-of-life care decisions among clinical nurses.

Method(s): A cross-sectional study was conducted. The end-of-life care decision inventory comprised two categories, and 21 items were utilized to evaluate the knowledge level. Total 238 clinical nurses from six hospitals in 3 districts completed end-of-life care decision inventory from December 04, 2019, to December 28, 2019. Descriptive analyses (frequency, percentage, mean, and standard deviation) and inferential statistics (independent t-test, analysis of variance, and multiple regression) were done using Statistical Package for the Social Sciences version 27.0.

Result(s): Overall average score by item was 0.64 ± 0.19 out of one, and the average score of terminal/end-of-life care and advance care planning was 0.83 ± 0.18 and 0.54 ± 0.24, respectively. Awareness of advance directives and physician's order for life-sustaining treatment and career duration were the ones which affected the knowledge level of the life-sustaining treatment decision process.

Conclusion(s): The nurses' level of knowledge about advance directives and physician's order for life-sustaining treatment was below middle level. The level of knowledge about cardiopulmonary resuscitation, advance directives and physician's order for life-sustaining treatment was not satisfactory considering that study respondents were clinical nurses and strategic approaches, including education, are required. The findings of this study suggest that the development of adequate educations is required.

Keywords: Nurses, Terminal care, Decision-making, Knowledge

P-036

A Study on the Expectation Need and Satisfaction of Physicians on Patient Referral Services in General Hospital

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Background: This study aimed to suggest some ways to improve the referral center system and to revitalize referral centers by investigating physicians' expectations and satisfaction with referral centers in general hospital.

Methods: A cross-sectional study was performed at general hospitals. The participants were 124 private practitioners who referred patients to general hospitals. The data were collected using a questionnaire survey from January 25 to April 25, 2020.

Result: The physicians' expectations and satisfaction with the referral center were higher in the cooperating hospital than in the non-cooperating hospital. The average expectation of the participants in a cooperating hospital was higher (4.13±0.87) than in a non-cooperating hospital (4.0±0.97). The average satisfaction of the participants in the cooperating hospital was higher (3.72±1.03) than in the non-cooperating hospital (3.57 ±1.02). The rapid booking process and treatment and kindness of staff at the referral center significantly correlated with the participants' satisfaction.

Conclusion: This study suggests that the expectations of physicians are continuously checked and practical and plans for strengthening medical cooperation are in place. In addition, it is necessary to establish an effective medical delivery system as medical referrals and returns are smoothly done between medical institutions.

Key words: Referral, Satisfaction, Physicians, Expectancy

P-037

Experience of nursing students participated in community-linked team-project

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Aim(s): This study aimed to explore the experiences of nursing students who participated in the community-linked team-project and contribute to the development of community-linked program participating nursing students.

Method(s): A qualitative content analysis was conducted. Participants were 55 junior nursing students. Data were collected through reflection reports submitted by participants in December 2019. The community-linked team-project was performed for three weeks, and after the team-project, the reflection reports were taken. Data were analyzed using three processes of coding, condensing, and categorizing according to the qualitative content analysis.

Result(s): Nursing students' experience of participating in community-linked team-project was derived 'impression and lesson from community-linked team-project', 'strategies used in a community-linked team-project', and 'strategies for the advancement of a community-linked team-project'. Impression and lesson from community-linked team-project identified three themes: 'recognition of the importance of professional competence', 'a sense of accomplishment growing up as a nursing professional', and 'hope for a role as a nursing professional for the community residents'. The strategies used in a community-linked team-project identified the theme of 'working together with team members and community participant'. The strategies for the advancement of community-linked team-project identified the theme of 'sustaining as a student-participatory community-linked program'.

Conclusion(s): This study provided nursing students with an opportunity to know the importance of teamwork and pay attention to community residents' needs through community-linked team-project. It is necessary to introduce the education method used in this study in nursing education to strengthen their ability to improve community residents' health status based on their ability to cooperation with their team members and community residents and their teamwork skills.

Keywords: nursing, students, community participation/community involvement, team

P-038

Systematic Review of eHealth Literacy for College Students

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Aims: As internet health information expands dramatically worldwide, the electronic health (eHealth) literacy for individual health management is considered important. In particular, due to the recent COVID-19 pandemic, researchers' interest in eHealth literacy becomes even more high. Since the knowledge and ability in health management of college students affects their adulthood health care, the eHealth literacy in college students should be critical. This study was to present a systematic review of studies that evaluated the eHealth literacy and related factors in college students.

Methods: Eligible studies were identified by searching PubMed, CINAHL, and Embase between March and May 2021. Quantitative studies related to the eHealth literacy in college students were included. The suitability of the quality of articles was evaluated using the Joanna Briggs Institute's Critical Appraisal Checklist.

Results: Of 8,362 publications, seventeen quantitative studies, conducted between 2014 and 2021, were evaluated in the systematic review. All studies were cross-sectional, descriptive and correlational survey. The eHEALS developed by Norman & Skinner (2006) was the most frequently used instrument. The levels of eHealth in college students were between 2.95 and 3.62 out of 5, which were at the moderate level. Also, it was found that the students majoring in medicine and health-related sciences showed significantly higher levels of eHealth literacy than those with other majors. Factors influencing college students' eHealth literacy were academic level, self-efficacy, students' ability to use the Internet, and perceptions of the usefulness and importance of the Internet.

Conclusions: This review indicated that college students showed moderate levels of eHealth literacy, and the levels of eHealth literacy in medical students was higher than those of students with other majors. These findings may assist future researchers with further studies in this population. Further experimental studies to enhance the confidence of eHealth literacy for college students should be needed.

Keywords: college students, eHealth literacy, systematic review.

P-039

Self-Compassion and Related Interventions and Factors in Severe Mental Illness; A Scoping Review

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Aim(s): Self-compassion, or the attitude of being compassionate toward oneself, has been associated in previous studies with reduced depressive symptoms and increased motivation for self-improvement among healthy individuals. This suggests that self-compassion reduces psychological problems and facilitates self-improvement. Self-compassion is considered a new focus area for psychological care.

However, findings in severe mental illness have yet to be summarized. Therefore, this scoping review aimed to summarize interventions and factors related to self-compassion (SC) in severe mental illness and to suggest future study directions.

Method(s): Online databases (PubMed, PsychoINFO, EBSCO, Cochrane) were used to search articles published before June 2021. Articles using questionnaires to investigate self-compassion in cases of schizophrenia or psychosis, bipolar disorder (BD), and major depressive disorder (MDD) were analyzed. Interventional and observational studies were included, but protocol and review articles were excluded.

Variables predicting, predicted by, and correlated with self-compassion were analyzed, as were used interventions analyzed.

Result(s): Among 244 articles, 25 studies (N= 2359) were eligible. Of these, 12 investigated MDD, 5 investigated BD, and 8 investigated schizophrenia. Two BD and one psychosis studies comparing healthy individuals were conducted.

Mindfulness-based cognitive therapy (MBCT) was used in most interventional studies (N=4), and all 4 reported improved SC.

Observational studies reported that illness duration and symptom severity in BD predicted SC, and SC predicted depression and anxiety. SC also predicted emotional regulation and life meaning.

Conclusion(s): MBCT may increase SC in severe mental illnesses, which not only decreases depression and anxiety but also increases emotional regulation and life meaning. However, it has not been examined whether SC differs between schizophrenic and healthy individuals, how clinical variables in schizophrenia influence SC, or whether SC improves functional or symptom outcomes. Future studies are needed to examine SC in schizophrenia and its relation with clinical outcomes.

Keywords: Self-compassion, Schizophrenia, Mindfulness, Scoping review

P-040

Abuse and Risk Factors among Community-Dwelling Elderly in South Korea during COVID-19

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Aim: With a rapidly ageing population, elder abuse has become a serious social problem in South Korea. As COVID-19 has led to dramatic changes in social contacts and lifestyle in South Korea, social distancing policies have also affected elderly abuse. The purpose of this study is to estimate the prevalence of elder abuse in South Korea during the COVID-19 pandemic, and to identify risk factors for elder abuse in the context of COVID-19.

Methods: In Seoul Metropolitan City, a face-to-face survey was conducted among elderly people over 65 years of age using the Living Profiles of Older People Survey. Three groups of risk factors of elderly abuse were studied from literature: sociodemographic, health related, and social support and isolation factors as independent variables. A logistic regression model was established to analyze the relationship between the independent variables and the abuse.

Results: 3,106 samples were collected from Seoul Metropolitan City. The overall rate of elder abuse was 8.5%; emotional elder abuse was the most frequent type during the COVID-19 pandemic. Social isolation (OR = 1.39, p =0.03) and recognition of abuse (OR = 0.90, p < 0.05) were associated with occurrence of recent one-year experience of abuse. The greater the number of diseases seniors were afflicted with, the higher the level of their dependency, depression and/or cognitive impairments, the more likely they were to suffer abuse; so were those seniors who smoked or drank alcohol.

Conclusions: The results suggest that the factors that make elderly persons vulnerable to elder abuse may be affected by social distancing. A better understanding of the risk factors for elder abuse during and after COVID-19 will facilitate the development of elder abuse prevention policies. Thus, community healthcare personnel need to focus on enabling older people not to be isolated and recognize abuse.

Keywords: COVID-19, Elder abuse, South Korea, Social isolation

P-041

Correlation Between Physical Activity and Social Functioning in Inpatients With Schizophrenia: A Cross-Sectional Study

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Aim(s): Schizophrenia shows social impairment that is generally treated by psychopharmacotherapy. Recently, because therapy shows efficacy only for psychopathological symptoms, physical exercise for patients with schizophrenia is under development to improve cognition based on results from several studies. However, whether physical exercise improves social functioning remains unclear. Therefore, this study analyzed the cross-sectional correlation between physical activity and social functioning in inpatients with schizophrenia.

Method(s): Inpatients with schizophrenia were recruited from a psychiatric hospital in Japan. We investigated demographics, psychopathological symptoms using the Positive and Negative Syndrome Scale (PANSS), physical activity using a tri-axial accelerometer HJA-750C, and social functioning using the Life Assessment Scale for the Mentally Ill (LASMI) and the Rehabilitation Evaluation Hall and Baker (Rehab). Lower LASMI and Rehab scores indicate better function. We performed Spearman's rank-correlation analysis.

Result(s): Seven inpatients completed to the survey. The average age, illness duration, and PANSS were 47.3 ± 13.8 years, 22.9 ± 13.7 years, and 78.6 ± 17.3, respectively. Walking calories were positively associated with the deviant behavior subscale ($r= .926$, $p= .003$) and the interpersonal relationship subscale ($r= .786$, $p= .036$). Walking time were also positively associated with the deviant behavior subscale ($r= .926$, $p= .003$) and the interpersonal relationship subscale ($r= .786$, $p= .036$). walking time more than 3 Mets ($r= .926$, $p= .003$) and steps ($r= .849$, $p= .016$) were positively associated with the deviant behavior subscale.

Conclusion(s): Higher walking activity is associated with lower social functioning in this cross-sectional study. This cross-sectional relationship might be influenced by participants' symptomatic severity. Patients who have severe symptom might tend to more move or walk and show severe social dysfunction especially on deviant behavior and interpersonal relationship. Therefore, future studies should examine the longitudinal association or the effect of the intervention. Furthermore, a large-scale study is also needed.

Keywords: Schizophrenia, Physical Activity, Social Functioning

P-042

Experiences of Public Officials for the COVID-19 Response in the Public Health Center

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Aim(s): The purpose of this study was to explore the experiences and difficulties of public officials working for the coronavirus disease (COVID-19) response in the public health center.

Method(s): A qualitative thematic analysis was conducted using data collected from three focus group and individual interviews. Each interview was conducted from July 2020 to January 2021. Eighteen participants (11 nurses, four medical technicians, and three administrative officials) were included. Main questions were overall working conditions, difficult experience about COVID-19 quarantine response, and overall evaluation and improvement plan.

Result(s): As a result of this study, three themes, 14 sub-themes, and 46 concepts were derived. The three themes were 'poor working conditions', 'incomplete quarantine system' and 'personal life that endured sacrifice'. Participants performed quarantine work in a poor working conditions including overwork, lack of manpower, and handling civil complaints. They said that the quarantine system was incomplete, so detailed quarantine guidelines were frequently changed and information was not well shared, which made it an obstacle to quarantine work. The participants sacrificed their personal lives while doing COVID-19 response work without holidays, and even experienced health problems.

Conclusion(s): From the results of this study, it is required that policies to fundamentally improve the working conditions and to recruit expertise for infectious disease. In addition, it is necessary to evaluate the job stress related to COVID-19 response by public officials in public health centers and to systematically investigate the relevance of their job stress to physical, mental health problems and psychosocial stress.

Keywords: COVID-19, Community Health Workers, Qualitative Research

P-044

Development and Psychometric Evaluation of the Communication Competency for Patient Safety Scale

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Aims: The purpose of this study was to develop the Communication Competency for Patient Safety scale and test its psychometric properties.

Methods: An item pool was developed based on the third domain of the safety competencies framework of the Canadian Patient Safety Institute; "Communicate Effectively for Patient Safety." This domain of the safety competencies framework includes the essential communication competencies required for all health care providers to ensure patient safety. Each enabling competency of the domain was translated into Korean by a committee and classified into knowledge, skills, and attitudes according to the relevance of each item. The preliminary items were reviewed for allocation adequacy to knowledge, skills, and attitudes and content validity by nine expert panelists. The questionnaire was administered to 142 graduates of four nursing colleges to evaluate its psychometric properties.

Results: The questionnaire consisted of 19 items. Exploratory factor analysis revealed a three-factor model, which included knowledge (5 items), skills (10 items), and attitudes (4 items), and explained 51.39% of the variance. Confirmatory factor analysis validated the structure of the scale ($\chi2$=228.50, p<.001, RMSEA=.06, IFI=.93, TLI=.92, CFI=.93). Correlation analysis indicated that the Communication Competency for Patient Safety scale score was correlated with the Patient Safety Competency score (r=0.67, p<.001). The Cronbach's α coefficients for the subscales ranged from .78 to .89.

Conclusions: The Communication Competency for Patient Safety scale is a valid and reliable scale to measure nursing students' and new nurses' communication competencies to ensure patient safety.

Keywords: Communication; Factor Analysis, Statistical; Patient Safety

P-045

Newly Graduates' Online versus Offline Nursing Education Experience with COVID-19

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Aim(s): This mixed study aimed to explore newly graduated nurses' experience of online and offline nursing education during COVID-19 period.

Method(s): 125 senior nursing students completed a structured questionnaire including attention, comprehension, satisfaction, interest, and confidence to the class during January 2021 and 5 new graduates participated in a focus group interview (FGI) during March 2021. All of the participants have experienced both online and offline nursing curriculum. Quantitative data were analyzed by SPSS/Win 26.0 using descriptive statistics and t-test. Qualitative data were analyzed by conventional content analysis.

Result(s): By class methods, participants' attention, comprehension, satisfaction, interest, and confidence to the class were as follow. Attention degree were online 4.31, offline 3.78; comprehension degree, online 4.04, offline 4.18; satisfaction degree, online 4.20, offline 4.10; interest degree, online 4.06, offline 3.87; and confidence degree, online 3.82, offline 3.74. There were significant differences among attention ($t=4.88$, $p<.001$) and interest ($t=2.11$, $p=.037$) by class methods, online versus offline. FGI participants experienced online classes were effective for the theoretical and major classes and reported offline classes were very effective for the liberty and practical classes. However, both class methods should be improved and developed suitable for the characteristics of courses.

Conclusion(s): Contrary to expectations, as COVID-19 continued for a long time, nursing students experienced various teaching and learning methods unintentionally. With these results, we identified the advantages and disadvantages of online and offline methods. Based on the results, it is needed to develop, apply, and verify teaching methods suitable for the nursing curriculum with rapid-changing educational environments, especially, repeated infectious disease outbreaks.

Keywords: Student, Nursing; Online; Offline; Experience

P-046

What Factors influencing North Korean Defectors' Drug Abuse Behavior?

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Aim(s): This study aimed to identify the influence of North Korean defectors' acculturation, e-health literacy and social support to their drug abuse behavior, and to provide evidence for North Korean defectors to solve and prevent their drug abuse behavior.

Method(s): The participants were 211 North Korean defectors aged 19 years or older who completed South Korea Settlement-supporting education by the Ministry of Unification and have lived in the community after escape from North Korea and were compiled by the snowball sampling. The data was collected using the Vancouver Index Acculturation tool, eHealth Literacy Scale, Multi-dimensional Scale of Perceived Social Support, and Drug Misuse and Abuse Prevention Behavior Scale. The data was analyzed using SPSS/WIN 22.0 with descriptive statistics, independent t-test, ANOVA, Pearson's correlation coefficients, and multiple linear regression.

Result(s): The drug abuse behavior score of the participants averaged 4.56±3.14 (range: 0~13), less than moderate. Participants' drug abuse behavior score differed significantly depending on gender (F=3.08, p=002), current occupation (F= 2.27, p=.024), self-rated health (F=19.11, p<.001) and the type of questionnaire (F=-3.27, p<.001). Drug abuse behavior has negative correlation with e-health literacy (r=-.22, p=.002) and social support (r=-.30, p<.001). The drug abuse behavior affected by the social support (β=.20, p=.012), gender (β =-.18, p=.018), self-rated health (β=-.17, p=.039) and North Korean cultural adaptation (β=.16, p=.041). The explanatory power of total variable was 18.0%.

Conclusion(s): This study is necessary to prepare a support system considering acculturation to reduce drug abuse behavior among North Korean defectors. Based on the study, we should actively utilize nurses who can assess drug abuse behavior and provide accurate information and offer therapeutic communication to them.

Keywords: North Korean, Drug Abuse Behavior

P-048

Clinical Nurses' Patient Safety Competency, Systems Thinking, and Missed Nursing Care: A Cross-Sectional Survey

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Aims: Patient safety competency of nurses, along with systems thinking, are important nurse attributes. Missed nursing care is known to negatively impact patient safety. However, how nurses' patient safety competency and systems thinking relate to missed nursing care is unknown. The aims of this study were to examine the relationships among patient safety competency, systems thinking and missed nursing care.

Methods: A cross-sectional survey design was used to collect data from nurses practicing in two general hospitals from two different regions in South Korea. A total of 480 clinical nurses (240 from each hospital) were recruited. Questionnaires were distributed to nurses participating in direct nursing care in general and special units. Patient safety competency, systems thinking, and missed nursing care were measured using reliable and valid instruments. Data from 432 nurses were analyzed. Multiple linear regression was used to analyze associations among patient safety competency, systems thinking, and missed nursing care.

Results: Higher patient safety competency of nurses was associated with lower missed nursing care. The patient safety competency skills sub-scale had a significant negative association with missed nursing care. Systems thinking mediated the relationship between knowledge of patient safety competency and missed nursing care, and attitudes of patient safety competency and missed nursing care.

Conclusions: The knowledge, skills, and attitudes sub-scales of patient safety competency showed somewhat different effects in the relationship between missed nursing care and systems thinking, suggesting that each attribute may tap into a separate aspect of patient safety.

Keywords: Competency, Missed nursing care, Patient safety, Systems thinking

P-049

Clinical Nurses' Recovery Experiences after Adverse Events in South Korea: A Qualitative Study

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Aims: The purpose of this study was to examine the recovery experiences of clinical nurses who had experienced an adverse event.

Methods: This study used a qualitative approach. Nurses in South Korea with more than 1 year of clinical experience were recruited. Data were collected from January to August 2020, using purposive and snowball sampling. Eight nurses who had directly experienced an adverse event or who had witnessed an adverse event participated voluntarily. The main questions participants were asked to answer were "What was your experience with an adverse event?" and "How did you recover from the effects of the adverse event?" Qualitative data from field notes and transcriptions of interviews were analyzed using the content analysis method devised by Graneheim and Lundman. To ensure the rigor of qualitative research, the four criteria (credibility, transferability, dependence, and confirmability) devised by Lincoln and Guba were used.

Results: Two themes, three categories, eight subcategories, and 19 codes were identified based on 443 meaningful statements. The two themes that presented the most significant perspectives on clinical nurses' experiences of adverse events and their recovery were "challenges in dealing with adverse events" and "strategies for recovery".

Conclusions: The findings indicated that adverse events in hospitals cause great harm to both patients and healthcare providers. Prevention of adverse events is vitally important, and strategies are needed to minimize damage when adverse events occur. Systematic support should be provided at the organizational and institutional levels so that nurses who cause an adverse event can recover from its negative effects. Regular efforts should be carried out to cultivate a mature awareness and strong culture of patient safety in society at large.

Keywords: Adverse event, Clinical nurse, Patient safety, Recovery

P-050

Association Between Health Literacy and Treatment Adherence among Organ Transplant Recipients

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Aims: Treatment nonadherence after organ transplantation is associated with adverse patient outcome such as graft organ reject, graft loss, and poor quality of life. Few studies have examined related factors of treatment adherence and its impact on patient outcome in organ transplant recipients. The purpose of this study were to evaluate health literacy and treatment adherence and to examine associations of these factors in organ transplant recipients.

Methods: This cross-sectional study was conducted on 130 recipients between July and December 2019 at G transplant centers in Seoul. Data were collected in-person interviews using structured questionnaire and medical record reviews. Data were analyzed using SPSS 25.0

Results: The average age of 130 recipients was 56.39 years. Most of sample were men, college graduates, kidney recipients, and people who received organs from living donors. The mean score for the total treatment adherence was 4.36 (SD = 0.37). Regarding to health literacy, higher mean scores for 'ability to actively engage with healthcare professionals' was 3.42 (SD=0.79), where lower mean scores for 'appraisal of health information' was 2.81 (SD = 0.52). Positive association was found between health literacy and treatment adherence. In multiple regression, 'actively managing my health', 'social support for health' were significant predictors of treatment adherence; the model predicted 26.2% of the variance.

Conclusion(s): In this study, health literacy, particularly the ability to manage one's health and perceived social support for health, was identified as a factor influencing treatment adherence in organ transplant recipients. This result suggest that transplant health care providers should develop personalized interventions that take into account the patient's health literacy in order to improve the patient's understanding of health and enhance the patient's treatment adherence.

Keywords: Health literacy, Organ transplantation, Treatment adherence, Compliance

P-052

Effects of Auricular Acupressure on obesity and sleep in Korean Middle-aged women

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Aim(s): This study aimed to examine the effects of auricular acupressure on reducing obesity and sleep disorder in middle-aged women who are obese.

Method(s): The study design was a randomized controlled trial design. Participants aged between 40 and 65 years were 59 middle-aged women who are obese, divided into the experimental group (n = 30) and placebo control group (n = 29). The sessions continued for 8 weeks. The participants in the experimental and control groups received auricular acupressure using ear pellets(seeds) on 5 acupoints known to be either effective in obesity and sleep treatment or ineffective. Obesity related outcome measures anthropometric indices (Bwt, BMI, waist circumference, body fat mass, body fat percentage, SBP, DBP), blood serum level (TC, HDL, TG, LDL). Sleep related outcome measures Pittsburgh Sleep Quality Index and actigraphy.

Result(s): Middle-aged women in the experimental group showed significant improvement in obesity related measures anthropometric indices (Bwt, BMI, waist circumference, body fat mass, SBP, DBP) and serum TG level after 8 weeks compared with those in the control group (p < .05). But no statistically significant difference, body fat percentage, blood serum level (TC, HDL, LDL) before or after auricular acupressure in the experimental and control groups. And experimental group showed significant improvement sleep related outcome measures Pittsburgh Sleep Quality Index and actigraphy (sleep latency, sleep efficiency, awakenings during sleep, deep sleep time, REM time) after 8 weeks compared with those in the control group (p < .05). But no statistically significant difference total sleep time and light sleep time before or after auricular acupressure in the experimental and control groups.

Conclusion(s): Auricular acupressure using ear pellets for 8 weeks was effective in obesity and sleep disorder in middle-aged women who are obese.

Keywords: Auricular acupressure, Middle-aged women, Obesity, Sleep disorder.

P-053

Self-reflection of Nurses who Experienced the Death of Patient's : van Manen's Hermeneutic Phenomenological Approach

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Aim: This study attempt to identify the experience, nature and meaning of the self-reflection of nurses who experienced death in a general ward by applying van Manen's hermeneutic phenomenology research method.

Method: : The subjects of the study were 20 nurses with more than three years of clinical experiences working in general wards of tertiary general hospital. Data collection was conducted through face-to-face interviews and observations while implementing social distancing in accordance with the Covid-19 Social Quarantine Guidelines. For additional information, telephone consultation was conducted to minimize the meeting. The study question was "What self-reflection did you have after experiencing the patient's death?" After the data transcription, thematic analysis was conducted through hermeneutic phenomenological reflection, and finally, hermeneutic phenomenological writing was done.

Results: As a result of the study, 10 essential themes and 26 sub-themes were derived for the four existences. The themes of physicality were found to be 'feeling pitiful for the irreversible body' and 'wishing for a comfortable death'. Regarding the themes of time were found to be 'an uncomfortable encounter with the death as a new nurse' and 'becoming a career nurse who becomes dull to death'. The themes of spatiality were found to be 'ambivalent hospital space' and 'the last place determined by others'. The themes of relationship between patient and caregivers were found to be 'last person to meet before death: nurse', 'being together by empathy', 'planning for my good death', and 'become an opportunity for maturation and growth'.

Conclusion: The results of the above study can be used as basic data for the development of end-of-life nursing education for nurses and students as well as the development of nursing interventions for terminally ill patients in Korea.

Keywords: Self-reflection, Nurse, Death, Hermeneutic phenomenology

P-054

Comparison of Performance Indicators of the Primary Health Care in Republic of Korea Army after Pilot Project on Improvement of Medical Battalion's Function

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Aim(s): Soldiers have received primary health care from the medical company in Republic of Korea Army, and they are transferred to the medical battalion or military hospital if needed. However, the medical company has a restriction in providing timely care because of the lack of resources, which causes a decrease quality of primary health care. Therefore, we conducted a pilot project that the medical battalion conducted functions of primary health care instead of the medical company. The purpose of the study was to compare performance indicators of the primary health care before and after the pilot projects.

Method(s): This study evaluated differences in performance indicators of primary health care before and after the pilot projects. The indicators consisted of three categories: accessibility (travel time to medical unit, waiting time per patient, and the number of untreated among outpatient visits), system infrastructure (the number of X-ray inspections and pathological tests), and care coordination (the number of transferring to an advanced or private hospitals). The pilot project was conducted from September 2019 to April 2020, and the data were collected from January 2019 to March 2020.

Result(s): The system infrastructure and care coordination were improved while accessibility was deteriorated. Travel time to medical unit, waiting time, and the number of untreated patients were increased. The number of X-ray inspections and pathological tests were increased by 23.0% and 20.2%, respectively. The number of transferring was increased by 29.9% as well.

Conclusion(s): This study identifies that the pilot project on improvement of medical battalion's function was effective in improving system infrastructure and care coordination. Meanwhile, this study may suggest that strengthening strategies for accessibility should be prioritized to expand the pilot projects.

Keywords: Primary health care, Republic of Korea Army, Medical battalion

P-055

Occurrence and Related Factors of Pressure Ulcers among Patients with Targeted Temperature Management after Cardiac Arrest

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Aim: Pressure ulcers are well known complication of critically ill patients with targeted temperature management (TTM) after cardiac arrest admitted to intensive care unit. However, little is known about factors impacting on pressure ulcers among these patients. Therefore, this study aimed to examine factors related to occurrence of pressure ulcers among cardiac arrest patients treated with TTM.

Methods: A retrospective, observational study was used. Participants were 126 cardiac arrest patients who aged 19 years over and a single tertiary hospital admitted from January 2017 to December 2019. Demographic and clinical characteristics, and medical device-related characteristics were collected by patient chart review. Multivariable logistic regression analysis were performed to identify related factors on pressure ulcers.

Results: The study finding showed that occurrence rate of pressure ulcers was 31.8%. Patients who had glasgow coma scale score of more than 12 on the third day of admission (OR = 0.08, 95% CI = 0.01–0.52), who had higher hemoglobin level (OR = 0.65, 95% CI = 0.49–0.86), and who had low nutritional risk index (≤100) (OR = 0.10, 95% CI = 0.02–0.57) had lower risk for developing pressure ulcers. In contrast, patients who were men (OR = 4.80, 95% CI = 1.21–19.08), who developed diarrhea (OR = 4.90, 95% CI = 1.31–18.41), and who applied with physical restraint (OR = 6.03, 95% CI = 1.52–23.96) had higher risk of developing pressure ulcers.

Conclusions: Nurses should be aware that patients who TTM after cardiac arrest were a high-risk group for pressure ulcers from the moment of admission, and should closely monitor patients with risk factors shown in this study.

Key words: Affecting Factor, Cardiac Arrest, Pressure Ulcers, Targeted Temperature Management.

P-056

Occurrence a Mediating Effects of Efficacy Expectation and Outcome Expectation for Eating Behavior between Depression and Eating Behavior in the Elderly Patients with Type 2 Diabetes Mellitus

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Aim: This study aimed to examine the mediating effects of Efficacy Expectation for Eating Behavior (EEEB) and Outcome Expectation for Eating Behavior (OEEB) between depression and eating behavior among elderly patients with type 2 diabetes.

Methods: A cross-sectional descriptive design was applied. The participants were 231 elderly patients aged 65 or older with type 2 diabetes in South Korea. Data were collected using a structured questionnaire including depression, EEEB, OEEB, and eating behavior. Data were analyzed using descriptive statistics, Pearson's correlation coefficients. The mediating effects were analyzed using the SPSS PROCESS macro Version 3.4.1.

Results: The average age was 77.52 years (SD= ±6.81, range= 18-71), and the sex distribution was 96 males and 135 females among 231 elderly patients with type 2 diabetes. Depression was significantly associated with eating behavior, EEEB and OEEB. EEEB and OEEB was significantly associated with eating behavior. EEEB and OEEB significantly mediated the association between depression and eating behavior among elderly patients with type 2 diabetes.

Conclusions: The findings suggest that strategies for enhancing EEEB and OEEB should be considered to improve eating behavior of elderly patients with type 2 diabetes. Also, medical workers should consider EEEB and OEEB in providing education or consultation related to nutrition for elderly type 2 diabetes patients with depressive symptoms.

Key words: Aged, Diabetes Mellitus, Depression, Diet, Nutrition, Self-Efficacy

P-057

Safety Assessment of Insulin Injection into Subcutaneous Tissue of the Abdomen Using Skin-Subcutaneous Fat Thickness Measurement in Diabetes during Pregnancy

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Aim(s): Although insulin is usually injected into the abdominal subcutaneous fat in the patients with diabetes mellitus, pregnant women tend to avoid injecting it on their abdomen due to a concern about fetal damage in the abdomen. This research aims to identify which site would be relatively safe for insulin injection during pregnancy, using measurement of the skin-subcutaneous fat thickness (S-ScFT) of pregnant women.

Method(s): The study included 142 normal pregnant women with over 24 weeks' pregnancy. A total of 262 S-ScFT were measured at 12 sites on the participants' abdomens using ultrasound.

Result(s): The mean S-ScFT during pregnancy was 1.14±0.47cm (1.25±0.54cm in the 24+0~27+6 weeks' pregnancy; 1.17±0.48 cm in the 28+0~31+6 weeks' pregnancy; 1.09+0.40 cm in the 32+0~35+6 weeks' pregnancy; 1.06±0.47 cm in the 36+0~40 weeks' pregnancy). Most S-ScFT were thicker than 10mm. But S-ScFT in some sites were less than 6mm,and especially low body weight group showed high rate in S-ScFT less than 6mm(33.9%). The factors affecting the abdominal S-ScFT were BMI, estimated fetal weight, drinking, regularity of menstruation, health insurance type and age, and the explanation power was 30.4%.

Conclusion(s): Whole abdomen seems to be appropriate for insulin injection in most diabetic pregnant with a 4-5mm short needle. However, making the skin fold might be needed in some pregnant women with low body weight for safety.

Keywords: Abdomen; Pregnancy; Subcutaneous fat thickness; Ultrasound

P-058

A Study on End-of-Life Care Supportive Behaviors, Obstacles, Empathy Competency, and End-of-Life Care Competency in Long-term Care Hospital Nurses

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Aim(s): The rapid increase in the elderly population and end-of-life nursing at home have been transferred to medical institutions, increasing the number of elderly patients dying after spending their end-of-life in long-term care hospitals. Therefore, the purpose of this study was to examine the relationship between long-term care hospital nurses' end-of-life care supportive behaviors and obstacles, empathy competency, and end-of-life care competency.

Method(s): A cross-sectional questionnaire survey was conducted. Data were collected from 191 nurses working in 10 long-term hospitals. A structured self-report questionnaire was used to assess end-of-life care supportive behaviors and obstacles, empathy competency, and end-of-life care competency. The collected data were analyzed using descriptive statistics, t-test, ANOVA, and Pearson's correlation coefficient with the SPSS/WIN 25.0 program.

Result(s): End-of-life care supportive behaviors were in the intensity 3.71±0.54, and the frequency 2.80±0.54 out of 5. Obstacles scored in the intensity 3.64±0.55, the frequency 2.92±0.53 out of 5. Empathy capacity was 3.72±0.40 out of 5. End-of-life care competency was 3.43±0.43 out of 5, and showed significant differences according to religion (F=2.79, p=.04) and job position (F=6.51, p=.002). Also, End-of-life care competency was statistically positively correlated with the intensity (r=.30, p<.001) and frequency (r=.32, p<.001) of end-of-life care supportive behaviors, and empathy competency (r=.55, p<.001).

Conclusion(s): As a result of this study, it was found that the higher the frequency of end-of-life care supportive behaviors and empathy competency, the higher the end-of-life care competency. Therefore, in order to improve the quality of life and death of the elderly at the end-of-life, a strategy to enhance end-of-life care competency by strengthening frequency of end-of-life care supportive behaviors and improving empathy competency is needed.

Keywords: Clinical competency, Empathy, End of life care, Terminal care

P-059

College Nursing Students' Awareness of COVID-19 Pandemic in Korea : Q methodological approach

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Aim(s): The purpose of this study was to explore and typify the structure of nursing college students' awareness of spreading coronavirus-19 pandemic experiences through Q methodology, understanding the type-specific characteristics of nursing college students and present strategies for developing infection care programs. It was attempted to understand the characteristics of different types of nursing college students and to present strategies for developing infection nursing education programs.

Method(s): For the formation of the Q population, nursing college students conducted written interviews on their experience of spreading coronavirus-19 pandemic and literature reviews related to coronavirus-19. Based on the results derived from this, a total of 34 Q statements were extracted through the task of sorting out overlapping or ambiguous sentences. The Q sample statement was assigned to 60 nursing college students to be classified in a regular distribution table with a nine-point scale, and the data collected were analyzed using a pc-QUANAL program.

Result(s): The analysis identified four types of awareness of spreading coronavirus-19 in nursing college students. The first type was "the new fact-aware acceptance type", the second type was the "inconvenience-sensitive of daily change type", the third type was "the limited human relationship regret type", and the fourth type was "the preliminary nurse preparation type".

Conclusion(s): Through this study, nursing universities will be able to develop nursing education programs that can effectively cope with infectious manage nursing and develop educational strategies that to perform nursing tasks as professionals through proper recognition of new infectious diseases.

Keywords: Coronavirus-19 pandemic, Nursing college students, Q methodology

P-060

Prognostic Significance of Preoperative Nutritional Index in Elderly Pancreatic Cancer Patients

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Aim: The incidence of pancreatic cancer in the elderly is increasing, and the nutritional status of pancreatic cancer patients is poorer than that of other carcinomas. This retrospective study aimed to clarify the relationship between nutritional index and length of stay in elderly patients undergoing pancreatic cancer surgery, and to identify factors affecting the length of stay.

Methods: A Total of 102 patients over 65 years of age who underwent pancreaticoduodenectomy were retrospectively enrolled from January 1, 2010 to September 30, 2020. All patients were subjected to nutritional screening using Geriatric Nutritional Risk Index (GNRI) and Prognostic Nutritional Index (PNI). Data of the patients' general characteristics, disease-related characteristics, preoperative hematologic examination and length of stay were collected.

Results: The average GNRI of the nutritional indexes was 95.66 ± 6.95, 69 patients (67.6%) were in low GNRI (malnutrition group) and 33 (32.4%) were in high GNRI (normal group). The average PNI was 45.46 ± 5.65, low PNI (malnutrition group) was 56 patients (54.9%), high PNI (normal group) was 46 patients (45.1%). The average total length of stay was 23.12±10.69 days, the preoperative length of stay was 5.81±3.87 days, and the postoperative length of stay was 17.30 ± 9.34 days. Total length of stay according to the nutritional indexes of the subjects was long in the low GNRI (t=−2.09, p=.039) and low PNI (t=−2.29, p=.024) groups. The length of stay before surgery was also longer in low GNRI (t=−3.51, p=.001) and low PNI (t=−3.80, p<.001).

Conclusion: The study results showed that poorer preoperative nutritional status in elderly patients with pancreatic cancer delays overall hospitalization. Assessment of nutritional status of patients using GNRI and PNI is a good strategy for evaluating elderly patients at high risk during the length of hospital stay.

Keywords: Elderly patients, Length of stay, Nutritional status, Pancreatic cancer

P-061

Mediating Effects of Fast-Foods and Sugar-Sweetened Drinks between Smoking and Depressive Symptoms among High School Students

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Aim(s): Aim of this study was to identify Mediating effects of fast-foods and sugar-sweetened drinks between smoking and depressive symptoms among Korean high school students.

Method(s): Methods: This cross sectional study used secondary data from the 2020 Adolescent Health Behavior Online Survey. A total of 25,987 high school students (15~18 years old) were included in the study. Path analysis was conducted with Amos 26.0 program to test the mediating effects of fast-foods and sugar-sweetened drinks between smoking and depressive symptoms.

Result(s): Smoking had directly significant effect on depressive symptoms in the adolescents (β=.09, p<.05). In addition, with mediating of fast-foods and sugar-sweetened drinks, smoking showed significant indirect effect on depressive symptoms (β=.01, p<.05).

Conclusion(s): Smoking cessation might reduce the risk of depressive symptoms in addition to reducing intake of fast-foods and sugar-sweetened drinks in adolescents. Thus, interventions for smoking cessation and limited intake of fast-foods and sugar-sweetened drinks would help prevent depressive symptoms in adolescents.

Keywords: Adolescent, Fast foods, Smoking, Sugar-sweetened beverages, Depression

P-062

Identification of the Knowledge Structure of Outreach in Public Health Care : A Text Network Analysis and Topic Modeling

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Aim(s): Health disparities continue to be a major public health concern worldwide over the last few decades. To reduce health disparity, outreach is regarded as key strategies for providing services to undeserved or hard to reach groups and play a central role in delivering health care services. The aims of this study are to understand the knowledge structure and trend on outreach in healthcare through text network analysis, and to identify changes over time and region.

Method(s): A total of 12,888 articles were identified until December 2020 were searched from databases of PubMed, Embase and Cumulative Index to Nursing and Allied Health Literature. A social network analysis program, NetMiner 4.0, were used to analysis the data and visualize the network.

Result(s): Six central keywords were also found highly related to other keywords in the knowledge structure of outreach: 'patient', 'care', 'service', 'community', 'health', and 'program'. As a result of performing topic modeling, five topics were derived patient-centered care, HIV care continuum, services related to a specific disease, community-based health care service, research and education of health program. As the change of keywords by time, 'hospital', 'family' and 'immunization' (prior to 1990), 'HIV' (1990s), 'service', 'management' (2000s), 'provider', 'training' (2010s) emerged. 'HIV' and 'TB' were the core keyword in African region, and 'nurse' was more centrality keyword in Euro.

Conclusion(s): The findings identified in this study will help to grasp the insights and changes on outreach in healthcare, and suggest important areas and directions for future outreach research.

Keywords: Outreach, Knowledge structure, Text network analysis, Topic modeling

P-064

Using Photovoice to Address Facilitators and Barriers of Physical Activity: A Systematic Review from the Socio-Ecological Model Perspective

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Aim(s): Photovoice is a qualitative visual research method that refers to photographs taken by the participants and allows exploring the value, story, or meaning of the photographs. Photovoice has been used as a method to examine in-depth exploration of perspectives and experiences of participants related to physical activity. Thus, this systematic review aimed to examine the existing literatures used a photovoice method to provide a comprehensive understanding of multiple dimensions of facilitators and barriers of physical activity with reference to the socio-ecological model.

Method(s): A systematic search of relevant literature published before May 2021 was conducted through PubMed, PsycINFO, Cochrane, CINAHL, and EMBASE. The search terms, selected using MeSH and text words, included adult, aged, middle aged, young adult, physical activity, exercise, walking, photovoice, participatory action research, community-based participatory research, photograph.

Result(s): A total of seventeen studies met the inclusion criteria among 2,185 searched publications. The quality assessment was conducted using Viswanathan et al.'s tool. At the intrapersonal level, the facilitators to physical activity included personal preference, awareness, health condition, motivation, and attitude. The barriers were private resources including time and economic issues. At interpersonal level, social relationships and culture were identified as facilitators and barriers. At the community level, natural environment, architectural environment, convenient facilities, transportation environment, clean environment, recreation infrastructure, safe environment, and economic factors were found to be affecting factors to physical activity, and all of these factors identified at the community level played facilitating and constraining role in physical activity.

Conclusion(s): This systematic review provides an overview of support the development and implementation of sound policies for the promotion of physical activity participation in adults from a comprehensive socio-ecological viewpoint.

Keywords: Community-based participatory research, Physical activity, Photovoice, Systematic review

P-066

The Effects of Experiences of Patient Participation on Patient Satisfaction in Korea

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Aim(s): Patient participation is an important factor for improving patient safety and quality of care. This study examined experiences of patient participation, the level of patient satisfaction, and the factors that influenced patient satisfaction with outpatient care.

Method(s): This cross-sectional descriptive study used secondary data from the 2018 Survey on the Experience with Healthcare Service conducted in South Korea. Data from 6,684 outpatients over the age of 20 years who had visited hospitals were analyzed. We measured five categories of patient participation experiences based on four types of safety activities (SAFE: speaking up, asking questions, finding health information, and engaging in the healthcare process). Patient characteristics, health-related characteristics, and experiences of patient participation were assessed as factors related to patient satisfaction. Data were analyzed using descriptive statistics and the χ^2-test. Logistic regression analysis was conducted to identify factors that influenced patient satisfaction with outpatient care.

Result(s): Overall, 84.9% of the participants were satisfied with the outpatient care they received. Participants reported that they participated in finding health information through physicians (84.1%) and nurses (84.1%), engaging in shared decision-making (82.8%), asking questions (81.9%), and engaging in communication with healthcare providers (81.6%). Higher patient satisfaction with outpatient care was significantly associated with middle age (40-59 years) and old age (≥60 years), good self-rated health status, and experience of patient participation in patient safety activities.

Conclusion(s): Multiple factors were related to patient satisfaction with outpatient care, and these factors need to be taken into account when evaluating satisfaction levels in hospitals. To improve patient satisfaction with health care use, it is necessary to provide more experiences and expand opportunities for patient participation during the care process and to establish healthcare policies and strategies for patient participation in patient safety.

Keywords: Patient satisfaction, Patient participation, Health services, Quality of health care

P-067

The Influence of Professionalism and Communication Competence on the Quality of Services by Visiting Nurses Working with Long-Term Care Insurance System

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Aim: The purpose of this study was to identify the effects of professionalism and communication competence on the quality of the service on visiting care provided by the visiting nurses who work with long-term care insurance for the elderly.

Method: The subjects of the study were 108 nurses who provided visiting care service in the long-term care insurance for the elderly. Data collection was conducted through an online survey with three structured self-administered questionnaires: Professionalism Inventory Scale, Global Interpersonal Communication Competence Scale, and Service Performance Scale. Descriptive analysis, t-test, ANOVA, Pearson correlation, and multiple regression analysis were used for the data analysis..

Results: The service quality of visiting care scored mean score of 4.25 points. Service quality of visiting care was statistically significant difference in service type (F=3.87, p<.05) and career of visiting nurses (F=3.79, p<.05). Visiting nurses' professionalism (r=.73, p<.01) and communication competence (r=.56, p<.01) had statistically significant relations with the service quality of visiting care. There were also statistically significant relation between their professionalism and communication competence (r=.60, p<.01). As a result of multiple regression analysis, professionalism (β=.601, p<.001), communication competence (β=.186, p<.05), and working experience of visiting nurses (β=.176, p<.05) indicated to have a statistically significant effects on the quality of visiting nursing services. Also, the working experience, professionalism, and communication competence of visiting nurses explained 58.0% of the variance in service quality by visiting nurses.

Conclusion: From the above study results, it was confirmed that the professionalism and communication competence of visiting nurses have influence on improving the quality of visiting nursing services. Therefore, in order to improve the service quality by visiting nurses, it is necessary to provide an educational program that can enhance the professionalism of nurses and enhance their communication competence.

Keywords: Service quality, Professionalism, Communication competence

P-068

The Effect of Video Program and Structured Interview on Preoperative Anxiety in Patients with Endoscopic Submucosal Dissection

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Aim: This study attempted to determine the effect of video program and nursing information through structured interviews on the subjects who are scheduled to undergo endoscopic submucosal dissection after being diagnosed with gastric adenoma or early gastric cancer, in terms of anxiety before endoscopic submucosal dissection.

Method: A non-equivalent control group pretest-posttest experimental design was used. A total of 119 subjects were participated, of which 58 were assigned to the experimental group and 61 were assigned to the control group. Spielberger's State-Trait Inventory in Korean version which developed by Kim and Shin, Knowledge Scale which developed by researcher were used. Also, blood pressure and pulse were measured. The pre-test was measured on the day of the decision to undergo endoscopic submucosal dissection for both the experimental group and the control group, and written instructions were provided. For the post-test, control group were measured in the waiting room of the endoscopic room after first day of hospitalization. The experimental group was provided with a video program 7 days before the hospitalization reservation date, and on the first day after hospitalization, a structured interview was conducted at the gastroenterology counseling room then post-test was done. Data analysis was performed using by descriptive statistics, χ^2-test and t-test.

Results: Hypothesis 1: "The experimental group will have a lower preoperative state anxiety score than the control group" was supported (t=3.60. p<.001). Hypothesis 2: "The experimental group showed less changes in systolic blood pressure (t=5.85, p<.001), diastolic pressure (t=5.53, p<.001), and pulse (t=2.59, p=.011) on the day of hospitalization and immediately before surgery than the control group" was supported.

Conclusion: From the above results, it is necessary to apply the video program and structured interview intervention which was applied in this study to reduce preoperative anxiety in subjects undergoing endoscopic submucosal dissection.

Keywords : video education program, structured interview, state anxiety, blood pressure, pulse

P-069

Influence of Transition shock and Mental Health on Turnover intention in New Nurses

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Aim(s): The aim of this study was to identify the influence of transition shock and mental health on turnover intention of new nurses.

Method(s): A descriptive correlation study was conducted. The participants were 177 new nurses with less than 2 years of working period at C university hospital in D metropolitan city. Collected data were analyzed by descriptive statistics, t-test, one-way ANOVA, scheffe test, Pearson's correlation coefficient and multiple regression analysis with SPSS statistics 26.0 program.

Result(s): Total career (β=.13, p=.034), perceived job satisfaction (β=.24, p<.001), transition shock (β=.53, p<.001) were significant factors affecting turnover intention except for mental health. These variables explained 34.2% of the variance of turnover intention, and the strongest factor was transition shock.

Conclusion(s): The findings indicate that transition shock and job satisfaction can play a significant role in turnover of new nurses. To prevent turnover of new nurses, strategies are needed to decrease transition shock and increase job satisfaction at the beginning of a nurse's career.

Keywords: Nurses, Personnel turnover, Transition shock, Job satisfaction

P-070

A Knowledge Structure of Nursing Informatics: A Text Network Analysis and Topic Modeling

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Aim(s): With the advent of information age and development of technology, the importance of digitalization and digital health technologies has increased. As digital technology showed up, nursing informatics has developed as well with medical informatics integrating nursing science with information management to manage and communicate data and information. This study aimed to identify the knowledge structure and the research trends on Nursing informatics by conducting quantitative content analysis using text network analysis.

Method(s): It analyzed 14,225 studies which published from 1974 to Oct, 2020. Knowledge structure of nursing informatics and the change of it, core keywords of nursing informatics research, and topic analysis and trend of topic (change) were identified.

Result(s): Patient, health, system, and information act as a central word connecting core keywords. By time, information, communication, and technology strengthen their connection and with the development of technology, patient safety and quality issue showed up recently. With such change, the importance of nursing education on technology also has increased. Those changes are also appeared on topic analysis which showed increased proportion of system and technology related research and research on nursing education.

Conclusion(s): Through the findings in this study, it can be expected that the importance of nursing informatics based on the development of systems and technology is growing in patient safety and nursing education. Furthermore, it can be suggested that further research in this field is necessary in the future.

Keywords: Nursing informatics, Text network analysis, topic analysis, knowledge structure

P-071

Development and Application of Virtual Reality Simulation Problem-based Learning (VRS-PBL) for Neurologic Examination

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Aims : Due to the COVID-19 pandemic, innovative educational strategies are required to enhance nursing students' learning transfer in nursing education. The purpose of this study was to investigate how Virtual Reality Simulation Problem-Based Learning (VR S-PBL) affects nursing students on academic self-efficacy, learning motivation and neurologic examination performance including glasgow coma scale, pupil light reflex, and muscle strength.

Methods : A quasi-experimental control group pretest and posttest design was used. A total of 76 nursing students at one university in South Korea were allocated using convenience sampling to the experimental group (n=38) and the control group (n=38). Data were collected from 31 May to 18 June 2021. The VR S-PBL based on the Intervention Mapping Protocol consisted of preparation, operation, and evaluation stages. Students in the control group participated in a conventional education, lecture-style training of neurologic assessment prior to practicum, while students in the experimental group participated in the VR S-PBL once a week, 60 minutes per session, for two weeks. The evaluation of effect was measured via a self-reported questionnaires. Data were analyzed using descriptive statistics, $\chi 2$ test and paired t-test using SPSS 25.0.

Results : Compared with the control group, the students' academic self-efficacy (p = .007) and neurologic examination performance (p < .001) increased significantly in the experimental group.

Conclusions : This research did focus on comparing the outcomes of VR S-PBL to conventional education. VR S-PBL is recommended to improve the training for neurologic examination.

Keywords : Nursing education; Nursing students; Simulation; Problem-based learning; Virtual reality, Neurologic examination

P-072

Supportive Care Needs Survey: A Reliability Generalization Meta-Analysis

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Am: The purpose of this study is to investigate the reliability generalization of two forms of the Supportive Care Needs Survey (SCNS), the questionnaires commonly used to assess the unmet needs of cancer patients.

Methods: Reviewed articles were retrieved through databases including PubMed, OVID, Embase, CINAHL, Web of Science, Scopus, and ProQuest. The inclusion criteria were quantitative studies that assessed the unmet needs of cancer patients using the SCNS and presented reliability coefficients with sample size. Two independent reviewers examined the studies according to inclusion criteria and quality. The final studies included in the meta-analysis were determined by consensus. A random effects model was adopted for the analysis. To estimate reliability coefficients, the alpha coefficients for each study were transformed into the Z statistic for normalization and back to alpha. The values were weighted by the inverse of the studies' variance. Higgins I^2 statistic was used to test for heterogeneity, and Egger's test and funnel plot were performed to evaluate publication bias.

Results: Out of 12,522 studies, 27 studies were included in the meta-analysis. The overall mean weighted effect size of the SCNS-long form (LF) was .90 and subdomains ranged from .89 to .97. The overall alpha for the SCNS-short form (SF) was .92 and the alphas for subdomains were between .81 and .92. The estimated reliability coefficients in both LF and SF were highest in psychological and health information needs and lowest in sexuality. No publication bias was indicated in this study.

Conclusion: Both forms of the SCNS are reliable for assessing unmet needs of cancer patients. The SCNS measures psychological and health information needs more reliably while evaluate sexuality domain less reliable compared to other domains.

Keywords: Cancer patient; Reliability generalization; Supportive Care Needs Survey; Unmet need

P-073

Development and testing of the Career Decision-Making Self-Efficacy Scale for Nursing Students (CDMSES-NS)

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Aim(s): The purpose of this study was to develop and psychometrically test the Career Decision-Making Self-Efficacy Scale for Nursing Students (CDMSES-NS).

Method(s): Fifty-six preliminary items were identified through a literature review and focus group interviews of 10 nursing students and 3 nurses. Of these, 40 preliminary items were completed with a content validity index of over 0.80. To verify the reliability and validity of the preliminary instrument, data were collected from 400 nursing students through an online survey conducted from May 13 to May 31, 2021. Content, construct, and criterion-related validity, internal consistency reliability, and test-retest reliability were used for the analysis.

Result(s): Exploratory factor analysis revealed three factors, including 21 items, explaining 57.1% of the total variance. The three distinct factors were adaptation to work (20.5%), understanding the major (20.2%), and goal setting (16.4%). As a result of confirmatory factor analysis, 17 items in the three-factor structure were validated. Reliability, as verified by the test-retest intraclass correlation coefficient, was .86, and Cronbach's α was .92. The final CDMSES-NS consists of 17 items: adaptation to work (7 items), understanding the major (4 items), and goal setting (6 items).

Conclusion(s): The scale developed for measuring career decision-making self-efficacy of nursing students shows sufficient validity and reliability. We suggest a repeated study to evaluate the validity and reliability through a large-scale cohort survey covering not only nursing students but also college students from other majors.

Keywords: Career choice; Decision making; Self efficacy; Instrumentation

P-074

The long-term effects of a career efficacy enhancement program on career identity, career decisions, and career efficacy

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Aim(s): This study aims to evaluate the long-term effects of a career efficacy enhancement program on nursing students' career decisions, identity, and efficacy.

Method(s): Two program booklets and a workbook were developed and used in a career efficacy enhancement program that ran in 2018. The participants comprised 61 nursing students (28 in the experimental group and 33 in the control group) from two universities. Data were collected at four timepoints between September 2018 and December 2020 and analyzed using a Chi-square test, Fisher's exact test, and a repeated measures ANOVA.

Result(s): Career identity differed significantly between the groups (F=5.66, p=.021) but did not differ significantly with measurement times (F=.32, p=.731) and in the interaction between groups and measurement times (F=2.34, p=.075). Career decisions differed significantly between groups (F=4.92, p =.031) and in the interaction between groups and measurement times (F=3.49, p=.017) but did not differ significantly with measurement times (F=.13, p=.935). Career efficacy did not differ significantly between groups (F=.15, p=.703) and with measurement times (F=.33, p=.771) but differed significantly in the interaction between groups and measurement times (F=4.92, p=.003).

Conclusion(s): The career efficacy enhancement program improved nursing students' career identities, decision skills, and efficacy. It can be developed further and a revised program will be conducted, that can strengthen and sustain the long-term effects of the career efficacy enhancement program for senior nursing students.

Keywords: Self-efficacy; Decision making; Career choice; Students; Nurses; Career enhancement program

P-075

Effect of health coaching based self-management program for community dwelling older adults with diabetes

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Aim(s): To evaluate a Health Coaching based Diabetes Self-management (HC-DSM) program for community dwelling older adults.

Method(s): A randomized controlled trial was conducted on 50 older adults with diabetes who were recruited from a senior center in Seoul. The participants were randomly assigned to either an 8-week HC-DSM program or a 4-week usual education program on diabetes. In the final analysis, 23 participants were included in the experimental group and 22 in the control group. Questionnaire surveys were used to measure diabetes self-management self-efficacy, knowledge, goal attainments, behavior change, health status, and health related quality of life. Statistical analysis included generalized estimation equations, independent t-test, and $\chi 2$ test. In addition, qualitative data were collected to analyze the fidelity of the program and examine the experience of the participants.

Result(s): The intervention group had significant improved diabetes self-management self-efficacy($p<.001$), knowledge($p=.039$), goal attainments($p=.020$), behavior change (stage of change($p=.002$), monitoring($p=.039$), and reducing risks($p=.002$)), health status (HbA1c($p=.006$) and the diabetes distress scale($p=.005$)), and the health related quality of life (EQ-VAS($p<.001$)).

Conclusion(s): The HC-DSM program may be a feasible intervention that contributes to health promotion by empowering community dwelling older adults with diabetes to take responsibility for their own health and self-management.

Keywords: Diabetes, Self-management, Health coaching, Older adults, Community dwelling

P-076

Marriage Intentions and Marriage and Family Values of Unmarried Women in Korea: Using the 7th Korean Longitudinal Survey of Women & Families

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Aim(s): The decline in marriage is becoming a serious social problem. It has been reported that women have a lower awareness of the necessity of marriage than men and reserved attitude toward marriage. The purpose of this study is to identify the marriage intention and marriage and family values of unmarried women in Korea, and to examine the factors that influence marriage intention of unmarried women.

Method(s): We used secondary data from the 7th Korean Longitudinal Survey of Women & Families. The sample for this study included 755 unmarried women aged 25 to 44 who responded to the question of marriage intention. We conducted binomial logistic regression to identify influence factors on marriage intention of unmarried women.

Result(s): Unmarried women who do not intend to marry had a lower rate of economic activity compared to women who intend to marry. Unmarried women who do not intend to marry were more likely to have disease and obesity than those who intend to marry. Age over 40, economic inactivity, high depression, low happiness, non-traditional family and marriage values predicted no intention to marry.

Conclusion(s): The result of this study revealed that unmarried women of marriageable age were willing to marry when their economic and health condition were good. These findings suggest nursing interventions are needed to support unmarried women to be physically and mentally healthy and happy. Also, the findings provide a new direction for advancing women's health and population policies.

Keywords: Unmarried Women; Marriage Intention; Family Value.

P-077

The Effects of Subjective Xerostomia and Salivary pH in Salivary Glands Stimulated by Traditional Music Program in the Elderly

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Aim(s): This study is a single group pretest-posttest design to determine the effect of salivary gland stimulation on oral dryness(xerostomia) and saliva pH in elderly people in facility through traditional music programs. The data was randomly collected from January 14 to February 27, 2021. Subjects were total 32 senior citizens aged 65 or older living in K-city, Gyeonggi-do province, who wish to participate in traditional music programs.

Method(s): This study was conducted by participating 40 minutes of traditional music programs, using traditional instruments such as sogo and singing traditional folk songs once every four week and used questionnaires to check the degree of subjective xerostomia, and measured saliva pH using BCP test paper. The data analysis produced general characteristics, average and standard deviation, real number and percentages, and was analyzed with t-test, ANOVA, and paired t-test.

Result(s): The study results demonstrate that oral dryness(xerostomia) was shown to have statistically significant implications with wearing dentures (p<.018), the number of natural teeth (p<.045) and saliva pH had statistically significant implications with the number of natural teeth (p<.002). In addition, oral dryness(xerostomia) of the subjects before and after intervention was decreased from 39.97±9.14 to 26.28±7.79 afterwards, resulting a statistically significant difference (t=5.59, p<.001).

Conclusion(s): Salivary gland stimulation through traditional music programs improves oral function in the elderly, therefore this program is expected to improve the quality of life related to oral health in the physical, mental, and psychosocial areas of the elderly. It is also believed that oral movement activities such as singing folk songs will help improve oral function for frail elderly people in the community who are vulnerable in their daily lives

Keywords: Elderly, Salivary gland, Salivary pH, Xerostomia

P-079

Mental Health Literacy and Intention to Use of Mental Health Service among High School Students in a Rural Area

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Aim(s): The aim of this study was to identify the mental Health literacy and the intention to use of mental health service among high school students in a rural area.

Method(s): A descriptive correlational study design was used. The participants were 175 students from two high schools at O province in South Korea. Data were collected through self-reporting questionnaire about general characteristics, mental health literacy, and intention to use of mental health service. Collected data were analyzed using descriptive statistics, t-test, $\chi 2$-test, and logistic regression analysis with SPSS statistics 26.0 program.

Result(s): The level of mental Health literacy of participants was 2.43($\pm$0.20) points. The rate of intention to use of mental health service was 47.4%. Variables affecting intention to use of mental health services were gender (β=1.16, p=.001) and perceived mental health state (β=-0.74, p=.042). These variables explained 19.5% of intention to use of mental health service.

Conclusion(s): Based on the study findings, participants had median level of mental health literacy and higher rate of intention to use of mental health service. To enhance of behavior of mental health services use, it is necessary to develop a gender tailored education programs for improving awareness of subjective mental health state, and to provide the mental health service in consideration of the need of adolescents residing rural area.

Keywords: Adolescents, Mental health literacy, Mental health service, Utilization

P-080

The Effect of PEPS on Empowerment, Internalized Stigma, Self-esteem, and Quality of Life among Persons with Chronic Schizophrenia in Rural Area

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Aim(s): The aim of this study was to evaluate the effect of PES (Patient empowerment program for schizophrenia) on empowerment, internalized stigma, self-esteem, and quality of Life among persons with chronic schizophrenia in rural area.

Method(s): A non-equivalent control group repeated measures design was used for the study. Participants were 22 persons diagnosed with schizophrenia registered at a community mental health welfare center in O province. The 30 patients in the experimental group took part in the program, which comprised 16 sessions, twice a week. Collected data were analyzed by a Chi-square test, independent t-test, and repeated measures ANOVA using SPSS/WIN 26.0.

Result(s): This study showed improvement in the self-esteem (F=6.09, p=.005) and quality of life (F=3.37, p=.044) in the experimental group compared to the control group. However, there was no significant difference between the groups in terms of empowerment and internalized stigma.

Conclusion(s): The study findings indicate that the PEPS is a positive effect on self-esteem and quality of life. Therefore, it could be an efficient strategy for empowering self-concept and satisfaction of life among persons with chronic schizophrenia living in rural area.

Keywords: Schizophrenia, Quality of life, Self-concept, Program Evaluation

P-081

Effects of Exercise on Chemotherapy-induced Peripheral Neuropathy: A Systematic Review and Meta-analysis

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Aim: The aim of this review was to evaluate the effectiveness of exercise on chemotherapy-induced peripheral neuropathy (CIPN).

Methods: PubMed, EMBASE, CINAHL, and several Korean databases were searched until January 2021. In addition, a manual process of hand-searching was conducted. Risk of bias was assessed using the revised Cochrane risk-of-bias tool for randomized trials. The Review Manager 5.3 version of the Cochrane Library was used for meta-analysis to estimate effect size.

Results: Nine studies were included. The most common types of exercise were yoga, combined aerobics and strength exercise and combined strength and balance exercise; each was backed by four studies. Four randomized controlled trials were meta-analyzed and five studies were synthesized. There was a significant effect on CIPN using meta-analysis (standardized mean difference=-0.28; 95% confidence interval=-0.47 ~0.09; p=.004). As a result of qualitative synthesizing, exercise groups were reported to have significantly lessened CIPN symptoms than control groups in three studies. And exercise group showed significant reduction in CIPN symptoms in one study. In one study, exercise group was more relieved of CIPN symptoms than the control group, but they were not significant.

Conclusion: The results of this study indicate that exercise should be part of the regimen for patients who are receiving or have completed neurotoxic chemotherapy for relieving CIPN symptoms. However, attention should be paid to the interpretation of the results, especially due to the lack of studies and the number of participants. Therefore, further well-designed studies with sufficient number of participants are needed in this direction.

Keywords: Chemotherapy-induced peripheral neuropathy, Exercise, Systematic review, Meta-analysis

P-082

Effectiveness of Safe Environmental Design on Personal Protection Equipment Doffing Area

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AIMS: The COVID-19 pandemic brought challenges of ensuring the safety of healthcare workers (HCWs) during and after delivery of care to patients with serious contagious diseases. When HCWs are tired and fatigued after hours of providing patient care, removal of personal protective equipment (PPE) has been identified as a high-risk activity for self-contamination. Current guidelines provide guidance for PPE donning and doffing procedures, however, the design aspect of the doffing area with regards to HCW safety are limited. Current research suggests that environmental design of a doffing area impacts the contamination risk of HCWs during doffing. Therefore, the aim of this study was to change the doffing area in the dedicated COVID-19 ward according to the principles of safe design, then monitor and assess the efficacy of the new design compared to the previous design.

METHODS: This was a comparative study comparing the previous doffing environment setting (BEFORE) to the newly set doffing area (AFTER). Both settings were assessed by monitoring videos of HCWs doffing process. First tool assessed the outcome of PPE doffing procedure, and the second tool assessed any issues that threatened the safety of the HCWs during the doffing process. Sample size was calculated using Cohen's power analysis, and a total of 100 samples were assessed for each doffing setting.

RESULTS: The average points for PPE doffing process BEFORE and AFTER the environmental design was 80.2 and 81.7, respectively. There were no statistical differences, but the global rating scale showed better results for the AFTER group. Safety assessment showed more safety violations in the BEFORE group compared to the AFTER group (28~100% vs 0~28%). (p<0.05)

CONCLUSIONS: This study demonstrated that safe environmental design on PPE doffing area is important, and safe environment design influences the doffing performance as well as safety issues.

Keywords: Doffing, Environmental design, Personal protective equipment,

P-083

Effects of a Reproductive Health Education Program for Women with Inflammatory Bowel Disease

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Aim(s): Most women who have been diagnosed with Inflammatory bowel disease (IBD) have misconceptions and high levels of anxiety about pregnancy associated with the disease. The purpose of this study was to implement a reproductive health education program for women of reproductive age with IBD, and to confirm its effects on IBD-related pregnancy knowledge, IBD-related pregnancy anxiety and self-efficacy for IBD management.

Method(s): A mixed-methods study was conducted as the qualitative data were obtained at the same time as the experimental study (before and after the randomized control group experiment). The participants were women with no prior birth experience over 20 years of age with IBD; a total of 35 women (17 in the experimental group and 18 in the control group) participated in the study. For the experimental group, a reproductive health education program consisting of small-group training and individual telephone coaching was provided. The control group received IBD management and gynecological disease education. The collected data were analyzed using descriptive statistics, the chi-square test, the Fisher exact test, the independent t-test, the Mann-Whitney U test, and generalized estimating equations in IBM SPSS version 25.

Result(s): Following the delivery of the program, the experimental group was compared to the control group, and significant differences were found in IBD-related pregnancy knowledge score (p<.001), IBD-related pregnancy anxiety score (p=.003), and self-efficacy for IBD management (p=.036). As a result of the qualitative data analysis, a total of 4 themes were identified. The themes were improvement of pregnancy and childbirth awareness related to IBD, resolving anxiety about pregnancy and active acceptance of pregnancy, improving confidence in IBD management and recognition of planned pregnancy, and proper care for disease management and active preparation for pregnancy.

Conclusion(s): The reproductive health education program can be used as preconception education for women diagnosed with IBD in clinical practice, and can be useful for disease management as well.

Keywords: Inflammatory bowel disease, Education, Reproductive health, Women

P-084

Study of Self-Care Behavior and Associated Factors among Visually Impaired People with Diabetes: Non-face-to-face Approach via E-mail and Telephone

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Aim(s): People with visual impairment experience limitations in self-care owing to reduced physical activity attributable to vision problems, poor diet as a consequence of difficulties in grocery shopping and cooking, and accompanying depressive symptoms. However, there is limited research to determine the factors that influence diabetic self-care behavior. Therefore, the aim of this study is to assess self-care behavior and associated factors among visually impaired people with diabetes.

Method(s): From December 2020 to March 2021, non-face-to-face surveys were conducted by telephone and e-mail in consideration of the ongoing COVID-19 pandemic, and difficulty of movement due to visual impairment. Overall, 141 eligible participants were recruited online and offline. Demographic data, diabetes, and visual impairment-related characteristics were investigated, and validated surveys were completed to measure self-efficacy, depression, family support, and diabetes self-care behaviors (diet, exercise, sugar testing, medication, and foot care). The data was analyzed by t-test, ANOVA, and multiple regression.

Result(s): The mean age of the participants was 57.16 (±12.19). Most of them were male (64.5%), under high school graduates (68.1%), had type 2 diabetes (83.7%), and severe visual impairment (grade 1-3) (84.4%). In the multiple regression model, 32.4% of the variation in diabetes self-care behavior is explained by self-efficacy, family support (both positive and negative family-behavior) and demographics, diabetes, and visual impairment-related variables (adjusted R^2=.324; p-value<.001). Self-efficacy (b=.347), positive family-behavior (b=.670), and negative family-behavior (b=-.567) were important predictors of diabetes self-care behaviors, whereas depression had no association.

Conclusion(s): Self-efficacy and family support were factors affecting the diabetes self-care behavior of visually impaired people with diabetes in South Korea. To improve diabetes self-care behavior in this population, these factors need to be considered. Moreover, it is imperative to develop effective nursing interventions targeting these factors.

Keywords: Diabetes; Self-care; Visually impaired persons

P-085

The Needs Assessment of Women's Health Nursing Practicum in Nursing Students during COVID-19 Pandemic Situation

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Aim(s): The purpose of this study is to identify the educational content for women's health nursing practicum in nursing students through need analysis and to develop efficient educational strategies during the un-tact era.

Method(s): A cross-sectional study was conducted on 32 nursing students who participated in the subject of women's health nursing clinical practicum. The survey questionnaire consists of satisfaction and importance of contents in women's health nursing practicum for analyzing educational needs. Total 31 nursing students completed a five-point Likert scale, consisting of 13 questions on satisfaction and importance, respectively, from December 04, 2020, to December 18, 2020. The educational need analysis was performed by using Borich's educational need equation and the Locus for Focus Model and highly ranked priorities on both methods proposed as the highest priorities.

Result(s): As a result, 'overall understanding of women's health nursing practicum', 'understanding of the clinical situation of scenarios/cases', 'time for practicum', 'professional knowledge for nursing', and 'problem-solving skill' were high on the list of top five priorities. The selected items by Locus for Focus Model show that nursing students related knowledge of nursing and competency of problem-solving. On the other hand, nursing skills, orientation for the subject, and teamwork skills were identified as the lowest priority.

Conclusion(s): As a result of this study, nursing students needed to strengthen their problem-solving skills and major knowledge in nursing rather than education on nursing skills. This study is meaningful in that it analyzed the actual educational needs of students. Based on the results of this study, it can contribute to the operation of a student-friendly learner-centered practice curriculum.

Keywords: Needs assessment, Clinical practicum, COVID-19, Knowledge

P-086

Factors Influencing on Disaster Nursing Core Competencies in Nursing Students

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Aim(s) : The aim of this study was to identify the factors influencing on disaster nursing core competencies in nursing students by disaster perception, disaster attitudes and self-efficacy

Method(s) : A descriptive correlation study design was used. A sample of convenience was 187 nursing students, and a questionnaire was used to measure their disaster perception, disaster attitudes, self-efficacy and disaster nursing core competencies. Data were collected from Novermber 30 to December 10, 2020 and analyzed with t-test, ANOVA, pearson's correlation coefficient and stepwise multiple regression by using SPSS Program.

Result(s) : The average mean disaster perception score was 3.66($\pm$0.37), disaster attitude score was 3.56($\pm$0.37) and self-efficacy score was 3.67($\pm$0.49). The disaster nursing core competencies score ranged from 31 to 63, and the average mean score was 3.15($\pm$0.40). Disaster nursing core competencies were significantly different according to grade and satisfaction with clinical practice. Disaster nursing core competencies were positively correlated with disaster perception, disaster attitudes and self-efficacy. The influencing factors in disaster nursing core competencies were self-efficacy (β=0.276, $p<.001$), disaster attitudes (β=0.200, $p=.003$) and grade (β=0.172, $p=.011$). The explanatory power of these variables was 19.1%(F=14.378, $p<.001$).

Conclusion(s) : Based on the results, the most important factor in disaster nursing core competencies was self-efficacy. Therefore, it is necessary to develop a disaster program that can improve the disaster nursing core competencies of nursing students based on the factors influencing the disaster nursing core competencies.

Keywords : Competency, Disaster, Nursing students

P-087

Compare Advance Directive Perspectives and Desired Life-Sustaining Treatments Between Implantable Cardioverter-Defibrillator Recipients for Secondary Prevention and Patients with Heart Failure

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Aims: It remains unknown whether life-sustaining treatment (LST) preferences and perspectives regarding advance directives (AD) vary by the diagnostic contexts, implantable cardioverter-defibrillator (ICD) therapy and heart failure (HF). Therefore, this study aimed to compare AD perspectives (attitudes, and perceived barriers and benefits) between the diagnostic groups (ICD vs. HF) and examine the diagnostic contexts and these factors associated with preferred LSTs (cardiopulmonary resuscitation [CPR], ventilation support, and hemodialysis) and hospice care.

Methods: Using secondary analysis, data on the perspectives and preferences for LSTs and hospice care from ICD recipients and patients with HF prior to or after the planned visits for routine care at the outpatient areas.

Results: Forty-two secondary ICD recipients (mean age, 50.13 years; male, 85.4%) and 36 HF patients (mean age, 65.44 years; male, 69.4%) provided data. LST preferences were not significantly different, while hospice care preference in HF patients was higher than in ICD recipients (40.5% vs. 69.4%; p=.010). HF diagnosis decreased the odds of preferences for CPR (odds ratio [OR] = 0.125, confidence interval [CI] = 0.020, 0.771) and hemodialysis (OR = 0.189, CI = 0.043, 0.827). CPR preference increased with barriers (OR = 1.062, CI = 1.014, 1.112); hemodialysis increased with positive attitudes (OR = 1.128, CI = 1.026, 1.240) and barriers (OR = 1.057, CI = 1.006, 1.106). Hospice care preference increased with positive attitudes (OR = 1.183, CI = 1.049, 1.334).

Conclusions: Preferences for LSTs were somewhat high, but were not different between the two groups. HF diagnosis was associated with less preference for LSTs, and less positive attitudes and/or higher barriers were associated with more preferences for LSTs and less for hospice care. These initial insights imply that informed decision-making for end-of-life care can be facilitated through early discussion about ADs, with consideration of the diagnostic contexts and some modifiable factors.

Keywords: Advance Directive, Heart Failure, Implantable Cardioverter-Defibrillator, Life-Sustaining Treatment

P-088

Development and Evaluation of the Korean Version of Fighting Spirit Scale for Cancer Patients

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Aim(s): Fighting spirit has been shown to accept to cancer diagnosis and actively overcome it, so it is necessary to accurately evaluate for the quality of life and positive adaptation of cancer patients. Therefore, the aim of this study was to develop the Korean Version of Fighting Spirit Scale (KFSS) that reflects the sociocultural characteristics of Korea to measure the fighting spirit of Korean cancer patients, and to verify its validity and reliability.

Method(s): A survey was conducted with adult cancer patients who visited the outpatient clinic of N Cancer Center in Korea from August 2019 to March 2020. The scaled was developed by combining the results of a previous study on the relevant concept analysis and the results obtained from individual in-depth interviews conducted with 9 cancer patients. Participants were 310 cancer patients recruited to test the reliability and validity of the preliminary scale. The exploratory factor analysis and confirmatory factor analysis were conducted to construct validity, and the concurrent validity and the intensive validity were verified through the correlation analysis with previous instruments. The internal consistency reliability was verified through the Cronbach's coefficient alpha and the test-retest reliability.

Result(s): Exploratory factor analysis with 23 items showed that 6 factors (will to overcome, social support, positive attitude, spiritual belief, preferred environment, will of life) explained 65.3% of the variance, and the factor structure of KFSS model showed a suitable fit. The reliability of the test-retest correlation coefficient was r=.91 (p<.001), the intra-class correlation coefficient was r=.95 (p<.001), and the internal consistency reliability Cronbach's α was .88.

Conclusion(s): The KFSS was developed with a 4-point self-report scale composed of 20 items of 6 factors. The KFSS developed through this study reflects the characteristics of Korean cancer patients and can be evaluated in multiple dimensions, and since reliability and validity are verified, it is useful for application to domestic cancer patients.

Keywords: Fighting spirit, Neoplasm, Scale development, Validity

P-090

Effect of SMART design on chronic disease: Systematic review and meta-analysis

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Aim(s): SMART (A Sequential Multiple Assignment Randomized Trial) design is an appropriate study design method for patients with chronic diseases who require long-term self-management. Intervention phase splitting and interim assessment are essential components of SMART design. We performed a systematic review of the evidence for the effectiveness of SMART design on chronic disease.

Method(s): We searched to 5 electronic databases in English (Medline, CINAHL, EMBASE, PsycoINFO, and Cochrane Controlled Trial Register) using the terms "Sequential Multiple Assignment Randomized Trial", "SMART", "smart trial", "adaptive intervention", "multiphase*", and "stage based" to identify reports discussing the effectiveness of SMART design on chronic disease until January 2021. This systematic review was conducted according to PRISMA guidelines. To ensure the quality of the twelve studies, levels of risk of bias assessed by two different researchers. To estimate the effect size, a meta-analysis of the studies was performed using the CMA 3.0 program.

Result(s): The protocol of this study was registered with PROSPERO (CRD: 42021256306). A total of twelve studies that met the inclusion criteria. These outcomes included the following; the SMART design to human subjects was conducted in 5 countries, and applied to 4 chronic disease: mental health, obesity, smoking, and pain. Ten out of twelve interventions consisted of two phases. Cognitive therapy was most used as a component of intervention. The included studies indicated that the SMART design had statistically significant effect on weight loss (Hedges's g = −0.10, 95% CI: −0.17– −0.03, p = .004), and first phase as a result of subgroup analysis (Hedges's g = −0.10, 95% CI = −0.21– − 0.01, p = .045).

Conclusion(s): SMART design was applicable to chronic diseases and was found to be effective in some studies, thus it is recommended to be applied in various future studies.

Keywords: chronic disease, SMART (the Sequential Multiple Assignment Randomized Trials), systematic review and meta-analysis

P-091

The Moderating Effect of Presenteeism in Relationship between Job Demands and Exhaustion of Korean Nurses: Secondary Data Analysis

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Aim(s): This study aims to investigate the moderating effect of presenteeism between job demands and exhaustion among Korean registered nurses.

Method(s): This study was the secondary data analysis from the Fifth Korean Working Conditions Survey(KWCS). The sample included 547 nurses. The variables were measured by the KWCS questionnaire including job-demand, presenteeism and exhaustion. Data were analyzed using descriptive statistics, independent t-test, ANOVA, multiple linear regression with SPSS 25.0 program.

Result(s): Exhaustion among nurses was 2.90±0.90 and 25.7% of nurses answered that they experienced presenteeism over the past 12 months. Significant predictors for exhaustion were physical job demands (β =0.144, p=0.007) and work overload (β=0.125, p=0.019). There was a moderating effect of presenteeism between physical job demand and exhaustion (p=0.013).

Conclusion(s): The higher the nurse's physical job demands and work overload, the higher the level of exhaustion. When nurses experienced presenteeism, physical job demands increased the level of exhaustion. Therefore, it is required for nursing managers to manage presenteeism for nurses to reduce exhaustion.

Keywords: Burnout, Nurse, Occupational stress, Presenteeism

P-092

The Effect of ASMR on Anxiety, Sleep quality, and Stress in University Students.

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Aim(s): This study aims to understand the effects of ASMR(The Autonomous Sensory Meridian response) intervention on university students' anxiety, sleep quality, and stress.

Method(s): This study was designed as a One-group pretest-posttest design to measure the effect of ASMR on university students' anxiety, sleep quality and stress. Data collection was conducted from 13 January 2020 to 24 January 2020. Among university students in the Seoul metropolitan area, 30 students who agreed to the study were selected. The data were analyzed by t-test using Win 23.0.

Result(s): The experimental group that provided ASMR intervention showed statistically significant results in levels of anxiety and stress. After ASMR intervention, the experimental group showed statistically significant effects on anxiety(t=5.12, p<.001) (t=5.15, p<.001) and stress(t=5.13, p<.001).

Conclusion(s): This study confirms that ASMR has a positive effect on anxiety and stress of university students. Based on these results, it is expected that further research will be conducted on scientific and differentiated ASMR mediation.

Keywords: ASMR, Anxiety, Sleep Quality, Stress

P-093

Environmental Factors Related to Non-compliant Health Behavior in the Urban-Dwelling Elderly

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Aim(s): The purpose of this study is to explore non-compliant health behavior among the urban-dwelling elderly and identify related environmental factors.

Method(s): This study analyzed the integrated data from the 2017 Korean National Survey on the Elderly and the 2017 Annual Report of Air Quality in Korea (N = 3,198). In this study, health behavior includes seven recommendations for promoting health. Social and physical environmental factors were selected based on Bronfenbrenner's ecosystem theory, including air quality as an environmental factor. Hierarchical multiple regression analysis was used to analyze the data, while controlling for general characteristics of the elderly.

Result(s): The average score for non-compliant health behavior was 3.05 ± 1.03 among seven health behaviors. Hierarchical multiple regression showed that the environmental factors related to non-compliant health behavior were social activity participation (β = .15, p ≤ .001); interactions with friends, neighbors, and acquaintances (β = .06, p = .002); access to institutions and facilities (β = .06, p = .001); and particulate matter concentration (β = −.10, p ≤ .001).

Conclusion(s): Our study findings emphasized that social activity participation, interactions with significant others, access to institutions and facilities, and particulate matter concentration should be considered when developing ecological interventions to improve health behaviors among the urban-dwelling elderly.

Keywords: Aged, Environment, Health behavior, Particulate matter

P-094

Validity and Reliability of the Korean Version of the Climate Health and Nursing Tool

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Aim(s): The purpose of this study was to evaluate the reliability and validity of the Korean version of the Climate Health and Nursing Tool (CHANT) to measure nurses' awareness, motivation, concern, behaviors at work, and behaviors at home regarding climate change and health.

Method(s): The 22 items of English CHANT was translated into Korean with forward-backward translation techniques, evaluated whether there were any items that needed correction due to the accuracy of translation and cultural differences, and revised based on feedback from focus groups. An internal consistency reliability and construct validity using confirmatory factor analysis were conducted using SPSS WIN (25.0) and AMOS (26.0). Survey data were collected from 220 master's, doctoral, and post-doctoral students at the college of nursing.

Result(s): The Korean version of the CHANT consists of 20 items in 5 domains. Two of the items in CHANT was excluded because of low CVI and standardized regression weights values. The internal consistency reliability of the Korean CHANT assessed by Cronbach's alpha was .81. The five subscales model was validated by confirmatory factor analysis (SRMR<.08, RMSEA<.08, AGFI>.7, CFI >.7).

Conclusion(s): The findings of this study demonstrate that the Korean version of the CHANT has satisfactory construct validity and reliability to measure nurses' awareness, motivation, concern, behaviors at work, and behaviors at home regarding climate change and health. It will be helpful to objectively confirm the level of cognitive behavior of nurses on the health effects of climate change, a common problem for people around the world. And it will be meaningful in identifying the level of climate health-related cognitive behavior and preparing a plan to improve it.

Keywords: Behavior, Climate change, Nurses, Perception

P-095

A research study on Natural childbirth Primipara in OBGY clinic

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Aim(s): The purpose of this study is to confirm the actual condition of primipara who gave birth naturally at obstetrics and gynecology (OBGY) clinic.

Method(s): This study is to investigate the actual condition of primipara who gave birth naturally in OBGY clinic and to confirm the correlation. For this purpose, the chart of primipara who gave birth naturally in the cephalic presentation with full term more than 37 weeks in 2018 at an OBGY clinic in Seoul was reviewed retrospectively.

Result(s): There were a total of 176 people, with an average age of 31.87±3.60 and the average gestational period was 39.47±1.12. 114 people (64.8%) received intervention. At the position of delivery, 78 people (44.3%) were Semi-fowlers, 19 people (10.8%) lying down, 4 people (2.3%) hand knee, 37 people (21%) in water, and 37 people (21%) sitting. Primipara was delivery with doula in 67 cases (38.1%). The average time (hours) from hospitalization to delivery was 14.78±14.57, and the average time (minutes) for the second stage was 13.67±45.67, the average time from the third period (minutes) was 21.47±19.95. The sex of the babies was 90 boys (51.1%) and 86 girls (48.9%), and the average weight (gm) of the babies was 3,273±343.50. The average 1 minute Apgar score was 7.98±.226, and the 5 minutes Apgar score average 8.99±.10. Body mass index (BMI) (r=.22, p=.002) and weight change (r=.26, p<.001) of primipara had a significant positive correlation with the baby's weight. There was a significant positive correlation between the duration of the second part of labor (r=.27, p<.001) and the time to start lactation after birth (r=.22, p=.002) with the doula. There was a significant positive correlation between perineal damage and the time to start lactation after birth (r=.24, p<.001).

Conclusion(s): It was found that the primipara took a free position in natural childbirth, and as the BMI and weight change increased, the baby weight increased. As the baby's weight increased, the baby's head circumference, gestational period, and time from hospitalization to delivery significantly increased.

Keywords: Clinic, Natural childbirth, Primipara

P-096

Frailty Among Prostate Cancer Survivors: A Scoping Review

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Aims: Prostate cancer (PC) is a commonly diagnosed cancer in men globally, and the median age at diagnosis of PC is 66 years. It is known that androgen deprivation therapy (ADT), which is a common treatment for PC survivors, results in negative physical changes, and is associated with frailty. Frailty is a condition in which the functional capacity of various organs decreases, making an individual vulnerable to different types of stress and associated disabilities. Frailty negatively affects the incidence of falls, hospitalization, and death. Frailty, especially for PC survivors, is important because it affects their quality of life, burden of treatment, and mortality. Therefore, an understanding of the characteristic associated with the frailty of PC survivors is needed. The purpose of this study was to summarize and map the characteristics of PC survivors associated with frailty.

Methods: A literature search was carried out in the PubMed, CINAHL, EMBASE, and Web of Science databases. We included studies published in peer-reviewed journals in English until April 2021 that explored the clinical characteristics associated with frailty in PC survivors. Search terms included were "prostate cancer patients" and "frailty". The current study was conducted following the preferred reporting items for systematic reviews extension for scoping reviews (PRISMA-ScR) guidelines.

Results: A total of 557 studies were retrieved from the search engines after excluding duplicates. Three researchers independently reviewed the studies by titles and abstracts and selected 61 studies for full-text assessment. Finally, selected 12 studies will be reviewed general (e.g. age) and frailty-related characteristics (e.g. obesity, fall, comorbidities) and will be extracted, summarized, and mapped.

Conclusions: The findings of this study help identify knowledge gaps and to orient future research for health professionals developing interventions to prevent frailty in PC survivors.

Keywords: Prostate cancer, Frailty, Factors, Scoping review

P-097

Sex Differences in Factors Associated with Falls in Community-Dwelling Older Adults: Using the 2017 National Survey of Older Koreans

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Aims: Falls in older adults are a major public health issue, and it results in hospital admission, frailty, disability, burden of treatment, depression, and death. Previous studies have identified falls-related risk factors such as sensory limitations, cognitive impairment, frailty, comorbidities, and physical function. Although these risk factors vary between men and women, especially in older adults, only a few studies have been conducted to investigate the association between sex difference and falls. This study aimed to identify sex differences in the factors associated with falls in community-dwelling older adults in South Korea.

Methods: This study was a secondary data analysis using the dataset from the 2017 National Survey of Older Koreans. A total of 10,236 elderly adults aged 65 years and above were enrolled. We excluded 63 who were "unmatched" for falls. Data on frailty, instrumental activities of daily living (IADL); activities of daily living (ADL); depressive symptoms; cognitive functions; chronic health problems; and socio-demographic characteristics were collected. The data were analyzed with descriptive statistics, t-test, Chi-square test, and logistic regressions.

Results: This study comprised 4,109 (40.1%) men and 6,127 (59.9%) women, with the majority aged 65 to 74 years (52.1%). In total, 1,619 (15.8%) participants experienced at least one fall in the past year. In men, the factors significantly associated with falls were middle school education (OR=1.471; CI=95% 1.096~1.972), frailty (OR=1.546; CI=95% 1.076~2.220), mild depression (OR=2.205; CI=95% 1.611~3.017), and osteoporosis (OR=3.326; CI=95% 1.958~5.652). In women, the factors significantly associated with falls were living alone (OR=1.331; CI=95% 1.116~1.589), IADL (OR=1.081; CI=95% 1.039~1.126), mild depression (OR=1.944; CI=95% 1.612~2.344), severe depression (OR=1.346; CI=95% 1.113~1.627), osteoporosis (OR=1.303; CI=95% 1.118~1.591), and arthritis (OR=1.158; CI=95% 1.008~1.331).

Conclusions: Developing fall prevention programs should consider sex-related differences especially among community-dwelling elderly individuals.

Keywords: Fall, Frailty, Instrumental activities of daily living, Older Adults

P-098

A Trend Analysis on Nursing Leadership in Korea

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Aim(s): Nursing leadership has been highlighted as essential competency throughout healthcare system for improving healthcare quality and patient outcomes. This study aimed to analyze trends of nursing leadership in published articles in Korean journals including leadership style and leadership measurement.

Method(s): A literature search was conducted using databases including KISS, RISS, DBpia, KMbase, NAL, and NDSL from January 2011 to August 2020. Search terms were 'nurse' or 'nursing' and 'leadership'. A total of 64 studies were reviewed. Leadership style of the studies was categorized according to McEwen and Wills's classification.

Result(s): Most of studies were conducted in hospital setting (96.9%) and quantitative studies accounted for 96.9%. Most frequent leadership style was authentic leadership (26.7%); unit manager accounted for 70.1% of the subject of leadership. The commonly used leadership measures were Authentic Leadereship Questionnaire for authentic leadership (n=18), Multi-factor Leadership Questionnaire for transformational leadership (n=16) and transactional leadership (n=6), and Servant Organizatioanl Leadership Assessment for servant leadership (n=7). The individual factors related to leadership were organizational commitment, followed by job satisfaction and turnover intention. An organizational factor related to leadership was nursing performance outcome, followed by teamwork.

Conclusion(s): The findings of this review suggest nursing leadership has critical role to improve both individual and organizational outcomes. Future studies are needed to conduct in various settings including community and to examine ralationship between nursing leadership and nursing quality related variables such as patient safety and turnover rates. In addition, development of measurment focused on unique nursing leadership traits would be recommended to accurateluy measure nursing leadership.

Keywords: Leadership, Measurement, Nurses, Trends

P-099

The effects of community structure and condition on the adolescent and young adults' risky sexual behavior: A systematic review

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Aim(s): Risky sexual behavior, such as early sex initiation, unprotected sex and having multiple sex partners of adolescent can result in infection of HIV, sexually transmitted infection (STI), unintended pregnancy, abortion, and legal conflict. The purpose of this review is to examine associations between community process and mechanism and adolescent and young adults' risky sexual behavior (RSB).

Method(s): We followed a five-step approach, comprising problem formulation, literature search, data evaluation, data analysis, and presentation, and also used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. The keywords included factor (s) AND sexual behavior OR risky sexual behavior AND adolescent (s) OR young adult (s) in the CINAHL, Cochrane Library, EBSCO, PubMed, PsycINFO. After screening title, abstract, and full-text, social processes and mechanisms within the community and adolescents' RSB outcome were only analyzed (n=26).

Result(s): The community process and mechanisms include collective efficiency and social support, community safety, and community norm. Decent size of studies examined collective efficacy and social support (11 studies) and community safety (17 studies). Collective efficacy and control had expected relationships with adolescent and young adult's RSB, the greater collective efficacy & control, the lower early sexual initiation.

Conclusion(s): Community process and mechanisms are intangible assets of community. From this review, we found that decent numbers of studies examined these community process and mechanisms and its relationship with adolescent and young adult's RSB. All these three can be used to prevent and reduce the occurrence of adolescent and young adult's RSB. To prevent negative reductive health outcomes like STI or unintended pregnancy, these community process and mechanisms should be emphasized.

Keywords: adolescent, community, risky sexual behavior, systematic review

P-100

A Study of Relationships among the Knowledge of Tuberculosis, Family Support, and Medication in Tuberculosis Patients

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Aims: This study was attempted to investigate the relationships among the knowledge of tuberculosis, family support and medication, and make good strategies for improving tuberculosis patients' medication rate

Methods: The data were collected from 175 patients diagnosed with tuberculosis at three general hospitals located in two provincial cities in South Korea from September 1 to November 31, 2020. The 160 questionnaires were analyzed using IBM SPSS WIN 25.0.

Results: The average scores of participants' knowledge of tuberculosis was 15.85±5.87 (full-mark was 25 points), Family Support was 22.03±9.2 (full-mark was 35 points) and medication was 5.11±2.68 (full-mark was 8 points). There were significant differences in the knowledge of tuberculosis, family support and medication depending on the participants' demographic characteristics. The older the patients, the lower the knowledge of tuberculosis and the medication rate, and the lower incomes, the lower he knowledge of tuberculosis and the medication rate. The patients living with family were higher of the knowledge of tuberculosis and the medication rate than the patients without family. There were significant positive relationships among knowledge of tuberculosis, family support and medication. Factors affecting patients' tuberculosis medication were the history of stopping medication, the importance of treatment of tuberculosis, and family support. These three factors could explain 78% of patients' taking tuberculosis drugs.

Conclusion: It could be concluded that the importance of tuberculosis treatment, and family support and medication are very important for tuberculosis patients to improve the rate of medication. In particular, it can also be concluded that the importance of tuberculosis treatment should be educated differently by individuals depending on patients' age, income level and whether they live with their family or not. Therefore, medical staff who take care of tuberculosis patients will have to manage patients' medication of tuberculosis drugs with continuous consultation.

Key Words: Family support, Knowledge of tuberculosis, Medication, Patient

P-101

Evaluation of a Child Abuse Prevention Program for Unmarried Mothers: Based on Nursing Model of Resilience and Coping Skill Training Model

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Aim(s): The aim is to apply child abuse prevention program based on the Nursing Model of Resilience and Coping Skills Training Model for unmarried mothers during pregnancy and puerperium and evaluate their effectiveness.

Method(s): The participants were recruited from two facilities for unmarried mothers in Seoul from October 2018 to July 2019. Seven single mothers participated in this study. Participants were offered this study's program between 32-34 weeks of pregnancy and 6 weeks of delivery through individual visits. The program consists of four pre-childbirth and six post-childbirth education sessions. The content is organized in terms of four patterns of resilience and applied the three-step approach of the coping skills training model. This study had a prospective single-case, AB design with four times repeated self-questionnaire measures and three phases observational measures. The observation were measured by video recording(total 16 times: baseline 5, intervention 6, post-test 5) the interaction of parent-child during feeding and analyzing it by three experts. After each measurement, an interview was conducted. Data were analyzed by Wilcoxon signed-rank test and Friedman's test and participant's interview were analyzed by the method of content analysis.

Result(s): This program has proved to be partially effective in preventing child abuse by promoting parenting attitudes and parent-child interaction. The participants expressed that this program was an opportunity to think about being a parent and improve health care, attachment formation, emotional control, understanding of child development, and parenting skills.

Conclusion(s): This study focused on individual resilience and applied systematic intervention as coping skills training to prevent child abuse. This program can be applied to unmarried mothers in various situations, from pregnancy to ultimately contributing to child abuse prevention. However, the number of participants is limited, and the duration of this study is considered too short to cover the change in resilience.

Keywords: child abuse, coping skills, resilience, unmarried mothers

P-102

A Latent Class Analysis of Obesogenic Behaviors Among Adolescents in the Republic of Korea

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Aims: Despite the multidimensional characteristics of obesity-related behaviors, few previous studies have investigated patterns obesogenic behaviors among Korean adolescents. This study aimed to explore sex-specific patterns of obesogenic behaviors and to identify predictors of latent class membership.

Methods: We analyzed a nationally representative data from the 14th (2019) Korea Youth Risk Behavior Survey (29,841 male adolescents and 27,462 female adolescents). Specifically, we conducted a multiple-group latent class analysis (LCA) to identify sex-specific patterns of obesogenic behaviors (i.e., breakfast, sugar-sweetened beverage, fast food, and fruit/vegetable consumption, total physical activity, non-academic internet use, smoking, and drinking). Since the likelihood-ratio test indicated that measurement invariance across sex was not established, we separately analyzed the data of male and female adolescents. Additionally, an LCA with covariates was used to investigate the predictors of distinct subgroups of adolescent obesogenic behaviors.

Results: Male and female adolescents demonstrated similar patterns and three-latent class models best fit the data from both samples: "mostly healthy behaviors", "poor dietary habits and a high level of Internet use", and "poor dietary habits and substance use." The probabilities of latent class membership differed between male and female adolescents. Specifically, the proportions of these three classes were 53.9%, 35.4%, and 10.8% for male adolescents, respectively, and 47.9%, 44.8%, and 7.4% for female adolescents, respectively. In addition, school year, area of residence, perceived academic performance, perceived stress, depressive feelings, and sleep satisfaction significantly predicted the latent class models in both samples. The latent class model among female adolescents was additionally found to be associated with perceived economic status.

Conclusions: Given the homogeneous patterns of obesogenic behaviors among male and female adolescents, health professionals should develop adolescent weight control programs tailored to sex-specific patterns of obesogenic behaviors.

Keywords: Adolescent, latent class analysis, obesity, sex

P-103

Effects of Pregnancy Stress and Social Support on Maternal-Fetal Attachment in Pregnant Women

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Aim(s): The purpose of this study was to identify the effects of pregnancy stress and social support on maternal-fetal attachment in pregnant women.

Method(s): The subjects of this study were 156 pregnant women in their second or third trimester aged 19 years or older who visited the Department of Obstetrics and Gynecology of S General Hospital and K Women's Hospital in C city for prenatal care. Data were collected from July 22 to August 31, 2019, and measurements included pregnancy stress, social support, and maternal-fetal attachment. Data were analyzed by frequency, percentage, mean, standard deviation, t-test, ANOVA, Scheffe test, Pearson Correlation, and stepwise multiple regression analysis using SPSS/WIN 26.0 program.

Result(s): It was found that maternal-fetal attachment was negatively correlated with pregnancy stress (r=-.281, p<.001), whereas a positive correlation was observed with social support (r=.457, p<.001). Pregnancy stress had a negative correlation with social support (r=-.276, p<.001). Factors that affect maternal-fetal attachment include friend support (β=.227, p=.010), prenatal education (β=.205, p=.003), gestational age (third trimester) (β =.199, p=.004), support from special person (β=.194, p=.026), and current health status (β=.143, p=.038), and the explanation power was 31.5% (F=12.88, p<.001).

Conclusion(s): Our study shows that pregnancy stress and social support plays a significant role in maternal-fetal attachment. For better maternal-fetal attachment, it is important to pay attention to the support from friends and special persons, the prenatal program, and the health status of the pregnant women. The results of this study will serve as basic data for the development of strategies for improving fetal attachment in pregnant women.

Keywords: maternal-fetal attachment, pregnancy stress, social support, pregnant women.

P-105

Concept analysis of Negative capability: Hybrid Model

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Aim(s): To identify and define the concept of negative capability.

Method(s): The hybrid model method was used to perform a conceptual analysis of negative capability. Data were obtained from 32 relevant literature reviews and also from the 3 focus group interviews of twelve nurses. The final attributes, definition, preceding factor and consequences of negative capability were derived by comparing and analyzing the properties confirmed through the field work phase and the theoretical work phase.

Result(s): The preceding factor of negative capability was uncertainty. The concept of negative capability was found to have 6 attributes such as submission of self(negation of one's own thoughts and endures uncertain situations at clinical fields), openness(exposing oneself to new environments, psychological openness based on a relaxed mind and narrative filling in a phenomenon), state of calm detachment(emptying even under pressure to perform the task, stop in detached state, observe objectively and grasp the situation as it is), humanity(empathy, compassion for the patient and fellowship), rationality(compromise with each other, seeking rational evidences and rational choice through flexible methods) and acceptance(diversity recognition, meaning shift based on reflective thinking and accept the status quo).

Conclusion(s): The negative capability was defined as ability to submission oneself and pursue problem-solving through rational thinking and acceptance from an objective perspective in situations of uncertainty in the clinical field, including relationships between patients and colleagues and other occupations. Tool for measuring negative capability of nurses and effective programs for enhancing wise clinical judgement, intuitive decision-making, and flexible leadership should be developed in future studies.

Keywords: Concept analysis, Negative capability, Uncertainty

P-106

Reconsidering Control Ability: Emphasizing the Vulnerability of People with Mental Illness

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Aim: Patient empowerment is crucial for healthcare providers, such as nurses. However, empowerment programs sometimes lead to victim-blaming. If an individual cannot change their behavior, they tend to be regarded as lazy. Such blaming may lead to mental health problems. Nursing practices must have other perspective that is different from fostering empowerment and behavioral change. This study considered an alternative way of thinking beyond empowerment.

Methods: Fieldwork included observations and informal interviews was conducted focusing on performance activities done by people with mental illness. The data were analyzed by comparing the empowerment approach using discourse analysis.

Results: People with mental illness emphasized their vulnerabilities instead of their strengths. They expressed their experiences, including that generally considered as accompanying shame. Through talking or poetry reading, patients voiced their failures, lack of business success, and hospitalization experience at the performance event. One performer said the way they expressed their vulnerability became therapeutic for both performer and audience.
The performance activity showed the importance of the patient's vulnerability or lack of ability. Healthcare providers tend to assume that if they provide sufficient care, patients may learn to control their behavior. However, the performance activities in which patients emphasized their vulnerability revealed the importance of their lack of ability. Awareness and expression of lack of ability facilitate raising a healthy state of mind and enhancing health. Therefore, from the viewpoint of recovery, healthcare providers should place greater value on vulnerability.

Conclusion: Although paradoxical, it may be valuable for healthcare providers to treat vulnerability as a strength. Nurses' care must lead patients toward empowerment. Furthermore, nurses should cognize the importance of including vulnerability and uncontrollability in recovery.

Keywords: Control, Vulnerability, Empowerment, Mental Health

P-107

Structure of nursing practice ability of nurses caring for patients with rheumatoid arthritis treated with biologic

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Aims: This study aimed to clarify the structure of nursing practice ability of the nurses caring for patients with rheumatoid arthritis treated with biologic.

Methods: A questionnaire containing 19 items was administered to assess the personal attributes and nursing practice abilities for biologic (a treatment for patients with rheumatoid arthritis). The data of 960 Certified Nurse by Japan Rheumatism Foundation were statistically analyzed. Factors related to nursing practice ability for self-injection were extracted through exploratory factor analysis. The construct validity was verified through confirmatory factor analysis.

Results: The data of 466 certified nurses (48.8%) were collected, of which 403 (42.2%) were valid. The average age was 47.34±8.03 years old, and more than 70% were veteran nurses with over 20 years of experience. The exploratory factor analysis revealed that nursing practice ability included 9 items, with the following two factors: "nursing practice in which patients actively participate in the treatment" and "nursing practice in which team medical care is promoted." The Cronbach's α was 0.887. The goodness-of-fit model converged at GFI = .933, AGFI = .884, CFI = .946, RMSEA = .098, (=.000***), which showed the statistical acceptability of the model fitness with a moderate explanatory power. The path coefficient between each factor was 0.64, and that between the subordinate items were in the range of 0.56 to 0.88.

Conclusions: Thus, this study showed that the structure of nursing practice ability questionnaire had good reliability and validity. It can be concluded that the participants of this study are accumulating nursing practice ability.

Keywords: biologic, Certified Nurse by Japan Rheumatism Foundation, rheumatoid arthritis,

P-108

Experience of living donors' decision making in liver Transplantation: A Qualitative Meta-Synthesis

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Aim: Living-donor liver transplantation is an alternate option to treat irreversible liver failure. With growing demands for living donor liver transplantation, assuring adequacy of the informed consent process is important. Studies have reported concerns toward informed consent experience of living liver donors. This review is to explore informed consent and decision-making experience of adult living liver donors.

Methods: A systematic review of qualitative studies was conducted. Noblit and Hare's meta-ethnography process was used. Five databases (Pubmed, Embase, Web of Science, CINAHL, PsycINFO) were searched to retrieve studies published between 1990 and 2020 that explored decision making experience of adult living liver donors. For analysis, we used three elements of informed consent by Beauchamp and Childress (2009) as a framework, which consists of threshold, information and consent.

Results: Ten qualitative studies were included for the synthesis. Studies took place in varying regions of the world including Europe, United States, Asia. A total of 172 living liver donors participated in the studies reviewed. Three themes were identified: "Varying degree of voluntariness," " Selective information processing," and "Mixed emotions."

Conclusions: Despite the importance of assuring valid informed consent process among living liver donors, the topic has not been receiving enough attention. This review provides understanding of living liver donors' experience of informed consent and decision making. The findings can help clinicians and researchers in development and implementation of new approaches to optimize supports to living liver donors' informed decision making.

Keywords: Decision making, Informed consent, Living donors, Transplantation

P-109

The effect of self-efficacy for increasing fruit and vegetables consumption among male firefighters

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Self-efficacy is the key strategy to change health behaviors such as eating behaviors on fruit and vegetables intakes. However, limited studies explore the effect of self-efficacy in fruit and vegetables intake, especially for male firefighters.

Aim: This study aims to investigate the effect of self-efficacy in the consumption of fruit and vegetables among male firefighters.

Methods: The convenience and snowball sampling methods were used to recruit male firefighters from September 2018 to May 2019. Written consent and questionnaire were completed for 48 firefighters to participate in the study at baseline (T0). Randomization was performed by an independent staff member, who was not involved in any other procedure in this study. Twenty-three firefighters from 17 fire stations were allocated to the intervention group (printed pamphlet and teaching materials through WhatsApp) while 25 from six fire stations were allocated to the control group (printed pamphlet).

Results: The eating self-efficacy was evaluated by using self-report questionnaire at baseline, 3 and 6 months after the intervention. Test results with $p < 0.05$ were considered as statistically significant. A total of 45 participants completed this study. Three of them withdrew from the study due to personal issues. Self-efficacy on fruit consumption was significantly improved in both groups, while self-efficacy on vegetables consumption was only found in the control group.

Conclusions: Results showed that more work is required to improve the self-efficacy on vegetables consumption. In general, the preparation of fruit might be easier than that of vegetables. Chinese prefer cooked vegetables instead of raw ones, like salad. As a result, the preparation of vegetables might impede firefighters' self-efficacy. Further research is required to explore the factors affecting firefighters' self-efficacy on vegetables consumption, and the corresponding improvement strategies.

Keywords: fruit and vegetables consumption; health promotion; firefighters; self-efficacy

P-110

Effects of Participatory Action Research on Reducing Risk of Metabolic Syndrome with Adult Women in Korea

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Aim(s): Metabolic syndrome (MetS) is characterized by the clustering of three or more metabolic risk factors. The prevalence of MetS is increasing, not only in the urbanized world but also in developing countries. The purpose of this study was to evaluate the effects of participatory action research (PAR) on reducing metabolic syndrome risk factors among adult women living in communities in Korea. The PAR program investigated the education needs and program operation preferences of adult women participating in the health promotion program at a community health center.

Method(s): To test the effectiveness of PAR intervention for adult women with MetS risk factors, the nonequivalent pretest-posttest control group design was used to verify the effects on empowerment, social support, and health-related quality of life, and the one-group pretest-posttest design was employed to verify the effects on metabolic-related indices. For participant recruitment, local residents participating in the health promotion program were set as the accessible population. Among the selected candidates, 60 women who agreed to actively participate in PAR intervention were enrolled into the experimental group, and 60 were enrolled in the control group. The adult women in the experimental group participated in a 5-week program involving weekly group sessions, and four-step PAR cycle was applied to each of the five topics derived from the preliminary interviews with participants. Outcomes were measured using self-reported questionnaires, and blood analyses. The intervention effects were analyzed using ANCOVA and paired t-test.

Result(s): The experimental group showed significantly improvements in empowerment (individual F=9.75, p=.002, $\eta p2$=.08; community F=53.55, p<.001, $\eta p2$=.32), social support (F=5.68, p=.019, $\eta p2$=.33), and health-related quality of life (F=7.35, p=.008, $\eta p2$=.06) compared to the control group. Regarding metabolic-related indices, compared to the pre-test, the experimental group showed significant improvements in six out of eight metabolic-related indices, that is, waist circumference(t=7.02, p<.001), fasting blood glucose(t=2.57, p=.013), systolic blood pressure(t=3.27, p=.002), diastolic blood pressure(t=3.43, p=.001), total cholesterol(t=2.40, p=.020), and BMI(t=4.50, p<.001), after participation in the PAR program.

Conclusion(s): As a result of applying the PAR, the experimental group's empowerment, social support, and health-related quality of life increased significantly compared to those of the control group. Furthermore, the metabolic indices of the experimental group improved significantly in the post-test as compared to the pre-test. Therefore, it is suggested to verify the long-term effects of PAR by applying a randomized control and longitudinal study design.

Keywords: participatory action research, health-related quality of life, empowerment, metabolic-related indices

P-111

The Effect of Teaching Behavior on the New Graduate Nurses' Intention to Stay: The Mediating Effect of Resilience and Organizational Socialization

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Aim: The study was conducted to identify the effects of the preceptor's teaching behavior, resilience, and organizational socialization on intention to stay of new graduate nurses.

Methods: The research model was designed on the basis of PROCESS Macro Model 6 proposed by Hayes (2013). In order to achieve the study purpose, data collected from 167 new graduate nurses, working at a university hospital from three months to one year. The collected data was analyzed using SPSS 24.0, PROCESS Macro ver. 3.5 program.

Results: The mean score for preceptor's teaching behavior perceived by new graduate nurses is 3.84±0.74 points out of 5. Intention to stay was 5.16±1.67 points out of 8. Preceptor's teaching behavior, resilience, and organizational socialization, and intention to stay had strong correlations with each other (p<.001). Preceptor's teaching behavior had a direct effect on resilience (B = .278) and intention to stay (B = .358). However, there was no evidence for preceptor's teaching behavior on organizational socialization (B = .026). Resilience had a direct effect on organizational socialization and intention to stay. There was a simple mediation effect of resilience between preceptor's teaching behavior and intention to stay. In addition, resilience and organizational socialization were determined as significant mediators between preceptor's teaching behavior and intention to stay.

Conclusion: These results suggested that preceptor's teaching behavior is a major factor in increasing the intention to stay through successful organizational socialization by improving resilience to overcome the reality shock of new graduate nurses. Therefore, medical institutions and nursing managers must establish effective preceptor programs or transition programs for new graduate nurses.

Keywords: Nurses, Preceptorship, Resilience, Socializations

P-112

Evaluating the Effect of Factors Influencing Turnover Intention among South Korean Hospital Nurses: A Systematic Review and Meta-analysis

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Aims: The study aims to derive the factors influencing turnover intention among Korean hospital nurses and to contribute to the establishment of strategies to prevent nurse turnover.

Methods: This study was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) flow chart. In total, 110 papers were selected for the final analysis from January 1, 2000 to April 30, 2020. The measured turnover intention in South Korean hospital nurses using Lawler's scale were analyzed to investigate the relationship between turnover intention and its influencing factors. The meta-analysis software package, R program, was used to examine the correlational effect sizes of the influencing factors.

Results: In total, 110 papers were included, which involved 26,990 nurses. The total mean score for turnover intention in Korean hospital nurses was 3.29 (95% CI: 3.16-3.44) out of 5 points. The influencing factors of turnover intention were divided into facilitating and inhibiting factors, and then correlation effect sizes were calculated. The main facilitating factors of turnover intention among nurses included fatigue (.537), burnout (.512), role conflict (.449), job stress (.448), emotional labor (.390), violence (.391), work-family conflict (.389), bullying (.319), and parenting stress (.252); all showed a medium or high effect size. The main inhibiting factors of turnover intention among nurses with a medium or high effect size included commitment (-.618), job satisfaction (-.545), job embeddedness (-.523), job involvement (-.505), professional self-concept (-.474), resilience (-.401), work environment (-.422), organizational culture (-.334), social support (-.334), and professionalism (-.305).

Conclusion: Medical institutions and nursing organizations should establish comprehensive strategies and provide multifaceted support to prevent Korean hospital nurses' turnover, focusing on the factors influencing turnover intention with large effect sizes.

Keywords: hospital nurses, influencing factors, meta-analysis, turnover

P-113

Longitudinal Analysis of Influencing Factors of Smartphone Addiction in School-Aged Children

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Aim(s): Smartphone usage time and the risk group for smartphone addiction rapidly increase, as the low grade level of elementary school students become the high grade level. The purpose of this study is to longitudinally investigate smartphone addiction in school-age children and to comprehensively understand the effects of variability and diversity in child development on smartphone addiction.

Method(s): This study used secondary data from the 10th to 11th waves of the Panel Study on Korean Children (PSKC). For data analysis, STATA/BE 17 was used to analyze the panel logit model. Among the 1,286 children aged 9-10 who responded for smartphone addiction, 342 participants who answered all questions by parents, child, and school teacher were selected as subjects of this study.

Result(s): The risk group for children's smartphone addiction showed a trend of increasing from 126 in 2017 to 149 in 2018. Factors influencing smartphone addiction include mother's authoritative parenting behavior (OR=0.13, 95% CI: 0.04-0.39), permissive parenting behavior (OR=6.68, 95% CI: 1.89-23.56), externalizing problems of child (OR=3.14, 95% CI: 1.25-7.87), peer attachment; communication (OR=0.42, 95% CI: 0.20-0.89) and parental supervision (OR=0.41, 95% CI: 0.19-0.87).

Conclusion(s): In this study, it was found that factors related to parents, children's characteristics, and peers have a complex effect on children's smartphone addiction. In order to reduce children's smartphone addiction, it is necessary to avoid permissive parenting behaviors, and to increase the monitoring level of children. In addition, parents should reinforce the authoritative parenting behavior based on warmth/reasoning/democratic participation. It also suggests that interventions focused on strengthening peer communication and prevention of externalizing problems in children should be performed.

Keywords: Behavior, Addictive; Child; Smartphone

P-114

Effects of Abstinence Self-efficacy and Social Support on Risk of Relapse among Clients with Alcohol Use Disorder

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Aims: The purpose of this study was to investigate the factors influencing risk of relapse among clients with alcohol use disorder.

Method: A cross-sectional descriptive study design was used. The participants were 121 clients with alcohol use disorder who were receiving outpatient treatment at an alcohol treatment hospital or participating in a treatment program at the Community Addition Management Center in Gyeonggi Province, South Korea. Data were collected from July to August, 2020, using self-administered questionnaires. The survey questionnaires were included general characteristics, Advance Warning of Relapse, Abstinence Self-efficacy Scale, and Social Support Scale. Data were analyzed by descriptive statistics, independent t-test, one-way ANOVA, Pearson's correlation coefficient, and regression analysis using SPSS 25.0.

Results: The mean scores of risk of relapse, abstinence self-efficacy, and social support were 4.35 (±1.29), 1.54 (± 0.88), and 2.39 (±0.82), respectively. The results showed that risk of relapse was negatively correlated with abstinence self-efficacy (r = −.67, p = <.001) and social support (r = −.62, p = <.001). In addition, it was found that risk of relapse differed by family history of alcoholics, amount of alcohol drinking, and gender. Finally, abstinence self-efficacy, social support, family history of alcoholics (have), amount of drinking (≥ 3 bottle/soju), and gender(female) were significant predictors of risk of relapse and explained for 61.5% of the variance in risk of relapse.

Conclusions: The findings of this study indicate intervention focusing on enhancing abstinence self-efficacy and social support could help prevent relapse and maintain the sobriety among clients with alcohol use disorder.

Key words: abstinence self-efficacy, alcohol use disorder, risk of relapse, social support,

P-115

Factors Associated with Medication Adherence among the Elderly in the Community

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Aim(s): This study is a descriptive investigation study to identify the impact factors of the subjective health status, communication with medical personnel and drug misuse on medication adherence.

Method(s): The subjects of this study were 179 senior citizens who used community elderly welfare centers. Data were collected from January 13, 2020 to January 17, 2020. If there was difficulty in completing the questionnaire due to difficulty in understanding or accompanied by decreased visual acuity, the researcher read and wrote the questionnaire. Data analysis was performed using frequency, percentage, mean, standard deviation, t-test, ANOVA, Scheffe test, Pearson's correlation coefficients and multiple regression analysis.

Result(s): The regression equation of this study explained 24% of medication adherence. Drug misuse(β =-4.32, p=<.001) was the factor that had the greatest influence on the medication adherence, followed by the presence or absence of chronic disease (β=-3.04, p=.003), marital status (β=2.64, p=.009), and communication with medical personnel (β=2.26, p=.025) in that order.

Conclusion(s): There was a positive correlation between medication adherence and communication with medical staff. There was a negative correlation between drug misuse and communication with a medical staff. There was a negative correlation between medication adherence and drug misuse.The factors that had the most influence on the medication adherence were drug misuse, presence of chronic disease, marital status, and communication with medical staff in that order. It is significant in that it is presented as a basic data for providing programs that can reduce drug misuse for the elderly and increase medication adherence by improving communication with medical staff. A program is required to promote the medication adherence among the elderly welfare center in the local community.

Keywords: drug misuse; elderly; medication adherence

P-117

Mediating Effects of Depressive Feelings on the Relationship between COVID-19 Stress and College Life Adjustment in Nursing Students

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Aim(s): The purpose of this study was to identify the mediating effects of depressive feelings on the relationship between COVID-19 stress and college life adjustment in nursing students.

Method(s): A total of 116 nursing students participated in the study. Data were analyzed by descriptive analysis, t-test, one-way ANOVA, Pearson correlation coefficient and a three-step regression analysis using Baron and Kenny's method for mediation with the SPSS/WIN 23.0 program.

Result(s): The mean scores for COVID-19 stress, depressive feelings, and college life adjustment were 3.28±0.89 (1~5), 1.72±0.50 (1~4), and 3.62±0.62 (1~5), respectively. There were positively correlations between COVID-19 stress and depressive feelings (r= .34, p<.001). College life adjustment negatively correlated with COVID-19 stress (r= −.20, p=.034) and depressive feelings (r= −.53, p<.001). Depressive feelings was found to completely mediate the relationship between COVID-19 stress and college life adjustment in nursing students (Z= −3.23, p=.001).

Conclusion(s): To improve college life adjustment among nursing students, it is necessary to decrease their depressive feelings. This study will provide fundamental information on programming and a policy proposal related to college life adjustment for nursing students.

Keywords: college life adjustment, COVID-19 stress, depression, nursing students

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Mediating Effects of Nursing Process Competence on the Relationship between Critical Thinking and Clinical Reasoning in Nursing Students

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Aim(s): The purpose of this study was to identify the mediating effects of nursing process competence on the relationship between critical thinking and clinical reasoning in nursing students.

Method(s): A total of 146 nursing students participated in the study. Data were analyzed by descriptive analysis, t-test, Pearson correlation coefficient and a three-step regression analysis using Baron and Kenny's method for mediation with the SPSS/WIN 23.0 program.

Result(s): The mean scores for critical thinking, nursing process competence, and clinical reasoning were 3.69±0.40 (1~5), 3.00±0.76 (1~5), and 3.04±0.72 (1~5), respectively. There were positively correlations between critical thinking and nursing process competence (r= .32, p<.001). Clinical reasoning positively correlated with critical thinking (r= .24, p=.004) and nursing process competence (r= .89, p<.001). Nursing process competence was found to completely mediate the relationship between critical thinking and clinical reasoning in nursing students (Z= 3.96, p<.001).

Conclusion(s): To improve clinical reasoning among nursing students, it is necessary to improve their nursing process competence. This study will provide fundamental information on programming and a policy proposal related to clinical reasoning for nursing students.

Keywords: clinical reasoning, critical thinking, nursing process competence, nursing students

P-119

Effects of Exposure to Endocrine Disruptors and Social Support from Peers on Clinical Practice Stress in Nursing Students with Premenstrual Syndrome

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Aim(s): This study aimed to investigate the effects of exposure to endocrine disruptors and social support from peers on clinical practice stress in nursing students with premenstrual syndrome.

Method(s): This descriptive correlational study was conducted among 101 nursing students with premenstrual syndrome. The participants answered self-report questionnaires. Exposure to endocrine disruptors was measured using a validated tool of endocrine exposure reduction behavior measurement. The data were analyzed using the t-test, Pearson correlation coefficients, and hierarchical multiple regression in IBM SPSS version 23.0.

Result(s): The mean scores for exposure to endocrine disruptors, social support from peers, and clinical practice stress were 2.24 ± 0.36 (1~5), 4.19 ± 0.62 (1~5), and 2.43 ± 0.56 (1~5), respectively. Clinical practice stress positively correlated with exposure to endocrine disruptors ($r= .23$, $p=.022$) and negatively correlated with social support from peers ($r= -.27$, $p=.007$). The explanatory power of the model was 17.9%, and it was statistically significant ($F=8.25$, $p<.001$). Social support from peers ($\beta= -.32$, $p<.001$) was the most powerful variable affecting clinical practice stress, followed by grade ($\beta= .27$, $p=.005$) and exposure to endocrine disruptors ($\beta= .20$, $p=.030$).

Conclusion(s): To reduce clinical practice stress among nursing students with premenstrual syndrome, it is necessary to improve their social support from peers and avoid exposure to endocrine disruptors. This study will provide fundamental information on programming and a policy proposal related to clinical practice stress for nursing students with premenstrual syndrome.

Keywords: clinical practice stress, exposure to endocrine disruptors, premenstrual syndrome, social support from peers

P-122

An Analysis of Infodemics Latent Class on Coronavirus Infections-19 (COVID-19) in Korea

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Aim: This study is a cross-sectional descriptive study that attempts to find ways to manage infodemics for infectious disease by identifying infodemics latent class of Korean adults during the Corona Virus Infectious Disease-19 pandemic.

Method: The study subjects were 210 adults 19 years of age or older working in company with 50 or more employees, centered in Seoul, Gyeonggi, and Gyeongsang-do, where the incidence of Corona Virus Infectious Disease-19 was relatively high.

Result: The latent class of subjects' infodemics was analyzed using LPA(Latent Profile Analysis). The model fit was BIC=3462.34, saBIC=3389.46, LMR<.001, BLRT < .001. Latent class 1 is an "infodemics safety group" with a very low fear of COVID-19 and a high self-efficacy against COVID-19 prevention. In this group, the sharing of false information is low and the sharing of the correct information is high. Latent class 2 is an "infodemics boundary group" that has a high sense of self-efficacy against COVID-19 prevention, but has low degree both correct information and misinformation sharing. Latent class 3 is an "infodemic risk group" that has high fear of COVID-19 and shares both false and correct information, but has a low degree of prevention against COVID-19.

Conclusion: In the early stages of infectious diseases, accurate information sharing is important factor on prevention behavior of infectious diseases. Because information sharing and propagation can vary from individual to individual, it is necessary to explore ways to control information of social dimension during infectious disease pandemic.

Keywords: COVID-19, Fear, Infections, Self efficacy

P-123

Trend Analysis of Mechanical Ventilation Nursing Education Program for Nursing Students

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Aim: This study analyzed simulation education programs related with the intervention of mechanical ventilation published in domestic and international journals to use them as basic data in constructing education programs related to mechanical ventilation nursing for nursing students.

Methods: In this study, 9 databases were utilized for data search. Databased for literature search included PUBMED, Scopus, Proquest, Googlescholar, CINAHL. DBpia, KISS, the National Assembly Library, and Korea Education & Research Information Service. Two nursing professors selected the literature for the purpose of the study among the 29 extracted texts, which was conducted independently. If there is a discrepancy, the two professors discuss the literature together, review it, and then seek opinions from a third professor to find consensus on one data, resulting in a total of 8 literature being selected.

Results: In this study, the final eight selected education programs include six HFS (High Fidelity Simulation) and two web-based multimedia education programs. Checking the composition of the program based on eight literature, it was confirmed that pre-learning about mechanical ventilation or disease was first conducted and then simulation training was provided, and that the programs' learning consisted of the application of mechanical ventilation. Specifically, the learning deal with the main diseases including acute respiratory failure or pneumonia related to mechanical ventilation, and main topic of the learning consists of respiratory mechanism, type of mechanical ventilation, term of mechanical ventilation, weaning of mechanical ventilation, and ABGA reading. The program's composition time varied from 60 to 90 minutes.

Conclusion: Through this study, education programs related to mechanical ventilation for nursing students are operated on a limited basis. Also, as infectious diseases increase rapidly and the need to train intensive care workers increases, more diverse education programs related to mechanical ventilation are needed.

Keywords: Mechanical ventilation, Nursing Student, Simulation

P-124

Students' Sense of Coherence Before and After Basic Nursing Practice at A University

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Aim: Comparing students' sense of coherence before and after they experience Basic Nursing Practices 1 and 2.

Method: Subjects: A total of 210 university students from A University in Japan, consisting of 106 first-year students who experienced Basic Nursing Practice 1 in March and 104 second-year students who experienced Basic Nursing Practice 2 in February.

Survey period: From January to February 2021

Survey contents: The Japanese version of SOC-13 (Yamazaki, 2009) to determine sense of coherence (Antonovsky, 1987/2001) was conducted before and after practical training.

Survey method: Self-administered questionnaires that link pre- and post-training through signs.

Analysis: Conducted descriptive statistics, t-test, and Wilcoxon signed-rank test using SPSS (Ver. 27).

Ethical considerations: This study was approved by the Research Ethics Committee of the researcher's affiliation (No. 488).

Results: 139 (66.2%) responses were deemed valid as they could show connectivity before and after these courses. Sense of coherence was compared by totaling the inclusive sums of comprehensibility, manageability, and meaningfulness before and after the training. The inclusive sums and total of manageability were recognized as normality so that we could analyze them using the t-test. The results revealed that both exhibited significant differences before and after the practical training at P=0.000. The total of comprehensibility and meaningfulness were not recognized as normality, so we conducted the Wilcoxon signed-rank test. The results showed significant difference for both of them at P = 0.000.

Discussion: Compared to the pre-training sense of coherence score, the post-training scores were higher. The practical training led students to be self-aware of improvement in their ability to cope with stress.

Conclusion: Stress coping ability can be increased through practical training.

Key words: Nursing Education, Nursing Practice, Sense of Coherence

P-125

Eucalyptol ameliorates disease activity and colon contractility in rats with ulcerative colitis exposed to chronic stress

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Aims: This study aimed to investigate the differences in disease activity and colon contractility of ulcerative colitis (UC) rats with or without chronic stress (CS), and to identify the beneficial effects of eucalyptol in chronically stressed-UC rats.

Methods: Rats were randomly assigned to the following groups: control, CS, UC, CS+UC, CS+UC+Eucalyptol, and CS+UC+Sulfasalazine. For induction of UC, rats were given 2% dextran sodium sulfate (DSS)-replaced water on days 1-5. On days 6-15, rats were administered free access to tap water. After that, rats were given 2% DSS-replaced water on days 16-20. Rats exposed to CS were immobilized for 2hr/day on days 1-20. Eucalyptol or sulfasalazine was daily treated on days 16-20.

Results: Disease activity index was markedly increased in the CS+UC group. Acetylcholine-induced colon contraction and serum interleukin-6 levels significantly increased in the CS+UC group compared to the control, CS and UC groups. Nitrite levels in the colon tissue were higher in the CS+UC group than in the control and CS groups. Eucalyptol decreased disease activity index in chronically stressed-UC rats. Also, eucalyptol was more effective than sulfasalazine in reducing acetylcholine-induced colon contraction, nitrite levels in the colon tissue and serum interleukin-6 levels to the control levels.

Conclusions: These results indicate that stress management is important in decreasing disease activity and colon contractility in UC. Also, eucalyptol can decrease disease activity by reducing colon contractility and inflammatory responses. This work was supported by a grant from the Basic Science Research Program through the National Research Foundation of Korea (NRF-2018R1D1A1B07050048 & NRF-2021R1A2C2004118). *E-mail for corresponding author: ghseol@korea.ac.kr

Keywords: chronic stress, colon contractility, eucalyptol, ulcerative colitis

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Preventive effect of Lavandula angustifolia Mill oil on muscle wasting in a rheumatoid arthritis rat model of chronic nicotine exposure

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Aim: Comparing students' sense of coherence before and after they experience Basic Nursing Practices 1 and 2.

Method: Subjects: A total of 210 university students from A University in Japan, consisting of 106 first-year students who experienced Basic Nursing Practice 1 in March and 104 second-year students who experienced Basic Nursing Practice 2 in February.

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Survey contents: The Japanese version of SOC-13 (Yamazaki, 2009) to determine sense of coherence (Antonovsky, 1987/2001) was conducted before and after practical training.

Survey method: Self-administered questionnaires that link pre- and post-training through signs.

Analysis: Conducted descriptive statistics, t-test, and Wilcoxon signed-rank test using SPSS (Ver. 27).

Ethical considerations: This study was approved by the Research Ethics Committee of the researcher's affiliation (No. 488).

Results: 139 (66.2%) responses were deemed valid as they could show connectivity before and after these courses. Sense of coherence was compared by totaling the inclusive sums of comprehensibility, manageability, and meaningfulness before and after the training. The inclusive sums and total of manageability were recognized as normality so that we could analyze them using the t-test. The results revealed that both exhibited significant differences before and after the practical training at $P=0.000$. The total of comprehensibility and meaningfulness were not recognized as normality, so we conducted the Wilcoxon signed-rank test. The results showed significant difference for both of them at $P = 0.000$.

Discussion: Compared to the pre-training sense of coherence score, the post-training scores were higher. The practical training led students to be self-aware of improvement in their ability to cope with stress.

Conclusion: Stress coping ability can be increased through practical training.

Key words: Nursing Education, Nursing Practice, Sense of Coherence

P-127

Basic Survey on Menstrual Status and Self-care Behavior of Japanese Women's University Students

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Aim: To investigate the actual conditions of menstruation and self-care behavior of Japanese women's university students and use it as basic data for implementing nursing interventions.

Method: We conducted a web survey based on a questionnaire for all enrolled students in A women's University. Using the university's web system, the survey request text was distributed to all students (5,339 peoples), and responses were obtained voluntarily. At the beginning of the investigation, we asked them to check whether they consented to this investigation, and the submission of the submitted investigation was regarded as consent. This study was approved by the ethical committee of the organization the author belongs to.

Results: Responses were obtained from 1,499 people (valid response rate 28.1%). The average age of the subjects was 19.6 years.
Regarding menstruation, 381 (25.4%) had abnormal cycles, 137 (9.1%) had abnormal menstrual periods, 313 (21.6%) had a large amount of menstrual blood, and 145 had abnormal bleeding. (10.0%), 411 people (28.4%) had problems with their daily lives.
Lower abdominal pain was the most common physical symptom during menstruation in 1070 (71.3%), drowsiness in 695 (46.3%), low back pain in 692 (46.1%), rough skin in 654 (43.6%), and appetite change in 637(42.5%). There were 101 patients (6.7%) without symptoms. Mental symptoms were such as frustrated 757 (50.5%) and 631 (42.1%) were depressed. The most common way to deal with menstruation was to lie down or take a rest with 798 (53.2%) and 399 (26.6%) were doing nothing.

Conclusion: Those with menstrual disorders and those with menstrual symptoms that interfere with daily life are present in more than a quarter and it suggest the need for educational intervention in knowledge and care methods that they can care to be themselves.

Keywords: menstrual symptoms, self-care behavior for menstruation

P-128

Effects of Premenstrual Syndrome, Stress, and Social Support on Health related Quality of Life in College Women

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Aim(s): This study aimed to investigate the effects of premenstrual syndrome, stress, and social support on health related quality of life in college women.

Method(s): This descriptive correlational study was conducted among 103 college women. The participants answered self-report questionnaires. The data were analyzed using the t-test, Pearson correlation coefficients, and hierarchical multiple regression in IBM SPSS version 23.0.

Result(s): The mean scores for premenstrual syndrome, stress, social support, and health related quality of life were 2.99±0.58 (1~5), 5.48±1.94 (0~10), 4.18±0.62 (1~5) and 3.71±0.52 (1~5), respectively. There were negatively correlations between health related quality of life and premenstrual syndrome ($r= -.37$, $p<.001$), and stress ($r= -.47$, $p<.001$). Health related quality of life positively correlated with social support ($r= .22$, $p=.025$). The explanatory power of the model was 29.4%, and it was statistically significant ($F=9.48$, $p<.001$). Stress ($\beta= -.37$, $p<.001$) was the most powerful variable affecting health related quality of life, followed by premenstrual syndrome ($\beta= -.25$, $p=.005$).

Conclusion(s): To improve health related quality of life among college women, it is necessary to decrease their stress and the symptoms of premenstrual syndrome. This study will provide fundamental information on programming and a policy proposal related to health related quality of life for college women.

Keywords: Health related quality of life, Premenstrual syndrome, Social support, Stress

P-129

The Omaha System in home care nursing: a systematic review of the recent literature

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Aim(s): The Omaha system can comprehensively assess and measure the various needs in the community. The Omaha system can integrally assess and diagnose the various needs of the environment, psychosocial, physiological, and health behaviors of the client. To identify, describe and evaluate the publications on Omaha System in home care nursing between 2011 and 2021, to identify major trends in the use of the Omaha System in home care nursing at research, practice, and education, and to suggest areas for future research.

Method(s): A literature search was performed using PubMed, Science Direct, CINAHL, Embase, and Cochrane. We included articles published from the inception of each of the databases up to 30 June 2021. To find relevant publications, the keyword Omaha system, home care, visiting nursing, community nursing were used. A total of 332 results were reviewed according to the inclusion and exclusion criteria, and 48 literature were selected. The articles were classified to five categories according to the article's purpose: (1) analyze client problems; (2) analyze clinical process; (3) analyze clinical outcomes; (4) advance classification research; and (5) other.

Result(s): 48 publication on the Omaha System in home care nursing were identified and analyzed. 6 literature were focused on analyze client problems (12%). 6 literature were focused on analyze clinical process (12%). 13 literature were categorized analyze clinical outcomes (27%). 10 literature were categorized advance classification research (21%). 13 literature were categorized others (13%). During this period, publication has shifted the focus from analyze clinical process to analyze clinical outcomes.

Conclusion(s): The Omaha System in visiting nursing is the tool to provide and meaningful and high quality information. It is also highly utilized as a community-oriented home care service development model. Further research on Omaha System in home care nursing should focus on assessing the various needs of community and to measure the effectiveness of various visiting nursing service contents.

Keywords: Omaha system, systematic review, home care, Community care

P-130

A systematic review of factors influencing e-cigarette use among adolescents and young adults

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Aim(s): The use of e-cigarettes has increased considerably among young people. In order to successfully develop interventions to prevention for e-cigarette use, factors that influence e-cigarette use to be identified and fully understood. This review aimed to determine individual, interpersonal, institutional, community, and policy-related factors affecting e-cigarette use among adolescents and young adults.

Method(s): A search of the literature was performed using five electronic databases (PubMed, CINAHL, EMBASE, Cochrane, and PsycInfo) for articles published in the English language to April 2021. A total of 141 studies were selected out of 5444 for the systematic review based on the PRISMA flow. The full protocol is available from PROSPERO (CRD42021254558).

Result(s): Factors related to e-cigarette use were identified and classified into five domains based on the social-ecological model. Individual factors were gender, age, race, school grade, weekly allowance, perception, tendency, smoking status, alcohol use, substance use, psychological problems, and physical activity, and interpersonal factors were friend smoking, friend e-cigarette use, peer substance use, parental smoking, parental educational level, family smoking, family e-cigarette use, secondhand smoking at home, parental monitoring, and socioeconomic status. Institutional factors were smoking prevention program, school acceptance of e-cigarettes, and e-cigarette retailer density around schools, and community factors were marketing, media, internet store, local store, societal acceptability, urban, easy to buy. Lastly, policy factors were found to be characteristics of e-cigarettes (eg. flavor), price, and regulation.

Conclusion(s): Findings indicate that multi-dimensional factors influence e-cigarette use among adolescents and young adults. In particular, as it has been confirmed that the characteristics of the e-cigarette itself, which differ from other problem behaviors. Therefore, an approach that considers these factors is required for developing effective interventions for the prevention of e-cigarette usage.

Keywords: Adolescents, Electronic Nicotine Delivery Systems, Systematic Review

P-131

Associations between Internet Addiction and Fear of COVID-19 and Depression in Korean Adults

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Aim: The study was aimed to investigate the associations between Internet addiction and psychological distress, including the fear of Coronavirus Disease 2019 (COVID-19) and depression, in Korean adults during the COVID-19 pandemic.

Methods: A population-based cross-sectional online survey was conducted from 14th to 18th May 2021. Potential adult survey respondents aged 20 years or older were randomly extracted from one of the largest online survey panels in Korea, matching Korean national demographical proportions (i.e., region, gender, and age). The participants were 1,155 adults. Descriptive and logistic regression analyses were performed to investigate the respondents' characteristics and analyze the adjusted odds ratios (aORs) respectively.

Results: 11.17%, 15.15% and 37.23% of the Korean adults had a risk of Internet addiction, fear of COVID-19, and depression respectively. Internet addiction was positively associated with fear of COVID-19 (aOR=3.22, 95% CI [2.08, 4.98]) and depressive symptoms (aOR=6.27, 95% CI [4.08, 9.63]).

Conclusions: Addictive use of the Internet was significantly associated with psychological distress during COVID-19 pandemic. Development of public health strategies that mitigate addictive Internet use and increase eHealth literacy would be useful to secure the public's psychological well-being.

Keywords: Coronavirus Disease 2019, Internet Addiction, Fear, Depression.

P-132

A Study on the Relationship between Internal Health Locus of Control, Mental Health Problems and Subjective Well-Being under the COVID-19 Era

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Aim: The purpose of this study is to determine whether internal health locus of control, mental health problems and subjective well-being in the adults amid rapid increase in Coronavirus Disease 2019 (COVID-19) confirmed person. In addition, we examined the mediating effect of mental health problems on the relationship between internal health locus of control and subjective well-being.

Methods: A cross-sectional descriptive design was conducted, using questionnaire for data collection and convenience sampling. The participants were 250 adults over 20 years of age living in Seoul/Gyeonggi, where there were many confirmed cases of COVID-19 in South Korea. Data were collected using an online survey in September 2020. The collected data were analyzed using hierarchical regression analysis and SPSS Process Macro (Model 4).

Results: As a result of the study, internal health locus of control had a significant effect on mental health problems. In addition, in the process of the internal health locus of control affecting subjective well-being, the mediating effect of mental health problems was significantly shown.

Conclusions: In the period of an infectious disease pandemic such as COVID-19, it is necessary to establish a strong internal health locus of control of individuals. In addition, it was discussed that controlling mental health problems can improve subjective well-being, which is life satisfaction and happiness.

Keywords: Coronavirus Disease 2019, Internal-External Control, Mental health, Well-being.

P-133

Factors affecting Aging Anxiety of Middle-aged Men in Rural areas

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Aim(s): The aim of this study was to identify factors affecting aging anxiety of middle-aged men in rural areas.

Method(s): A descriptive correlation study was conducted. The participants were 157 aged 45 and Older from G province. Collected data were analyzed by descriptive statistics, t-test, one-way ANOVA, scheffe test, Pearson's correlation coefficient and multiple regression analysis with SPSS statistics 26.0 program.

Result(s): Perceived COVID19 distress (β=.35, p<.001) and burden of family caregiving (β=.46, p<.001) were significant factors affecting aging anxiety. These variables explained 64.8% of the variance of aging anxiety.

Conclusion(s): The findings indicate that the COVID distress and burden of family caregiving strongly influence the aging anxiety of middle-aged men. Therefore, to reduce the aging anxiety and to reach a healthy old age, it is needed to provide a program to improve recognition of family caregiving and supportive policies for overcoming COVID distress in middle-aged men.

Keywords: Aging , Anxiety, Men , Middle aged

P-134

Attitude, Facilitators, and Barriers
to Recovery of a Forensic Hospital Nurses

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Aim(s): The aim of this study was to identify forensic hospital nurses' attitude, perceived facilitators and barriers to the recovery of offenders with mental illness.

Method(s): A descriptive study design was used. The participants were 99 nurses working in a national forensic hospital from South Korea. The collected data was analyzed by descriptive statistics, independent t-test, one-way ANOVA, scheffe-test using SPSS 26.0 WIN program. Also, facilitators and barriers to recovery were presented in themes, categories and frequencies from participants' responses.

Result(s): The attitude factor of "Recovery is possible and needs faith" showed significant differences in certification of addiction nurses (t=2.13, p=.036), numbers of certification (F=2.87, p=.041). The attitude factor of "Recovery is difficult and differs among people" showed significant differences in gender (t=2.05, p=.043), careers (F=2.68, p=.045), and education level (F=4.85, p=.010). The facilitators to recovery that nurses perceived were "family support", "compliance to medication", "participating in psychiatric rehabilitation program". The barriers to recovery that nurses perceived were "lack of family support", "non-therapeutic settings", and "lack of insight".

Conclusion(s): Korean forensic hospital nurses had a positive attitude to recovery, and perceived the family support as a significant factor on the recovery of patients with mental illness. It is necessary to provide education program to improve nurses' attitudes to patients' recovery. Also, organizational efforts for establishing family support systems and therapeutic environments are needed to recover patients of a forensic hospital.

Keywords: Attitude, Barrier, Facilitator, Forensic nursing, Recovery

P-135

Factors Affecting Developing Partnership Between Pediatric Nurses and Parents of hospitalized children: Focused on Stress-coping-adaptation model

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Aim(s): We aimed to identify factors affecting pediatric nurses developing partnership with parents of hospitalized children based on Lazarus and Folkman's stress-coping-adaptation model.

Method(s): This study is a cross-sectional research study to identify the factors affecting pediatric nurses' developing partnership with parents of hospitalized children. The participants were 209 pediatric nurses(both icu and wards) who had pediatric clinical experiences more than 1 years in South Korea. The data were collected using online based self-report questionnaires that contained items on nurse and parents partnership, job stress, positive psychological capital, nursing professionalism and coping scale. The data were analyzed using descriptive statistics, pearson's correlation coefficients, and enter multiple regression analysis with the SPSS 26.0 program

Result(s): The pediatric nurses' developing partnership with parents of hospitalized children averaged 3.91 ±0.51 on the 5-point scale, and the partnership according to the general characteristics of the participants showed a significant difference in age (F=7.63, ρ<.001), working period in pediatric unit(F=8.77, p<.001). The most influential factors on the participants' developing partnership with parents were coping (β=.30 p<.001), job stress(β=.23, p<.001) and positive psychological capital(β=.19, p=021). The explanatory power of the model was 43.7% (F=28.92, p<.001).

Conclusion(s): The results of this study may provide a foundation to develop an efficient intervention program to improve partnership competency of pediatric nurses. Strategies to reduce job stress and improve coping ability and positive psychological capital of pediatric nurses will be helpful for enhancing the partnership with parents of children in the pediatric field.

Key words: Coping, Nurse, Parents, Partnership

P-136

Influences of Nursing Workplace Spirituality, Organizational Citizenship Behavior, and Perception of Patient Safety Management on the Patient Safety Nursing Activities among a Tertiary Hospital Nurses

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Aim(s): The purpose of this study was to examine the influences of nursing workplace spirituality, organizational citizenship behavior, and perception of patient safety management on their patient safety nursing activities of a tertiary hospital nurses.

Method(s): The subjects were 136 nurses who worked for more than a year of clinical experience and currently working in tertiary hospitals in D city. Data was collected from October 2 to October 13, 2020 using self-report questionnaires including nursing workplace spirituality, organizational citizenship behavior, perception of patient safety management, and patient safety nursing activities. Data was analyzed by IBM SPSS 25.0 program.

Result(s): There was statistically significant correlation among nursing workplace spirituality, organizational citizenship, perception of patient safety management, and patient safety nursing activities. The most significant predictor that affected nurses' patient safety nursing activities was their perception of patient safety management. This model had a 42% explanation of patient safety nursing activities.

Conclusion(s): In order to improve the patient safety nursing activities of nurses, an organizational approach to enhancing perception of patient safety management and application of patient safety education programs are required.

Keywords: Nurses, Patient Safety, Spirituality, Workplace

P-137

Predictive Model for Nursing Performance of Nurses in General Hospitals; Focused on Affective Events

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Aim(s): Nursing performance affects the productivity of hospital and the quality of nursing services. The aim of this study is to verify the relationships of factors affecting nursing performance of general hospital nurses based on affective events theory.

Method(s): The correlational research was conducted with 275 Korean registered nurses from general hospitals located in three cities in Korea. The participants completed a structured self-report questionnaire comprising measures of emotional labor, positive work events, positive affectivity, job satisfaction, and nursing performance based on Affective Events Theory. Data was collected for a month from May 27, 2021 via on-line survey. Collected data analyzed was using SPSS statistics 26.0 and AMOS 26.0.

Result(s): The variables affecting job satisfaction included direct effect of positive work events (β=.65, p<.001), and direct effect of positive affectivity (β=.10, p=.038). Job satisfaction (β=.47, p<.001) had statistically significant direct effects on nursing performance. Positive work events (β=.32, p=.003) and positive affectivity (β=.05, p=.039) had statistically significant indirect effects on nursing performance. These variables explained for 22.2% of nursing performance. However, emotional labor had no significant effect on job satisfaction and nursing performance.

Conclusion(s): The results indicate that positive work events and positive affectivity result in high degree of job satisfaction. Job satisfaction would increase the level of nursing performance. Therefore, in order to improve nursing performance, it is necessary to create an environment where nurses can maintain positive emotions through positive nursing experiences.

Keywords: Affective Events Theory, Job satisfaction, Nursing performance, Path analysis

P-138

A longitudinal study on affecting factors self-esteem of multicultural adolescent

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Aim(s): This study was conducted to identify changes in self-esteem of multi-cultural adolescents over time. This study is essential to provide knowledge for development of self-esteem promoting program for multi-cultural adolescents.

Method(s): This study used secondary data analysis using data obtained from Multicultural Adolescents Panel Study (MAPS). Linear mixed models were conducted to analyze changes of self-esteem overtime. Proper descriptive analysis was used to explain characteristics of sample. To identify the changes of self-esteem overtime, one-way ANOVA was conducted.

Result(s): From the results of this study, it was found that the self-esteem of multi-cultural adolescents increases overtime in general. Specifically, the self-esteem of female students decreased by 0.04 significantly comparing male overtime. As maternal Korean writing competence increased by 1.0, self-esteem was decreased significantly by 0.015. In addition, those who have mothers from Filipino or Japanese, self-esteem was increased by 1.0 and 0.031, respectively. However, there is no significant relationship between self-esteem and physical satisfaction, self-esteem and parenting attitude.

Conclusion(s): From the results, it can be concluded that it is necessary to develop programs that reflects factors affecting self-esteem, such as multicultural female adolescents and adolescent with Filipino or Japanese mothers

Keywords: Linear mixed model, MAPS, multicultural adolescents, self-esteem.

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Healthy Life of Korean Patients with Chronic Kidney Failure Undergoing Hemodialysis: A Situation-specific Nursing Theory

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Aim(s): Chronic kidney failure (CKF) patients have to reorganize their lives around their hemodialysis sessions for their survival. Nursing interventions based on specific theories may promote their health-related behaviors and outcomes. However, few theoretical frameworks or theories are available to guide hemodialysis patients on how to construct their lives under various constraints, while considering their experiences and sociocultural contexts. The purpose of this study was to present a situation-specific theory explaining the healthy life of Korean patients with chronic kidney failure undergoing hemodialysis.

Method(s): This study developed a theory based on the integrated approach of Im (2005). The integrated approach includes five steps that could be cyclic: (a) Checking assumptions for theorization; (b) Initiating theorization through multiple sources; (c) Reasoning through critical analyses; (d) Documenting theorization; (e) Reporting and sharing theorization. Reasoning through critical analysis and theorizing was conducted to conceptualize the major concepts and to identify the relationships among concepts.

Result(s): The major concepts in the proposed theory include sociocultural context, social networks, individual-level factors, illness experiences, health-related behaviors, and health outcomes. Each major concept includes several relevant subconcepts. A situation-specific theory explains the associations of multiple factors in the healthy lives of Korean CKF patients undergoing hemodialysis within the unique sociocultural context of Korea.

Conclusion(s): Nurse and other healthcare professionals could integrate the proposed situation-specific theory into the development of nursing interventions based on this theory to promote health-related behaviors and outcomes of Korean CKF patients undergoing hemodialysis. For these patients, networks of individuals, families, communities, and professionals are essential to promote their healthy lives, not just to keep them alive.

Keywords: Hemodialysis; Chronic kidney failure; Healthy lifestyle; Nursing theory

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Effect of Nurses' Knowledge and Perceived Patient Safety Culture on Performance of Central Line-Associated Bloodstream Infection Prevention

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Aims: The purposes of this study are to identify nurses' knowledge of central line-associated bloodstream infection (CLABSI) guidelines and perceived patient safety culture; and to identify the effect of knowledge and perceived patient safety culture on nursing performance preventing CLABSI.

Methods: We used a nonexperimental, cross-sectional, descriptive design. The participants were 126 nurses working in a tertiary teaching hospital in Seoul, Korea. Knowledge of CLABSI guidelines, perceived patient safety culture, and performance of CLABSI prevention were measured using questionnaires. Data were analyzed by hierarchical multiple regression using SPSS.

Results: Knowledge of CLABSI guidelines, perceived patient safety culture, and covariates including years of nursing career and education on central line accounted for 42% of the variance in CLABSI prevention performance (F= 9.225, p<.001). After controlling the covariates, CLABSI guideline knowledge and perceived patient safety culture of unit, out of six domains of patient safety culture, were significant factors for preventive nursing performance (β=.615, p<.001; β=.214, p=.033, respectively). The other domains of patient safety culture were not significantly associated with CLABSI prevention performance.

Conclusion: To enhance nursing performance for preventing CLABSI, knowledge of CLABSI guidelines should be increased, and patient safety culture of working units should be improved. It is recommended that the information on CLABSI guideline should be updated to nurses, and patient safety culture should be improved at the working unit level.

Keywords: central line-associated bloodstream infection; patient safety culture; knowledge

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Prevalence of missed, spontaneous, and threatened abortion in Korea: A comparison of employed vs. unemployed women

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Background: Since industrialization, the rate of employed women has progressively increased worldwide. As a result, lots of women have experienced pregnancy and childbirth during employment. Pregnancy loss is one of the common adverse pregnancy outcomes, which is influenced not only by individual attributes but also by their environment; however, limited studies have been conducted considering working status as the environmental factor around pregnant women.

Purpose: The aim of this study was to compare the prevalence of missed, spontaneous, and threatened abortion between employed and unemployed women.

Methods: We extracted data about all women of reproductive age who experienced pregnancy in 2019 using customized data from the Korean National Health Insurance Service. In the present study, working women were defined as having employee-insured. Data were analyzed using logistic regression analyses.

Results: A total of 551,781 women were identified including 271,965 of employed women (49.7%) and 279,816 of unemployed women (50.7%). Employed women were more likely to have threatened (aOR 1.26, 95% CI 1.19–1.34), missed (aOR 1.08, 95% CI 1.06–1.10), and spontaneous abortion (aOR 1.05, 95% CI 1.01–1.09) compared to unemployed women. Considering workplace characteristics among the employed women, those who engaged in manufacturing and health care and social work activities were more likely to have all three kinds of pregnancy complications compared to unemployed women. Also, women engaged in health care and social work activities had higher rates of threatened (aOR 1.16, 95% CI 1.09–1.33) and missed abortion (aOR 1.08, 95% CI 1.03–1.12) compared to the whole of the employed women.

Conclusions: The study findings suggest that there is a need to develop policies on dealing with abortion as a workplace issue and to make efforts to reduce the number of missed, spontaneous, and threatened abortion in workplace.

Keywords: working women, pregnant women, pregnancy loss, threatened abortion

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A comparative study on the factors associated with depression depending on sex in elders living alone

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Aims: The aims of this study were to identify depression rates depending on sex among elderly people living alone and compare depression-related ecological system factors between two sex groups.

Method: This cross-sectional study was conducted using secondary data from the 7th Korean Longitudinal Study of Aging survey in 2018. A total of 893 elders living alone were included (152 men and 741 women). Hierarchical logistic regression was used to identify depression-related ecological system factors depending on sex.

Results: Men had significantly higher rates of depression (28.6%) than women (24.0%, $p < .001$). Depression-related ecological system factors in elderly women were higher education level, poor subjective health status, impairment of instrumental activities of daily living, low satisfaction with children's relation, financial based on children's support, less surviving siblings, and rare meetings with close people. However, relation satisfaction with children was the only relevant depression-related ecological system factor in the men's group.

Conclusions: Our study findings show that depression-related ecological system factors vary depending on the sex of elderly people living alone. Thus, mental health professionals should provide sex-specific interventions to develop or implement depression-prevention strategies for the elderly living alone depending on sex.

Keywords: Aged; Depression; Living alone

P-143

Anger, Life Satisfaction, Happiness and Nursing Work Environment of Hospital Nurses in South Korea during COVID-19 Pandemic

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Aim(s): Hospital nurses are the forefront professionals among health care workers, and they are the front line of defense against COVID-19. Therefore, it is essential to ensure the nurses' safety by maintaining a safe and secure nursing work environment. This study is aimed to verify the impacts of the nursing practice environment on anger, life satisfaction, and subjective happiness of hospital nurses in the COVID19 pandemic.

Method(s): This was a cross-sectional online survey conducted through a research platform from November 2020 to February 2021. The subjects were 199 nurses working in advanced hospitals or hospitals all over South Korea. The participants all had at least one month of experience caring for the COVID-19 suspected or confirmed patient.

Result(s): 75.9% of subjects experienced meal skipping over one time in a month, and 64.3% had worked overtime. Nurses in the low-level work environment showed a high level of stress and anger. Contrarily, they showed a low level of satisfaction with life and subjective happiness. In addition, a good nursing work environment showed a significant positive correlation with life satisfaction and subjective happiness but a negative correlation with anger and stress.

Conclusion(s): The good working environment for nurses is essential and must be legally guaranteed to defeat COVID-19.

Keywords: Anger, Covid-19, Nurses, Work Environment

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Effects of nonpharmacological interventions on depressive and anxiety symptoms among nursing students: A systematic review and meta-analysis

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Aim: This review aimed to examine the quality and effectiveness of nonpharmacological interventions to reduce depressive or anxiety symptoms in undergraduate nursing students.

Methods: The systematic review (SR) and meta-analysis was guided Cochrane handbook and NECA's guidance for undertaking SR and meta-analysis for intervention. The electronic databases searched included EMBASE, CINAHL, PubMed, PsycINFO, Cochrane CENTRAL, NDSL, KISS and KoreaMed to find randomized controlled trials (RCTs) published between 2010 and 2021. A total of 18 RCTs were included in the analysis. The RCTs focused on depression (7 studies), anxiety (14 studies) and both (3studies).

Results: Psychological interventions showed a large, significant effect (Hedges G = −1.20; 95% CI = −2.28, −0.13) and mindfulness interventions showed moderate, significant effects (Hedges G = −0.53; 95% CI = −0.78, −0.27) on decreasing depressive symptoms. Meanwhile, mindfulness interventions showed a large, significant effect (Hedges G = −1.06; 95% CI = −1.98, −0.15) and biofeedback interventions also showed a large, significant effect (Hedges G = −0.99; 95% CI = −1.33, −0.64) on decreasing anxiety symptoms, while psychological interventions demonstrated a large but nonsignificant effect (Hedges G = −2.78; 95% CI = −6.44, 0.88).

Conclusion: Nonpharmacological interventions such as psychological, mindfulness, and biofeedback programs could be effective in alleviating depressive and anxiety symptoms in order to improve mental health among nursing students, especially Asian nursing students who have experienced a high prevalence of depression. Future research is recommended to identify the long-term effectiveness of psychological and biofeedback interventions in that population.

Keyword: Nursing students, Depression, Anxiety, Meta-analysis

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The Orebro Musculoskeletal Pain Screening Questionnaire and the StarT Back Screening Tool: A systematic review and meta-analysis of Diagnostic test accuracy

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Aim(s): Due to the physical, psychosocial, and economic consequences of chronic low back pain, it is essential to identify individuals with low back pain at an increased risk of the transition to chronicity and worse functional outcomes. The Orebro Musculoskeletal Pain Screening Questionnaire (OMPSQ) and the StarT Back Screening Tool (SBST) are commonly used screening tools. Yet, little is known about their diagnostic test accuracy. The aim is to evaluate the diagnostic test accuracy (DTA) of the OMPSQ and the SBST through systematic review and meta-analysis.

Method(s): We searched the databases of EMBASE, PubMed, and Web of Science in June 2021. Study selection, extraction, and quality assessment using the Quality Assessment of the Diagnostic Accuracy Studies-2 tool were undertaken by two authors independently. We estimated the pooled DTA values by employing a bivariate model and hierarchical summary receiver-operating characteristic curves for data synthesis.

Result(s): Of 3,044 records, we identified 17 studies, including 10 employing the OMPSQ and seven using the SBST. The pooled estimates of sensitivity and specificity of the OMPSQ scale for predicting sick leave were 85.1% (95% confidence interval [CI] 73.6%-92.1%) and 61.9% (95% CI 46.9%-74.9%) at cut-off 90, and 68.4% (95% CI 56.7%-78.2%) and 70.5% (95% CI 56.9%-81.2%) at cut-off 105, respectively. The pooled estimates of sensitivity and specificity of the SBST for predicting disability were 53.5% (95% CI 44.7%-62.1%) and 62.8% (95% CI 41.6%-80.0%) at Low vs Medium and High group, and 81.9% (95% CI 69.9%-89.9%) and 26.9% (95% CI 7.9%-61.1%) at Low and Medium vs High group, respectively.

Conclusion(s): With the best evidence of the DTA of the SBST and OMPSQ, the OMPSQ is a reliable and useful tool to predict sick leave from low back pain and the SBST is useful for predicting disability due to low back pain.

Keywords: diagnostic accuracy; low back pain; Orebro Musculoskeletal Pain Screening Questionnaire; StarT Back Screening Tool

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A structural model for safe sexual behavior among Korean reproductive adults

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Aim(s): This study aimed to build a structural model for safe sexual behavior based on the theory of planned behavior (TPB) and to verify the model by collecting data from Korean unmarried adults.

Method(s): This research collected data on sexual image recognition, gender role recognition, sexual attitude, sexual socialization, and sexual communication that can affect behavior in safe sex behavior through a literature review of previous studies; furthermore, a model was constructed based on the TPB. We collected data through an online survey that involved 444 unmarried men and women aged over 20 years; all respondents had had a sexual experience within a period of 6 months before the survey. We checked the variables through factor analysis and analyzed structural equations through AMOS.

Result(s): The last modified model produced the following results: goodness of fit=487.359, degrees of freedom (df) =176, p-value=0.000, GFI=0.903, AGFI=0.873, NFI=0.846, TLI=0.874, CFI=0.894, RMR=0.076, and RMSEA=0.063; these indicated good values. In the hypothetical model, sexual image affected sexual communication, and gender role perception affected sexual attitude and sexual socialization. Furthermore, sexual attitude and sexual communication affected safe sexual behavior. Sexual image had a significant mediating effect on safe sexual behavior through sexual communication (β=−.120, p=.002). Gender role perception had a significant mediating effect on safe sexual behavior through sexual attitude (β=−.221, p=.002).

Conclusion(s): This study confirmed the influence of sexual image recognition, gender role recognition, sexual attitude, sexual socialization, and sexual communication on safe sexual behavior among single adults; in particular, the roles of sexual attitude and sexual communication as mediator were confirmed.

Keywords: gender role, safe sexual behavior, sexual attitude, sexual communication

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The effect of combination therapy of aroma roll-on and foot bath on the sleep index of the community-dwelling elderly

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Aim(s): This study aimed to investigate the effects of combination therapy of aroma roll-on and foot bath on the sleep index of the community-dwelling elderly.

Method(s): This study was a quasi-experimental study using a single group pre-posttest design. Thirty-one elderly people living in 2 provinces participated from January 5, 2021, to June 20, 2021. Combination therapy of aroma roll-on and foot bath was applied for 4 weeks. The aroma roll-on stick was applied to the wrist and behind the ears every day and the foot bath was applied twice a week for 20 minutes before going to bed. In the preliminary survey, the subjects' general characteristics, disease-related characteristics, pain, and depression checked using a questionnaire. Sleep index were measured by wearing an ActigraphTM(wGT3X-BT) for 3 days. In the post survey, pain, depression, and sleep index were measured in the same way. General characteristics, disease-related characteristics, pain, and depression were collected to identify the subject's homogeneity. The level of pain was checked using a visual analog scale, and depression was checked using the Short Form of Geriatric Depression Scale developed by Sheikh and Yesavage (1986). As for the sleep index, sleep latency, sleep efficiency, total bedtime, total sleep time, number of awakenings during sleep, total awakening time, and average awakening time per session were measured using the ActigraphTM (wGT3X-BT). SPSS 23.0 program was used for data analysis.

Result(s): As a result of the subject's pre-post homogeneity test, the pain (t=0.828, p=.415) and depression level (t=-1.171, p=.251) were not statistically significant. The only sleep index that had a significant difference after combination therapy was the average awakening time at one session: 3.60±1.15 minutes before and 3.13±0.75 minutes after the intervention (t=2.846, p=.008). Sleep latency (t=0.024, p=.981), sleep efficiency (t=-1.481, p=.149), total bedtime (t=1.930, p=.063), total sleep time (t=2.032, p=.051), total awakening time (t=1.515, p=.140), and the number of awakenings during sleep (t=0.696, p=.492) were not significant.

Conclusion(s): As a result of this study, the average awakening time at one session during sleep was significantly decreased after the intervention, suggesting that the combination therapy effects on the sleep index. However, there is a limitation in that the effect of combination therapy has not been sufficiently confirmed because the effects of environmental factors cannot be controlled for the elderly living in various regions. It is necessary to refer to the various application methods of aroma therapy and foot bath therapy suggested in previous studies, and to combine several other interventions to investigate whether they could affect the sleep index of the elderly.

Keywords: elderly, sleep, aroma therapy, foot bath

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Development and Evaluation of Problem-based Learning Simulation for Nursing Students: A Home Visiting Nursing Simulation Module

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Aim(s): This study aims to develop and evaluate the problem-based learning (PBL) simulation program for nursing students. Four times of PBL group sessions were applied before the simulation so that the student participants can pre-learn about simulation context and contents. The simulation program reflected home visiting healthcare programs for vulnerable households by public health centers in Korea.

Method(s): The scenario was developed for students to provide comprehensive nursing care for the frail elderly in the community as a home visiting nurse in the public health center. The draft was developed by the researchers and revised after experts' reviews (3 academic experts and 2 clinical experts). We measured the effect quantitatively and qualitatively. A total of 29 students completed survey questionnaires after the simulations. Additionally, 2 focus group interviews were conducted with 10 students who participated in the program. Verbatim transcripts were analyzed using Giorgi's phenomenological approach.

Result(s): The Simulation Design Scale mean scores were in the order of feedback/guided reflection (4.81 ± 0.40), problem-solving (4.76 ± 0.41), fidelity (4.76 ± 0.46), objectives and information (4.59 ± 0.58) and support (4.48 ± 0.50). The Educational Practices in Simulation Scale mean scores were in the order of active learning (4.78 ± 0.35), collaboration (4.76 ± 0.53), diverse ways of learning (4.71 ± 0.54), and high expectation (4.69 ± 0.56). Three major themes emerged from the interview: immersive learning experiences, enhancing nursing competency, and changes in perspectives on nursing.

Conclusion(s): This PBL simulation module was effective to inspire active learning in the student participants. The program was evaluated as a systematic learning process where students could be self-directed learners interacting and collaborating with other colleagues, instructors, and environments. It also provided opportunities to obtain holistic view of nursing, communication skills, and confidence. More diverse PBL simulations need to be developed in nursing education.

Keywords: Nursing Education Research, Home Care Services, Simulation Training, Problem-Based Learning

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A Study of Intention to Stay, Reality Shock, and Resilience among New Graduate Nurse

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Aims: The purpose of this study was to investigate relationships among intention to stay, reality shock, and resilience and to identify factors influencing intention to stay among new graduate nurses.

Methods: The design of the study was cross-sectional, descriptive study. The participants were 127 new graduate nurses working at A University hospital in Suwon, Gyeonggi Province, South Korea. The data were collected from December 30, 2020, to January 13, 2021 using self-administered questionnaires. The questionnaires were included general characteristics, Nurses' Retention Index, Reality Shock Scale, and Resilience Inventory.
Data were analyzed by descriptive statistics, independent t-test, one-way ANOVA, Pearson's correlation coefficient, and multiple regression analysis using SPSS 25.0.

Results: The mean scores of intention to stay, reality shock, and resilience were 4.73 (±1.25), 3.13 (±0.63), and 3.52 (±0.42), respectively. Intention to stay negatively correlated with reality shock (r= -.555, p<.001), and positively correlated with resilience (r=.444, p<.001). There were statistically differences in intention to stay according to working period, motivation for choosing a nursing job, reason for retention, job satisfaction, and working the wanted department. Finally, the results showed that job satisfaction(satisfactory), reality shock, working period (≤6 months), and resilience were significant predictors of intention to stay among new graduate nurse and explained for 44.2% of the variance in intention to stay.

Conclusions: The findings of this study indicate reducing the reality shock and enhancing the resilience could help new graduate nurse to adjust and increase intention to stay.

Key words: nurse, retention, resilience, shock

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Factors Influencing Clinical Nurse's Intention
for Acquiring Coronavirus Disease 2019 Vaccination

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Aim: Nurses are among the first groups to fight the spread and effects of coronavirus disease 2019 (COVID-19) pandemic. Acquiring COVID-19 vaccine contributes to combating the pandemic. This study investigated the psychosocial factors that influence nurses' intention to receive COVID-19 vaccine. Factors including knowledge, attitudes, beliefs related to COVID-19 vaccines, social contexts, and demographics were observed.

Methods: Data of 200 nurses from five hospitals in Daegu between April 12 and June 19, 2021 were collected. COVID-19 knowledge, perceived susceptibility, severity, benefits, barriers, safety concerns, COVID-19 exposure, demographics, and intention to get COVID-19 vaccines were assessed. Data were analyzed using descriptive statistics, t-tests, analysis of variance, Pearson correlation, and multiple linear regression.

Results: Perceived benefits ($r = 0.42$, $p < 0.001$) were positively associated with vaccination intention, whereas perceived barriers ($r = -0.32$, $p < 0.001$) and safety concerns ($r = -0.20$, $p < 0.001$) negatively influenced vaccination intention. Score differences were observed for vaccination intention according to hospital grade and work department. According to regression analysis, perceived benefits and barriers account for 21.2% of vaccination intention variance.

Conclusion: This study offers a timely overview of psychosocial factors related to nurses' intention to acquire COVID-19 vaccination. Vaccines' benefits need to be highlighted in campaigns and educations, and it is imperative to remain transparent and truthful in communications about vaccine safety.

Keywords: COVID-19. intention, nurses, vaccines

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Influence of Emotional experience, Healthcare Provider Interaction, and Self-management Behavior on Glycosylated Hemoglobin in Patients with Type 2 Diabetes Mellitus

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Aim: Diabetes mellitus is considered as one of the most psychologically and behaviorally demanding chronic medical disorders. Glycosylated hemoglobin (HbA1c) is the central clinical indicator for glycemic control, a fundamental part of diabetic care. This study aimed to analyze the effects of emotional experience, healthcare provider interaction, and self-management behavior on HbA1c in patients with type 2 diabetes mellitus.

Methods: Data were collected from 120 patients at six local clinics from April 12 to July 15, 2021. Scale of Positive and Negative Experience, Client Satisfaction Tool, Summary of Diabetes Self-care Activities Questionnaire, and HbA1c were used. Data were analyzed using descriptive statistics, t-tests, analysis of variance, Pearson's correlation coefficient, and hierarchical multiple regression.

Results: The mean age of participants was 60.39 years, with average diabetes duration of 7.79 years. HbA1c values were negatively correlated with affect balance ($r = -0.24$, $p = 0.007$) and self-management behavior ($r = -0.35$, $p < 0.001$) and positively correlated with negative feelings ($r = 0.27$, $p = 0.003$). According to regression analysis, negative feelings, self-management behavior, complications, and gender account for 25.0% of HbA1c variance.

Conclusion: Negative feelings and self-management behavior are considered to be important factors in blood glucose management for patients with type 2 diabetes mellitus. Therefore, identifying effective interventions for strengthening emotional regulation while facilitating self-management behavior is essential for improving health outcomes.

Keywords: diabetes mellitus, emotion, glycated hemoglobin, self-management

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Trend Analysis of Nursing Research Published in the Journal of the Korea Convergence Society

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Aim(s): This study aimed to analyzed the pater on nursing in the Journal of the Korea Convergence Society(2010-2020), to identify the research trends and to propose the future direction development of nursing research.

Method(s): Of the total of 2,597 papers, 421 papers in the field of nursing were analyzed for research type and methodological characteristics. For frequency analysis of analysis items, SPSS 25.0 (IBM Corp., Armonk, NY, USA) and Netminer 4.3 software were used for visualization of key words. Our researchers analyzed the number of authors, author affiliation, and research purpose to analyze the characteristics of the study type. And for the analysis of key words, visualization analysis was performed using a word cloud.

Result(s): As a result of analysis of the research type characteristics of published papers in 421 nursing studies, the number of authors was the highest with 184 studies (43.7%) with two authors. As a result of the analysis of author affiliation, in the case of the 1st author, nursing professors were the most distributed with 311 articles (73.9%) of the total, followed by nursing graduate students with 43 articles (10.2%), nurses with 40 articles (9.5%), and nursing. There were 3 lectures (0.7%) of each lecturer and researcher in the nursing field. As a result of analyzing the purpose of the study, 288 studies (68.4%) correspond to fact-finding research, showing the highest frequency, followed by program development and evaluation with 52 studies (12.4%). As a result of performing word cloud analysis based on the frequency of appearance of the presented key-words, the key word with the highest frequency was health. As a result of analyzing the characteristics of the research methods of 421 published papers, 69.4% of the research designs were research studies, and 63.2% of the studies provided the basis for sampling the number of papers. G-power program accounted for 92.9% of the program used for sampling. The majority of study participants were adults (42.8%), and questionnaires (69.1%) were used the most for data collection. There were 299 studies (71.0%) of all studies that suggested the reliability and validity of the measurement tool.

Conclusion(s): Based on this result, the Journal of the Journal of the Korea Convergence Society should cooperated that nursing research can be integrated with other fields, continued to challenge creative research methodologies, developed research themes, and reinforced of screening standards for quality improvement. For this reason, it is suggested a trend analysis research of convergence research with various field researchers and a multi-faceted analysis study on research trends related to nursing.

Keywords: Convergence, Nursing, Research Trend, Analysis

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Theoretical Evaluation: Theory of Care-Seeking Behavior

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Aim: To prevent the spread of Coronavirus (COVID-19), getting a screening test promptly is an important strategy, as well as keeping the COVID-19 Guidelines for distancing in daily life. For an effective screening test, a deep exploration of secondary preventive behavior is necessary. In this study, we aim to enhance understanding of secondary preventive behavior by evaluating the Theory of care-seeking behavior(TCSB).

Methods: TCSB was comprehensively evaluated based on 7 criteria that combined 6 criteria of Fawcett & DeSanto-Madeya (2013) and 1 criteria (generality) of Chinn & Kramer (2015). For evaluation, literature was searched in the PubMed, Web of Science, CINAHL, and RISS databases. Total 11 literatures were reviewed.

Results: TCSB was confirmed to be a mid-range theory in that it specifies two metaparadigms; environment and nursing, the target population is not limited, and hypotheses can be derived through a certain number of main concepts. Also, in terms of secondary preventive behavior, it has theoretical/social significance, semantic/structural internal consistency, and parsimony. However, the testability was low due to the lack of proper empirical indicators and tools to measure main concepts. For this reason, it showed controversial empirical results and led to low empirical adequacy. Lastly, it was considered to have partial pragmatic adequacy and generality because they can be applied to various groups and diseases.

Conclusion: TCSB has been continuously evolving. Therefore, it was confirmed that it is a suitable theory to explain secondary preventive behavior such as screening tests and establish strategies for health crisis situations such as the current COVID-19 pandemic. In addition, TCSB has simplicity to use in aspects of nursing theory, practice, and education, therefore it is needed to test for worth being more tested for various health problems and population through refining concepts and propositions and developing measuring tools

Keywords: Middle Range Theory; Secondary Prevention Behavior; Theory Evaluation; Theory of Care Seeking Behavior

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Global Virtual Simulation Program of patient safety for Nursing Students

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Aim(s): Patient safety is an essential professional competency that is developed during undergraduate nursing education. To reduce the incidence of preventable fall errors, it is critical to understand how errors are made and solve the actual problems in simulation cases. The aim of this study was to evaluate acceptability and feasibility of global virtual simulation program of patient safety for undergraduate nursing students

Method(s): Cross sectional survey design and focus group interview were used for evaluating acceptability and feasibility of the program. The study was conducted in three different time from March to May with three different groups of undergraduate nursing students. A total of 20 nursing students participated in this study (South Korea n=11; Hong Kong n=3; Singapore n=3; Taiwan n=3). Patient safety management Confidence and Patient safety management Attitude were assessed from 11 Korean nursing students. Focus group interviews were also performed to further understand effect of program towards 20 nursing students.

Result(s): Developed the global virtual simulation program for undergraduate nursing student to help them learn about the current patient safety issues specific to fall. This program includes four domains 1) Lectures about patient safety, 2) Presenting virtual fall simulation case outline, the fall module of Simbridge VR nursing management program developed by Human Bridge was translated into English and applied. 3) Virtual simulation case progression: group discussion to find out risk factors fall accident in virtual simulation case, and 4) debriefing. Upon implementation, mean of patient safety management confidence score was 3.97 (0.58), mean of patient safety management attitude score was 3.83(0.94). The theme derivation through the focus group interview is as follows, 1) Importance of effective communication between healthcare professionals, 2) Importance of assessing possible risk factors, 3) a holistic approach needed in assessing elderly patients

Conclusion(s): This study shows that results of global virtual simulation program for fall management can contribute to nursing students' patient safety management confidence, patient safety management attitude and communication skills from global health care members. In the future, the effect on the programs of students from other countries and the measurement of variables on global nursing culture competency should be considered

Keywords: Virtual simulation, Patient safety, Nursing students, Global competency,

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Metabolic syndrome and disability in older people

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Aim(s): Metabolic syndrome is prevalent and its associated factors have been examined in older people. However, more thorough investigation regarding associated factors for metabolic syndrome is needed. Furthermore, few studies examined impact of metabolic syndrome on disability in this population. Thus, the purposes of this study were 1) to examine prevalence of metabolic syndrome, 2) identify its associated factors, including mental health, and 3) to examine its relationship to disability in older people.

Method(s): This was a secondary analysis of dataset from 7th Korea National Health and Nutrition Examination Survey (2017). Those aged 65 years and older (N=1011, mean age=72.04) were included in this study. Data for demographic and clinical characteristics, mental health, metabolic syndrome, and disability were obtained by interview and physical examination. Stress level, suicidal ideation, and depression were included to describe mental health. Motor ability, self-care, usual activity, activity limitation, and bedridden state were included to describe disability. Descriptive and inferential statistics were used to analyze the data.

Result(s): 460 participants (45.5%) had metabolic syndrome. Multivariate logistic regression showed that male participants and those who had jobs, had lower body mass index, and spent more time on strength training were less likely to have metabolic syndrome. Those with smoking history were more likely to have metabolic syndrome. However, mental health was not a significant predictor for metabolic syndrome. Regarding impact of metabolic syndrome on disability, metabolic syndrome was a significant predictor for bedridden state and having more than 1 of disability, after controlled for other covariates.

Conclusion(s): Our findings suggested that older people needs screening for metabolic syndrome. Understanding prevalence of metabolic syndrome and its associated factors, and its impact on disability helps healthcare providers develop more effective intervention to prevent metabolic syndrome and disability in older people.

Keywords: disability, Korea National Health and Nutrition Examination Survey, metabolic syndrome, older people

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Associated factors for frailty in people with exacerbated COPD

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Aims; Frailty is a significant and prevalent problem in people with chronic obstructive pulmonary disease (COPD). However, frailty in people with exacerbated COPD has been rarely examined in the past. Examining prevalence of frailty and its associated factors may help health care providers develop effective interventions for frailty management in people with exacerbated COPD. Thus, the purposes of this study were 1) to describe frailty and 2) to examine associated factors for frailty in people with exacerbated COPD.

Methods; This cross-sectional study included participants (n=80, mean age=73.77. FEV1% pred.=45.59%) who were treated for their exacerbated COPD in pulmonary department outpatient clinics at three tertiary hospitals. Data for demographic and clinical characteristics were collected through interviews and medical records. Tilburg Frailty Indicator was completed by participants. Descriptive and inferential statistics were used for data analysis.

Results; Means of Tilburg Frailty Indicator total score and its physical domain were 5.20 and 2.06, respectively. According to Gobbens' criteria, prevalence of frailty and physical frailty was 59.1% and 36.4%, respectively. Multivariate logistic regression showed that FEV1/FVC ratio, number of comorbidities, emergency department visits due to exacerbation during past year, and exacerbation frequency during past year were significant predictors to be frail in this population. Those who had lower FEV1/FVC ratio, higher number of comorbidity, more emergency department visits due to exacerbation during past year, and more exacerbation rate during past year were more likely to be frail in this population.

Conclusions; Our findings suggested that frailty should be evaluated in people with exacerbated COPD. Development of intervention for frailty management in people with exacerbated COPD is necessary.

Keywords; Chronic obstructive pulmonary disease, Frailty

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Affecting factors on performance of nursing students regarding prevention and control education of healthcare associated infection

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Aim(s): This study was the first stage in the research to develop a simulation education program using virtual reality devices to strengthen the healthcare associated infection control and prevention competency of nursing students. It aimed to examine nursing students' knowledge, awareness, and performance of prevention and control of healthcare associated infections and investigate the factors affecting the nursing students' standard precautions for the prevention and control of healthcare associated infections.

Method(s): Data collection was conducted form third and fourth year nursing students from nine universities in five regions across South Korea. The data were collected from December 1 to 31, 2019. The questionnaire consisted of measuring tools for general characteristics, knowledge, awareness, and performance of medical related infections. Of the questionnaires 189 returned. 28 questionnaires with insufficient answers were excluded. For final analysis 161 questionnaires were analyzed using independent t-test, Pearson's correlation coefficient, and multiple regression analysis using SPSS/WIN 20.0 version and STATA 13.0 software.

Result(s): Mean score of knowledge, awareness, and performance of prevention and control of healthcare associated infections of nursing students were 25.16±2.01(Min=19.0, Max=29.0), 4.73±0.27(Min=4.0, Max=5.0), 4.47±0.47(Min=3.1, Max=5.0), respectively. We found that only knowledge(t=-4.01, p<.001) between grades was statistically significant. Our finding also showed significantly positive correlation between awareness and performance of standard precautions(r=0.23, p<.01). Multiple regression analysis revealed that awareness of standard precautions(β=0.240, p=.021) and exposure to infectious agents(β=-0.179, p=.003) affected nursing students' performance of standard precautions, accounting for 12% of the variance.

Conclusion(s): Our results revealed that education on prevention and control of healthcare associated infection does not just entail knowledge transfer; rather, awareness regarding the healthcare associated infection control is also required to improve nursing students' performance. Therefore, awareness for prevention and control of healthcare associated infection needs to be adequately emphasized while designing educational programs for nursing students in South Korea.

Keywords: prevention and control of healthcare associated infection, nursing students, performance

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Risk Factors to Gastroesophageal Reflux Disease, Functional Dyspepsia, and Irritable Bowel Syndrome in University Students

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Aims: Gastroesophageal reflux disease(GERD), functional dyspepsia(FD), and irritable bowel syndrome(IBS) are common gastrointestinal disorders, and their prevalence is particularly high in young adults. This study aimed to identify the prevalence and risk factors of GERD, FD, and IBS in university students.

Methods: A cross-sectional study was conducted in January 2021 at three universities in Chuncheon, South Korea. A total of 620 university students were requested to compete a self-administrated questionnaire. Date on 493 students were included in the analysis. The latest version, ROME IV criteria for FD, IBS, and Korean-GERD questionnaire for GERD were used to define each disease. Data was analyzed using descriptive statistics and multivariate logistic regression.

Results: The prevalence of GERD, FD, and IBS was 18.5%, 7.5%, and 6.5% in university students. The prevalence of overlapping two or more condition was present in 5.1%. The overlap of GERD-FD 2.6%, IBS-FD 2.0%, GERD-IBS 1.6%, and all three were found to be 0.6%. In multivariate analysis, school year (4th) (odds ratio [OR]=2.37, 95% CI=0.239~0.747), current disease (OR=2.827, 95% CI=1.355~5.897), very irregular meals (OR=3.111, 95% CI=1.186~8.157), overeating more than 5 times a week (OR=3.370, 95% CI=1.186~9.577), academic stress (OR=1.013, 95% CI=1.022~1.024), depression (OR=1.083, 95% CI=1.026~1.144) were found to be risk factors for GERD, FD, IBS.

Conclusions: GERD, FD, and IBS were common in university students of South Korea. Our findings indicate that a comprehensive management program focusing on eating habits and psychological factors such as stress and depression should be developed to reduce the prevalence of GERD, FD, and IBS in university students.

Keywords: Gastroesophageal reflux disease, Functional dyspepsia, Irritable bowel syndrome, Prevalence

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Development and Effectiveness of School-based Education Program for Coping with Particulate Matter
- Application of the Health Belief Model -

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Aim(s): Particulate matter(PM) is a major pollutant that severely threatens the health of people worldwide. This study aims to develop and verify the effectiveness of a "school-based education program for coping with particulate matter" for high school students that applies the health belief model.

Method(s): A nonequivalent control group pretest-posttest design. The research participants are high school students between the ages of 15 and 18. A total of 113 students participated in the research, 56 in the treatment group and 57 in the control group. Those in the treatment group received a total of eight intervention sessions of this education program over the course of four weeks. The following variables were used in the study: knowledge about PM, perceived susceptibility regarding the dangers of PM, perceived severity regarding the dangers of PM, perceived barriers for engaging in health-managing behaviors to protect against PM, perceived self-efficacy for engaging in health-managing behaviors to protect against PM, and practices of engaging in health-managing behaviors to protect against PM. Result(s): Knowledge about PM in the treatment group, which received the "school-based education program for coping with particulate matter," showed a statistically significant increase ($t=4.79$, $p<.001$). The practice of engaging in health-managing behaviors to protect against PM also showed statistically significant improvement in the treatment group ($t=2.22$, $p=.029$), with the greatest progress in practicing precaution when outdoors. There were, however, no statistically significant changes in other dependent variables. However, a sub-field of the variable of perceived self-efficacy for engaging in health-managing behaviors to protect against PM (degree of body cleansing after returning home) demonstrated a statistically significant increase ($t=1.99$, $p=.049$).

Conclusion(s): The "school-based education program for coping with particulate matter" may be proposed for incorporation into regular high school curricula to improve students' health by inducing them to take necessary actions against PM.

Keywords: health belief model, health education, particulate matter, school-based

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Is There Social Stigma toward People with COVID-19?
-An Analysis of Explicit and Implicit Attitudes of People-

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Aim: People with vulnerable health conditions are generally subject to social stigma, which needs to recognize in nursing because it exacerbates the patient's psycho-social-physical wellbeing. This study aimed to examine the possibility of social stigma by measuring implicit and explicit attitudes toward 'COVID-19 infected persons' and comparing the relationship.

Method: This study is an experimental research study design. The participants of this study are the 20' aged university students. we used the Single Category Implicit Association Test, which is internally consistent and makes unique contributions in understanding implicit social cognition to examine the implicit attitude toward 'COVID-19 infected persons'. For measuring the explicit attitude toward a person infected with COVID-19, we conducted the self-report questionnaire test. Thereafter, for exploring the stigma toward people with COVID-19, the Pearson's correlation analysis to confirm the possible discrepancies in the two aspects of attitude.

Result: As a result, there is no negative response in the cognitive attitude component. However, there is a 52.6% negative response in the implicit attitude result. It was confirmed that the explicit attitudes were positive, and the implicit attitude was somewhat negative in the attitude toward people with COVID-19. The inconsistency between explicit and implicit attitudes toward the same object appears more often when targeting socially sensitive issues.

Conclusion: This study is meaningful because it objectively measured and analyzed the attitudes toward people with COVID-19, beyond the investigation of reports on the stigma felt by COVID-19 infected persons on their own. Nurses should be aware of the social stigma, especially for COVID-19 patients, and there is a need to develop social intervention strategies and policies to effectively respond and provide protection to reduce social stigma and negative attitudes toward confirmed patients in a social infectious disease disaster situation.

Keywords: Attitude, COVID-19, Social stigma, Single Category Implicit Association Test

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Related Factors of Suicidal Ideation among Older adults
with Diabetes Mellitus in Rural Area

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Aim(s): The aim of this study was to identify suicidal ideation and related factors of older adults with diabetes mellitus in rural area.

Method(s): A descriptive study design was used. The participants were 506 older adults, aged 65 years and over, and diagnosed with diabetes mellitus living at O province in South Korea. Related factors of suicidal ideation were assessed using the mini-mental state examination (MMSE) for cognitive function, the geriatric depression scale-short form (GDS-SF) for depression, the activity of daily living (ADL), the visual analogue scale (VAS) for loneliness, demographic characteristics, and one item asking for suicidal ideation of participants. Collected data were analyzed using descriptive statistics, t-test, χ2-test, and logistic regression analysis with SPSS statistics 26.0 program.

Result(s): The mean age of participants was 76.84 years. There were 76 men (15.0%) and 430 women (85.0%). The rate of suicidal ideation was 28.5% of participants. Significantly affecting factors on suicidal ideation were cognitive function (β=−0.18, p=.001), loneliness (β=0.16, p=.014), depression (β=0.16, p=.003), and education level (β=0.49, p=.048). These variables explained 35.4% of suicidal ideation.

Conclusion(s): Community nurses need to be aware of the higher suicidal risk in older adults with diabetes mellitus. Also, it is necessary to prevent suicide in DM care for older population.

Keywords: diabetes mellitus, suicidal ideation, prevention, rural area

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What lung cancer patient's family Members are discussing about hospice and palliative care: Focused on online community analysis

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Aim(s): The purpose of this study was to analysis the online community to explore hospice and palliative care experiences in families of lung cancer patients.

Method(s): This study was designed with descriptive study. Data were collected from January 9, 2012 to March 9, 2021 using Python Crawling from an online community which contains posts written and discussed by lung cancer patient's family members. Text mining was used to classify text in a collected 1453 document to a particular topic. Text analysis was performed by Number of views and Number of comments and the relationship between the writer and the patient was identified.

Result(s): As a result, 5 subjects were extracted; 'Family', 'Discussion of the patient's condition', 'Pain and painkiller', 'Chemotherapy and metastasis', 'Transition to hospice'. Most of post were written by sons and daughters of patients and Posts related to impending death preparation had high views and many comments. Families of lung cancer patients shared information regarding extracted 5 subjects, described the current patient's situation in the online community and had interaction with the peer emotionally.

Conclusion(s): Lung cancer patient's family members have actively shared information and have had emotional interactions while discussing impending death preparation, treatment, pain, and transition in the online community. This shows that family should be included in care especially in hospice and palliative care and the concern and understanding of nurses to lung cancer patient's families is needed. Analyzing the online community will help to understand the experience of lung cancer patient's families in hospices and palliative care and contribute to the development of family education about hospice and palliative care and development of online community intervention for families.

Keywords: Lung cancer, Family, Online Community, Text Analysis

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Efficacy of a Community-Based Trauma Recovery Program after a Fire Disaster -A Good Practice Model for Community Mental Health Nursing-

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Aim: This study aimed to provide a good practice model for community mental health nursing based on the outcomes of a community-based trauma recovery program after a disaster by evaluating the victims' mental health status immediately after the disaster and at a one-year follow-up.

Method: This study is a longitudinal descriptive study design. We collected a total of 116 cases from the survivors and bereaved family members of a fire disaster at a one-year interval from immediately after a disaster by self-report questionnaire of depression and post-traumatic stress disorder. After the fire disaster, mental health services implemented at the public community mental health center in the city included case management, mobile counseling, self-help groups, individual counseling, and various recovery programs.

Result: The levels of depression and PTSD of the victims have improved over time, and more changes were confirmed. In particular, the high-risk group for PTSD showed a high program participation rate, and there was significant recovery over time compared with the group without PTSD.

Conclusion: The community-based trauma recovery program after a fire disaster would be an effective way to promote community mental health after disasters. Administrative supports should be provided to expand the model in community mental health nursing to care for more people suffering from disasters.

Keywords: Disaster Victims, Post-traumatic Stress Disorder, Depression, Community Mental Health Services

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Promoting Physical Activity and Weight Loss with mHealth Intervention among Workers: Systematic Review and Meta-analysis of Randomized Controlled Trials

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Aim(s): Mobile technology has emerged as an effective strategy to change health behaviors among workers; however, the effectiveness of mHealth interventions in promoting physical activity and weight reduction for the workers is still unclear. This study aimed to provide a comprehensive analysis of current evidence on the mHealth intervention effectiveness in promoting physical activity and weight reduction.

Method(s): We searched relevant databases, including PubMed, EMBASE, CINAHL complete, and the Cochrane Library, for publications of randomized controlled trials in English and Korean languages from inception to December 2020. A meta-analysis with a random-effect model and subgroup analyses were performed on physical activity types and mHealth intervention characteristics.

Result(s): A total of 8 studies were included in this analysis. The mHealth intervention group showed a significant improvement in physical activity (standardized mean difference [SMD] 0.142; 95% confidence interval [CI] 0.003–0.281; P=.005; I2=65.54%). No statistically significant difference in weight reduction was observed (SMD −0.006; 95% CI −0.079–0.067; P=.087; I2=0.0%). Walking (SMD 0.381; 95% CI 0.069–0.694; P=.02; I2=64.27%) and multi-component program (SMD 0.224; 95% CI 0.062–0.385; P=.000; I2=70.15%) showed a significant enhancement of physical activity.

Conclusion(s): The study suggests the effectiveness of mHealth interventions for improving physical activity among workers. Future studies to assess long-term efficacy with a larger population are recommended.

Keywords: mHealth; physical activity; obesity; workforce

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Research Trends on Pediatric Nurse-Parents Partnership in Pediatric field: A Scoping Review

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Aim(s): This study aimed to analyze and describe the research trends of South Korea on partnership between pediatric nurses and parents, thereby to present future directions of partnership implication in the pediatric field.

Method(s): The scoping review was conducted according to the Joanna Briggs Institute(JBI) guidelines. Reviewed studies were searched using electronic databases. The scoping review method consists of four stages: 1) identifying the research question, 2) identifying relevant studies, 3) study selection, 4) analyzing, summarizing, and reporting results.

Result(s): Twenty eight studies were finally included. Studies related to partnership were analyzed according to 'general characteristics', 'partnership related characteristics(pediatric nurses and parents)', 'gap on partnership recognition between parents and nurses' and 'characteristics of partnership related intervention'. Of the included samples, the most common methodology was survey research (78.6%) and 78.6% of the studies were published since 2017. 50% of the participants were pediatric nurses and 35.7% of the participants were parents of hospitalized children. The intervention methods included active parental participation, development of education material, booklet, counseling and writing participation diary.

Conclusion(s): Partnership between pediatric nurses and parents needs to be recognized not as a series of linear processes, but a process in which both nurses and parents move together flexibly. Further research is needed to continuously measure the process and quality of the partnership between nurses and parents through the treatment process in various clinical setting.

Key words: Nurse, Parents, Partnership, Review

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Symptom Experiences, Symptom Cluster, and Symptom Experiences Related Factors in Patients with Liver Cirrhosis

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Aim(s): The purpose of this study was to identify symptom experiences and symptom clusters of liver cirrhosis patients based on the unpleasant symptom theory and identifying related factors.

Method(s): The subjects were 100 liver cirrhosis patients. Data was collected using a questionnaire including general and disease related characteristics, symptom experiences related liver cirrhosis, severity of liver disease (Model for End Stage Liver Disease, MELD), uncertainty, and social support from October 2, 2020 to March 31, 2021. Collected data were analyzed with descriptive statistics, factor analysis, Pearson correlation coefficient.

Result(s): In symptom experiences (frequency, intensity, and painfullness), fatigue was the highest score in frequency and intensity and sleep disturbance was the highest score in painfullness. In factor analysis, four symptom clusters were identified. First, the nervous·coagulant·hormonal disorder symptom cluster was consisted of sleepiness/confusion, bleeding tendency, shortness of breath, change in appearance, loss of memory and concentration. Second, gastrointestinal system symptom cluster was consisted of dyspepsia, loss of appetite, nausea/vomiting and abdominal bloating. Third, sensory·fatigue symptom cluster included edema/ascites, numbness/muscle pain in arms and legs, itchiness and fatigue. Lastly, urination·pain·depression symptom cluster was consisted of dark urine, pain in the right upper abdomen, difficulty urinating, and depression. In correlation analysis, there was significant correlations among MELD score and symptoms experience score (r=.34, p=.001), uncertainty and symptom experiences (r=.34, p=.001) and social support and symptom experiencess (r=−.20 p=.043).

Conclusion(s): This study can be used as basic data for developing a nursing intervention program to prevent symptom development and manage symptom clusters by giving a broad understanding of liver cirrhosis patients.

Keywords: Family Support, Symptom cluster, Symptom experience, Uncertainty

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Influence of Terminal Care Stress and Communication Skill on Terminal Care Performance of Visiting Nurse within Long-term Care Insurance

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Aim(s): The purpose of this study were to examine terminal care stress, communication skill and terminal care performance, and to identify the factors contributing to terminal care performance of visiting nurses.

Method(s): The subjects for this descriptive correlational study were 134 visiting nurses who have been providing visting nursing service for more than 6 months within long-term care insurance. Data was collected using a structured questionnaire including general characteristics, end-of-life care stress, communication skill, and terminal care performance from April 8 to April 28, 2021. Data were analyzed using descriptive statistics, ANOVA, Scheffe test, Pearson correlation coefficient, and multiple regression analysis.

Result(s): The mean scores of terminal care stress, communication skill, and terminal care performance were 4.04±0.52, 4.12±0.44, and 3.85±0.50, respectively. Terminal care performance showed a significant difference according to the position (t=18.40, p<.001) and the number of patient death experiences while working at the hospital (F=2.84, p=.027). As a result of multiple regression analysis, the number of patient death experiences while working in a hospital (β=.198, t=2.42, p<.017), end-of-life care stress (β=.393, t=4.76, p<.001), and communication skills (β=.302, t=3.75, p<.001) were found to have significant influences. Those three variables explained 29% of the total variance.

Conclusion(s): Patient death experiences, end-of-life care stress, and communication skills were significantly affect terminal care performance while working in long-term care field. It is necessary to consider interventions that can properly manage end-of-life care stress and improve communication skills. In addition, it is required to consider other factors that affect terminal care performance such as, expanding opportunities for appropriate training recommending active training methods.

Keywords: Communication Skill, Terminal Care Performance, Terminal Care Stress, Visiting nurse

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Factors Influencing Burnout of Nurses Working for Hospital Nationally Designated for COVID-19 Patients

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Aim(s): The purpose of this study was to investigate burnout of nurses working for a hospital admitting COVID-19 patients or suspicious patients, and to identify factors influencing the nurses' burnout.

Method(s): The subjects of this descriptive correlational study were 162 nurses working in hospital nationally designated for COVID-19 patients. Data were collected on general characteristics, burnout, social support, healthcare safety climate, and job stress using a questionnaire from April 5 to April 9, 2021. Data were analyzed using descriptive statistics, independent t-test, one-way ANOVA, Scheffe test, Pearson correlation coefficient, multiple regression, and Cronbach's alpha using IBM SPSS Statistics ver. 26.0 for Windows.

Result(s): IThe mean scores of burnout, fear of COVID-19, social support, healthcare safety climate, and job stress were 2.92, 3.03, 3.74, 1.92, and 2.69 respectively. Working department, healthcare safety climate, and job stress were significant factors affecting nurses' burnout and these variables explained 22% of burnout variance.

Conclusion(s): To reduce burnout of nurses working in frontline of COVID-19, in practice, efforts are needed to improve healthcare safety climate and to reduce nurses' job stress. In nursing research, further study on what makes difference in burnout between intensive care unit and medical/surgical wards in current COVID-19 situation. It will be used as basic data to reduce nurses' burnout during future infectious disease outbreak.

Keywords: Burnout, COVID-19, Pandemic

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Diabetes mellitus Inequality in Adults by Region: The Contribution of Obesity and Depression

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Aim(s): This study was to determine the differences in the effects of obesity (physical factors) and depression (Psychological factors) on diabetes mellitus (DM) in adults according to regions.

Method(s): This study was a descriptive research design analyzing the 2019 community health survey data to determine the effects of obesity and depression on diabetes mellitus among Korean adults by region. The Community Health Survey (2019) consisted of a questionnaire survey (depression) and health examination (BMI). The subjects were 16,972 adults (≥30 years) from Jeonbuk (region with the highest prevalence of DM) and Ulsan (region with the lowest prevalence of DM). The collected data consisted of a complex sampling design. The subject's data were analyzed using a complex sample χ2-test, and multiple logistic regression analysis (SPSS WIN 25.0 software).

Result(s): The factors influencing the probability of DM in Jeonbuk were BMI, age, sex, and unmet medical care. Regarding the BMI classification, the probability of DM was increased by 1.80 times for obesity and 2.72 times for high obesity compared to normal weight. On the other hand, depression was not an influencing factor. The probability of DM increased by 17.08 times with age and decreased by 0.54 times in females. In unmet medical care experience, the probability of DM increased by 3.59 times. For unmet medical reasons, the probability of DM increased 6.32 times for lack of time, 22.08 times for economic reasons, and 9.26 times for transportation inconvenience and long-distance.
The factors influencing the probability of DM in Ulsan were BMI, psychological counseling due to depressive symptom, and age. Regarding the BMI classification, the probability of DM was increased by 1.93 times for obesity and 2.54 times for high obesity compared to normal weight. The probability of DM increased by 4.94 times in those who had psychological counseling due to depressive symptoms. The probability of DM increased by 6.90 times with age.

Conclusion(s): This study presented the evidence for health project implementation in which interventions for obesity and depression should be included in DM management programs differently depending on the region.

Keywords: Adults, Depression, Diabetes Mellitus, Obesity

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Obesity, Leukocytes, and High-Sensitivity C-Reactive Protein associated with Type 2 Diabetes Mellitus in South Korean adults

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Aim(s): Type 2 diabetes mellitus (T2DM), a chronic disease, is associated with obesity and inflammation. This study investigated the effects of body mass index (BMI), leukocytes, and high-sensitivity C-reactive protein (hs-CRP) on T2DM in South Korean adults.

Method(s): This study was a descriptive research design that analyzed raw data from the National Health and Nutrition Examination Survey (NHANES III-3, 2018) data to determine the effects of BMI, leukocytes, and hs-CRP on T2DM in Korean adults. The KNHANES VII-3 2018 survey consisted of a questionnaire survey, health examination and blood test. This study included 5,420 adults (≥19 years), and divided into groups based on T2DM diagnosis: T2DM-diagnosed group and non-T2DM group. The collected data consisted of a complex sampling design. Group comparisons between the diagnosed with T2DM and non-T2DM groups were analyzed using t-test and χ^2 tests for general characteristics, BMI, leukocytes and hs-CRP levels. Factors influencing T2DM were analyzed by complex sample multiple logistic regression (SPSS WIN 26.0 software).

Result(s): BMI and leukocytes were higher in the T2DM-diagnosed group. The probability of T2DM increased by 4.76 times for obesity (BMI 25~29.9 kg/m²) compared to normal weight, but high obesity (BMI ≥30 kg/m²) was not an influencing factor for T2DM. As the leukocytes increased, the probability of T2DM increased by 1.15 times. However, hs-CRP was not an influencing factor for T2DM. Age was higher in the T2DM-diagnosed group and appeared to be an influencing factor in T2DM.

Conclusion(s): Obesity and inflammation indicators, including leukocytes, appeared to be risk factors for T2DM. This study provided evidence that T2DM prevention and management programs should include weight loss and leukocytes control.

Keywords: Body Mass Index, C-Reactive Protein, Leukocytes, Type 2 diabetes mellitus.

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Development and validation of an integrative simulation practicum course for junior nursing students under COVID-19 pandemic

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Aim(s): Under the COVID-19 pandemic in 2020, the qualified clinical education in the hospitals was very difficult. Accordingly, various education strategies such as simulation practicum has been emphasized to provide patient care practice experience to nursing students. In this circumstances, the aim of this study was to develop and evaluate the effects of an integrative simulation practicum course for junior nursing students in the beginning year of clinical practicum.

Method(s): For this study, we developed an integrative simulation practicum course based on the Jeffries' simulation model and tested its educational effects on clinical competency, critical thinking, self-efficacy, team psychological safety, teamwork, and satisfaction of practicum. The integrative simulation practicum was one credit course of 30 hours, which consisted of three simulation scenarios and various activities such as orientation, team puzzle game and skill training for simulation scenario running. This program was validated by clinical and educational experts. Effects of the developed practicum course was validated through a randomized controlled trials (RCT) with pretest posttest measurement in one university. Junior students (n=27) in the experimental group participated in the 30 hour simulation practicum, while those of the control group (n=27) joined in the conventional clinical practicum in the same period. In the both groups, data were collected by the structured questionnaire on pre and post practicum. The collected data were analyzed using SPSS 23.0 Win program.

Result(s): There was no significant differences in general characteristics between two groups. While, all of the scores of study variables in the experimental group showed significant improvement compared to those of control group. Specifically, there were significant differences in the clinical competency (t=4.018, p<.001), critical thinking (t=3.816, p<.001), self-efficacy (t=3.401, p=.001), team psychological safety (t=5.146, p<.001), team work (t=3.481, p=.001), and practicum satisfaction (t=7.100, p<.001) between two groups.

Conclusion(s): From these results, it is concluded that the integrative simulation practicum for junior students would be an effective teaching and learning strategies in nursing education to improve core competencies. When thinking the difficulty of qualified clinical practice in the COVID-19 pandemic, it is necessary to develop various simulation practicum course considering different grades and competency levels of nursing students to enhance the core competency for nursing students.

Keywords: Simulation, Practicum, Nursing competency, Team psychological safety, Teamwork

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Exploring of experiences of mothers and spouses using postpartum care center (Sanhujoriwon)

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Aim(s): The purpose of this study is to explore the essence of using experience of Sanhujoriwon in the mothers and their spouses.

Method(s): Study design is a qualitative study using the phenomenological methodology. Participants have been using experiences of Sanhujoriwon after delivery within one year. The exclusion criteria were those whose babies had diseases or handicap. We collected data from 20 participants (10 couples) from October to December, 2020. After beginning with a basic question about the participant, the researchers asked semi-structured questions. We conducted on-line interviews which lasted approximately 60 minutes. All interviews were digitally recorded and then transcribed. Data collection and analysis were conducted simultaneously. Collected data were analyzed by Colazzi's method.

Result(s): The age of participants ranged from 29 to 49 years. Four mothers have been maternity leave, five mothers quit the job after delivery, one mother started new business. There were 7 categories and 23 themes. Seven categories were as follows: 1) Choose postpartum care that focuses on the recovery of the mother rather than the baby, 2) Utilize the newborn baby room first, than mother-infant rooming-in, 3) An unexpected difficulties caused by breastfeeding, 4) The reality of postpartum care center education disappointing to learn the role of parents, 5) Shared parenting has become common place, 6) Dissatisfaction regarding cost of postpartum care service, 7) It was a short, but a mother-infant rooming-in experience generating the happiness of being a parent.

Conclusion(s): To improve the satisfactory experience in the Sanhujoriwon of mothers and spouses, qualified education and counseling program, especially for the successful breast feeding, should be provided by the health care professionals in the Sanhujoriwon. Also, baby friendly environment base on the rooming-in should be set in the Sanhujoriwon to establish the family centered care environment and to improve the successful transition to parenthood.

Keywords: Qualitative study, Sanhujoriwon, postpartum care, parenthood

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Factors Associated with the 4-year Estimated Incidence of Diabetes by Gender in Korean Adults: Secondary Data Analysis

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Aim(s): It is important to prevent the increase in the prevalence of diabetes mellitus (DM) worldwide by efficiently managing its controllable risk factors. This study aimed to identify factors associated with the 4-year estimated incidence of DM by gender and provide basic data for a gender-specific strategic approach to lifestyle modification.

Method(s): In this study, we carried out a secondary data analysis using raw data from the seventh Korea National Health and Nutrition Examination Survey (KNHANES, 2016-2018). The KNHANES is a descriptive correlational survey designed to examine gender differences in the factors associated with the 4-year estimated incidence of DM. This study included 9,614 Korean adults (4,134 men and 5,480 women) aged 40-69 years without a diagnosis of DM. For statistical analysis, complex sample analysis was performed for gender comparison using χ^2-test or one-way analysis of variance; multiple regression analysis was performed to analyze the gender-specific influencing variables of 4-year estimated DM incidence.

Result(s): The waist-to-height ratio, an indicator of central obesity in adults, had the strongest association with the 4-year estimated incidence of DM in both groups (M: β=0.33, p≤0.001; F: β=0.38, p≤0.001). The influencing variables were monthly drinking rate (β=0.07, p≤0.001) and sleep time (β=−0.03, p<0.05) in men, and sedentary time in women (β=0.03, p<0.05). The overall explanatory power of these variables was 11.3% for men and 14.3% for women. Thus, significant gender differences were found in the 4-year estimated incidence of DM.

Conclusion(s): Therefore, intervention programs need to be gender-specific to enhance the efficacy of the interventions in reducing the incidence of DM, and such intervention programs should be administered with a strategic approach differentiated by gender.

Keywords: Diabetes Mellitus, Waist Height Ratio, Sedentary Time, Alcohol Drinking, Sleep

P-175

Effects of Horticultural Therapy on the Korean Elderly with Dementia: A Meta-Analysis

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Aim: The aims of this Meta-analysis were to identify the effects of horticultural therapy on the Korean elderly with dementia. To improve the function of dementia elderly in Korea, the effects of horticultural therapy were classified three domains according to cognitive function, psychosocial function, and physical function.

Methods: We searched PubMed, EMBASE, Cochrane, CINAHL, and eight domestic databases, up to February 2021. Data extraction and the risk of bias assessment were conducted by two authors independently. Standardized mean differences (SMDs) with 95% confidence intervals (CIs) were calculated using a random-effects meta-analysis.

Results: Of 478 studies retrieved from databases, 21 studies were included in the final analysis. A total of 93 outcome variables were analyzed in 21 literatures. The overall effect size of the horticultural treatment program was 0.91 (95% CI: 0.74 to 1.09, $p < 0.001$), which was statistically significant. Compared to the control groups, horticultural therapy improved cognitive functions (SMD = 0.71, 95% CI: 0.42 to 0.99, I2 = 79.9%), psychosocial functions (SMD = 1.01, 95% CI: -0.70 to 1.31, I2 = 67.8%), and physical functions (SMD = 1.05, 95% CI: 0.77 to 1.33, I2 = 72%) on the Korean elderly with dementia.

Conclusion: This meta-analysis found that horticultural therapy improved the cognitive, psychosocial, and physical functions of dementia patients. These results can be used by caregivers as the basis for an individually tailored horticultural treatment program according to the behavioral and psychological symptoms of dementia patients

Keywords: Meta-analysis; Horticultural Therapy; Dementia; elderly

P-176

Virtual Reality Exercise Program Effects on Body Mass Index, Depression, Exercise Fun, and Exercise Immersion in Overweight Middle-Aged Women

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Aims: The prevalence of obesity among middle-aged women is high, and diet and exercise therapy are recommended to manage obesity. This study was conducted to confirm the effect of an exercise program applied with a virtual reality therapy program for overweight middle-aged women.

Methods: The study design was a Randomized Controlled Trial study. As an intervention, a virtual reality exercise program was applied 3 to 5 times a week, for 8 weeks. The virtual reality exercise program is a program that attaches an IoT sensor to an indoor bicycle and links it with a mobile phone to exercise in an immersive virtual reality through a Head Mounted Display. Participants were 70 middle-aged women between 40 and 65 years of age (BMI of 23 kg/m2 or more), 23 in the virtual reality therapy group, 24 in the exercise group, and 23 in the control group. For comparison of post-intervention effects, body mass index, depression, exercise fun, and exercise immersion were measured and analyzed before exercise intervention and at the 4th and 8th weeks of the exercise intervention.

Results: After intervention, the body mass index was statistically significantly decreased (F=100.806, p<.001). Depression showed a significant difference between the three groups, and in the comparison between groups, the virtual reality therapy group showed a more significant effect than the exercise group and the control group (F=3.462, p<.001). Also, there was a significant difference in exercise fun (F=12.373, p<.001) or exercise immersion (F=14.629, p<.001) in the virtual reality therapy group compared to the exercise group and the control group.

Conclusion: The virtual reality exercise program showed a positive effect on the body mass index, depression, exercise fun and immersion of overweight middle-aged women, and is thought to be an effective home training virtual reality exercise program for obesity management of middle-aged women.

Keywords: Virtual Reality; exercise; overweight; immersion

P-177

Effects of Digital Literacy, Attitudes towards Internet Health Information, and e-Health Literacy on Health Promotion Behavior in Adults

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Aim(s): The purpose of this study was to investigate the effects of digital literacy, attitudes towards internet health information, and e-health literacy on health promotion behavior in adults.

Method(s): A cross-sectional survey design was used. Data were collected from 260 voluntary adults aged 19 and older from two the provinces. From July to August 2020, data were collected. The tools of this study were structured questionnaires with a total of 99 items, including 12 general characteristics, 4 digital device characteristics, 9 digital literacy, 12 attitudes toward Internet health information, 10 e-health literacy, and 52 health promotion behavior. The data were analyzed with descriptive statistics, independent t-test, ANOVA, Pearson correlation coefficient and Hierarchical multiple regression analysis.

Result(s): A hierarchical multiple regression analysis was conducted to confirm the effect on the health promotion progress of the subjects. Older age, better subjective health, frequency of exercise (3≥week), frequency of exercise(1-2/week), higher digital literacy score and no smoking history led to a higher degree of health promotion behavior. 37.3% of explanatory power was predicted for the health promotion behavior of adults.

Conclusion(s): Based on the results, in order to improve the health promotion behavior in adults, it is necessary to pay more attention to people of a younger age and those who do not exercise regularly or are smokers. In particular, as digital literacy is found to be a factor influencing the health promotion behavior of adults, it is necessary to consider various strategies that are tailored towards improving the digital literacy for adults from all age groups and also conduct a systematic education of digital devices.

Keywords: Adult, Digital literacy, Health promotion, Internet

P-178

Work experience of nurses in charge of adequacy evaluation of small and medium sized hospitals

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Aim(s): The purpose of this study is to comprehensively understand the work experience of the person in charge of adequacy evaluation of small and medium sized hospitals and to explore its meaning and essence in depth

Method(s): This study design is a qualitative descriptive study. The study participants were 10 nurses who understood the purpose of this study and participated voluntarily. Data collection was conducted in January 2021, and in-depth interviews were conducted with the study participants. The in-depth interviews were conducted 1-2 times per participant, and the interview time was an average of 40-50 minutes per session. Data analysis was performed using Qualitative Content Analysis.

Result(s): The work experience of the person in charge of adequacy evaluation of small and medium hospitals was 'difficulty in the role of evaluation manager', 'negative feelings about evaluation', 'lack of support system', and 'positive change due to evaluation' under four themes.

Conclusion(s): Based on the above results, an education program development and support system should be prepared to strengthen the competence of nurses in charge of adequacy evaluation of small and medium hospitals. Therefore, based on the results of this study, we suggest a study to develop a systematic education program for nurses in charge of adequacy evaluation of small and medium sized hospitals and to evaluate the effect after application.

Keywords: Hospitals, Nurses, Role, Qualitative research

P-179

Changes in Fall Patterns and Influencing Factors in Korean Older adults: The Korean Frailty and Aging Cohort Study (KFACS)

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Aim(s): This study was conducted to derive the fall patterns and to investigate the influencing factors using data from the baseline (2016-2017) and follow-up (2018-2019) of the Korean Frailty and Aging Cohort Study (KFACS).

Method(s): Participants were 566 community-dwelling older adults aged ≥70 years old who had fall experience. Falls (fall experience, fall-related injuries, and fracture site), frailty, and health-related characteristics were assessed. Latent class analysis and latent transition analysis were performed to derive fall latent classes (patterns) and to identify transition probability of the fall patterns from the baseline to follow-up. After that, multinomial logistic regression was performed to identify influencing factors of fall patterns.

Result(s): Three fall patterns were derived for each of baseline and follow-up. The fall patterns of follow-up were as follows: the group that did not experience falls (Class 1), the group with bruises and lacerations due to falls (Class 2), the group with fractures due to falls (Class 3). In follow-up, when using Class 1 as a reference, the influencing factors to be included in Class 2 were lower education level (RRR 0.546, p=.011), low alcohol consumption (RRR 0.503, p=.039), and poor balance (RRR 2.743, p<.001). In Class 3, men (RRR 0.223, p=.041), high frailty score (RRR 0.586, p=.045), and when classified as Class 2 (the group with sprains due to falls) in the baseline (RRR 0.243, p=.023) compared to classified as Class 3 (the group with fractures due to falls) were significant factors.

Conclusion(s): This study provides a workable profile of the older adults' fall patterns and related factors. Findings indicate that previous fall experience, alcohol drinking, frailty, and level of balance were associated with the fall patterns. Therefore, the fall patterns should be considered when evaluating history of falls, and fall prevention interventions targeting influencing factors should be developed for older adults.

Keywords: Accidental Falls, Falls, Fall-related Injuries, Older adults

P-180

The Development of Nursing Simulation Learning Scenario of Emerging Infectious Diseases: Case of COVID-19 in Isolation Ward

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Aim(s): In the midst of the prolonged pandemic of coronavirus disease-2019 (COVID-19), it is needed to require education on infection control, especially nursing for emerging infectious diseases(EID), in the nursing education curriculum. Simulation-based education is an effective teaching method that provides a safe learning environment similar to a clinical situation and at the same time improves the core competencies of nursing students, such as clinical reasoning ability, self-confidence in a practice, and clinical performance ability. Thus, this study aimed to develop a nursing simulation learning scenario of EID focusing on the COVID-19 cases in South Korea for nursing students.

Method(s): This study was performed based on Jeffries (2005)'s simulation model, and simulation learning scenario of EID focused on COVID-19 case also developed based on the model. The stage of developing scenario was organized in the order of setting simulation learning objectives and situations of scenario, making algorithm, writing checklists of clinical performance, and debriefing tool. The scenario was constructed with monitor setting (actions), patient/mannequin (actions), expected interventions (events), and cues in chronological order, according to the scenario progression outline of Jeffries (2007).

Result(s): The simulation learning scenario developed in this study was composed of the contents which could be applied for varied situations such as dyspnea, complex isolation guidelines and psychological problems in the patient with COVID-19 in single room in negative pressure isolation ward.

Conclusion(s): Based on this study, it is expected that the simulation based learning of using scenarios similar with the clinical situation can be an effective method on nursing education especially by learning nursing care of COVID-19 patients with complexed isolation guidelines. Also, it might be used to develop scenarios of new EID for preparedness by using the scenario developed in this study.

Keywords: COVID-19, Emerging infectious diseases, Nursing student, Simulation training

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Frailty trajectory among community-dwelling middle-aged and older adults in Korea: the results from the Korean Longitudinal Study of Ageing

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Aim(s): This study aims to identify the frailty trajectory for 12 years, subgroups of the frailty trajectory, and the predictors that differentiate these subgroups among community-dwelling adults aged 45 years or older.

Method(s): We used the Korean Longitudinal Study of Ageing data of all waves from the 1st (2006) to the 7th survey (2018). The total number of participants in 2006 was 10,254, of which 9,775 who participated in the second or more survey were included as final participants in this study. Frailty was measured by the Frailty instrument consisted of three items assessing the weakness of grip strength, exhaustion, and social isolation. Latent growth curve modeling and Latent Class Growth Modeling were performed to identify the frailty trajectory and latent classes of trajectory from 2006 to 2018. Additionally, multinomial logistic regression analysis was used to identify predictors that differentiate these latent classes.

Result(s): The frailty trajectories of participants were statistically significant with a mean initial intercept of 0.564 and a mean-variance of 0.326. The average of the slope for 12 years was 0.018 and the mean-variance of the slope was significant at 0.008. We found 5 latent classes in frailty trajectories using LCGM; improving from moderate frailty, maintaining robust, maintaining severe frailty, worsening from moderate frailty, and worsening from mild frailty group. In multinomial logistic regression analysis, age, education level, marital status, residential area, smoking, drinking, regular exercise, chronic disease, cognitive function, and social participation were the significant predictors that differentiated each class.

Conclusion(s): There were various frailty trajectories including improvement group among community-dwelling middle-aged and older adults. In order to maintain a robust state, interventions focusing on modifiable factors such as encouraging non-smoking and regular exercise, preventing chronic disease, enhancing cognitive function and social contact are needed.

Keywords: Aging, Community-dwelling older adults, Frailty

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Influence of Parenting Role Sharing, Parenting Stress, and Happiness on Compassionate Parenting Behavior in Mothers of children aged 6 years

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Aim(s): This study aimed to examine the relationship among parenting role sharing, parenting stress, happiness and parenting behavior of mothers who have six-year-old children.

Method(s): The survey of the Korean Children's Panel is longitudinal data that has been constructed for newborns sampled nationwide from 2008 and will continue to be surveyed every year until 2027. This study used the 7th panel data. The participants of this study were 1,560 mothers of children aged 6 years. Statistical analyses were conducted using descriptive statistics, the t-test, analysis of variance, Pearson correlation coefficients, and stepwise multiple regression.

Result(s): The mean age of mothers was 36.282±3.70 years. The mean scores of parenting role sharing, parenting stress, happiness and compassionate parenting behavior were 60.76±10.84, 28.34±6.86, 20.85±4.32 and 21.78±3.24 respectively. Mother's perceived parenting role sharing, parenting stress, and happiness were significantly correlated with compassionate parenting behavior. According to the stepwise multiple regression analysis, significant predictors for mother's compassionate parenting behavior were parenting stress (β=-.47, p<.001), happiness (β=.15, p<.001), and parenting role sharing (β=.11, p<.001). These factors explained 32% of mother's compassionate parenting behavior(Adjusted $R2$=.32, F=240.66, p<.001).

Conclusion(s): This study suggests the importance of reducing mothers' stress and increasing mothers' positive emotion (happiness) and father's active parenting role sharing in raising children in order to enhance compassionate mother's parenting behavior.

Keywords: Mothers, Parenting role sharing, Parenting stress, Happiness, Parenting behavior

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Mindfulness-based Interventions and effectiveness for Nurses: A Systematic Review Protocol

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Aims: Mindfulness is a state of focusing the mind on the "now" and is recognized for its effectiveness in activating the brain and reducing stress. Mindfulness programs have been adopted in various workplaces in recent years, and interventions have been provided for nurses. The purpose of this study is to confirm the actual mindfulness intervention and its effects on nurses and to clarify the circumstances by the description of the intervention, outcomes, and type of bias.

Methods: We conducted a systematic review of randomized and non-randomized controlled trials published until June 2021. This search string will be used to search Web of Science, PubMed, Science Direct, CINAHL, Cochrane Central Register of Controlled Trials (CENTRAL), CiNii, Ichu-shi, and J-STAGE. The selected papers will be screened by title and abstract according to the inclusion and exclusion criteria by two independent reviewers. Three individual reviewers will screen the full-text papers using inclusion and exclusion criteria. After the full-text screening, articles undergo data extraction and risk of bias. The extracted data will be synthesized narratively.

Discussion and Registration: This article presents the protocol for a systematic review describing the methods and effects of a mindfulness intervention for nurses. The results will systematically organize the mindfulness interventions that have been provided to nurses and will be useful in the future for implementing mindfulness in practice. This protocol is under submission in the PROSPERO database.

Keywords: Mindfulness, Nurses, Protocol, Systematic review

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Nurses' experiences in caring for patients with infectious disease in a negative pressure room during the COVID-19 pandemic

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Aim(s): The purpose of this study was to explore the nurses' experiences in caring for patients with COVID-19 in a negative pressure room during the pandemic.

Method(s): This study was a qualitative research, and the focus group interviews were used to collect data. Three focus groups with a total of 19 nurses were interviewed from February 17 to 25, 2021. All interviews were recorded and transcribed verbatim with the consent of the participants. The verbatim transcripts were analyzed using thematic analysis.

Result(s): From the analysis, two main themes: "Struggling in an isolated space", "Limitations of infrastructure and system" emerged. The nurses caring for COVID-19 patients experienced anxiety and fear about the infection, physical exhaustion, emotional burnout, a sense of duty as nurse, and also lack of guidelines, increased task and burden, limitations of nursing care, and system.

Conclusion(s): The results suggest that physiological and psychological interventions are needed for nurses, especially education and training for infection prevention because of the high risk of infection. This study also revealed that nurses have demands of establishing guidelines, strengthening nurse staffing, and, above all, improving the healthcare system to respond effectively during the pandemic. The government and medical institution should be aware of the experiences and needs of nurses, and make efforts to improve the quality of life of healthcare workers and create a safe healthcare environment.

Keywords: Qualitative Research; Nurses; Patient isolation; COVID-19

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A Study on the Change in Perception of Parenting Before and After COVID-19 Using Topic Modeling

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Aim(s): This study aims to understand the change in perception of parenting before and after COVID-19 through social big data analysis.

Method(s): All data with keywords of 'parenting', 'childcare', 'baby' 'childbirth' and 'child' were collected from two online parenting communities, where parents are most active in South Korea from February to December 2019(before COVID-19) and February to December 2020(after COVID-19. Latent Dirichlet Allocation topic modeling was performed using a Python library.

Result(s): Total 95,458 documents in 2019 and 86,821 ones in 2020 were analyzed through topic modeling. 5 topics for each year were selected. Based on the selected topics, it is recognized that parenting is complex, and it needs help from their husband, relatives, in-laws, daycare centers, or kindergartens, regardless of COVID-19. After COVID-19 in 2020, due to the decrease in the function of the official child care support system such as daycare centers, kindergartens, and schools, the burden of child care increased, and it was confirmed that they were complaining of difficulties in work-family balance. In addition, compared to 2019, the number of articles and topics related to education or school increased. Korea has a cultural characteristic with high enthusiasm for education. The primary cause is the educational gap and learning loss anxiety resulting from the decline in the quality and quantity of education due to the COVID-19 pandemic.

Conclusion(s): There is a need for universal and continuous support for parents' physical and mental difficulties involved in parenting. Moreover, we should prepare for countermeasures to overcome difficulties such as the lack of functionality of social parenting and education systems during pandemics like COVID-19.

Keywords: COVID-19, parenting, topic modeling

P-186

Effects of somatization symptoms, depression, and sedentary time on sleep quality in middle-aged women with cardiovascular risk factors

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Aim(s)： Cardiovascular disease (CVD) is the leading cause of death—excluding neoplasm—in Korean women, with its incidence dramatically elevated in middle-aged women. This study aims to identify the predictors of sleep quality, a CVD risk factor, in middle-aged women with CVD risk factors in order to provide foundational data for developing intervention strategies for CVD prevention.

Method(s)： This study is a descriptive correlational study aiming to examine the effects of somatic symptoms, depression, and sedentary time on sleep quality in middle-aged women with CVD risk factors. Two hundred and three middle-aged women (40–65 years) who live in Seoul or two other large cities with one or more CVD risk factors were convenience sampled. CVD-related characteristics were analyzed with descriptive statistics, and the mean values of the independent variables were analyzed with t-test and ANOVA. The predictors of sleep quality were analyzed with multiple regression analysis.

Result(s)： Sleep quality increased with decreasing somatic symptoms ($\beta=-0.36$, $p<.001$), decreasing depression score ($\beta=-0.17$ $p=.023$), and decreasing daily sedentary time ($\beta=-0.13$, $p=.041$), and the regression model was significant ($F=19.80$, $p<.001$), with these factors explained for 23% of the variance of sleep quality.

Conclusion(s)： The most potent predictor of sleep quality of middle-aged women was somatic symptoms. Thus, intervention strategies that improve somatic symptoms are crucial to enhance sleep quality that deteriorates with advancing age into middle adulthood.

Keywords： Somatization Symptoms, Depression, Sedentary Time, Sleep Quality, Middle-aged Women, Cardiovascular Risk Factors

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Mobiletype - Moyamoya Adolescent Salutogenesis: A Usability Test

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Aim(s): Moyamoya disease (MMD) is a rare, chronic, and progressive intracranial arteriopathy. It is critical for individuals with MMD to have the capability of managing their symptoms. This study aimed to 1) develop a mobile application (APP) titled 'Moyamoya Healthy Youth' that can help adolescents with MMD to improve their health, and 2) conduct the usability test of this app.

Method(s): The app development was guided by Antonovsky (1987)'s Salutogenesis Theory. The app's usability was evaluated by the Intervention Mapping Protocol. We reviewed prior studies regarding MMD and relevant interventions. We performed individual or focus group interviews targeting adolescents with MMD, parents, and healthcare providers. Additionally, we conducted a survey to identify MMD symptoms. Based on the findings, healthcare professionals (pediatric nursing professors, MMD specialists) and app developers (app development consultant, programmer, user interface designer) created the 'Moyamoya Healthy Youth' app. Subsequently, pediatric nurse practitioners and pediatric nursing professors, high school students, and app development professionals used the app themselves and evaluated the app's easiness and usefulness.

Results(s): Considering availability, accessibility, and visibility, this app had been developed from August to November 2020. The app's system structure was employed a server/client system using HTTP and Web API. The server configuration used the MySQL database and Apache Tomcat/Spring Framework. The client configuration was performed by Android SDK. This app has been uploaded to Google Play. The main screen of the app consisted of 'Diary', 'Daily Report', and 'Cheer Up Message'. In terms of the usability test, the mean scores of the easiness and usefulness of using the app were 4.42 (SD = 0.34) and 4.52 (SD = 0.22), respectively, which could be regarded as favorable levels.

Conclusion(s): This study verified the usability of the 'Moyamoya Healthy Youth' app. This app could contribute to the enhanced self-management skills of adolescents with MMD.

Keywords: Moyamoya, adolescent, salutogenesis, application, intervention

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Risk and protective factors for salutogenesis of adolescents with Moyamoya disease

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Aim(s): To identify the risk and protective factors affecting salutogenesis in adolescents with Moyamoya disease based on Antonovsky's salutogenesis theory.

Method(s): This study used a qualitative descriptive design. We interviewed adolescents diagnosed with Moyamoya disease who were hospitalized or undergoing treatment at the outpatient clinic of X hospital in Seoul from July 4, 2019 to October 10, 2019. We also interviewed their parents and experts with experience in treating adolescents with Moyamoya disease. Data analysis was performed according to the process of deductive content analysis based on Antonovsky's salutogenesis theory.

Result(s): This study identified risk and protective factors affecting salutogenesis in adolescents with Moyamoya disease. Risk factors were closely related to problems with friends, parent relationships, and academic work. Protective factors were identified as social and emotional support through interpersonal relationships, positive attitudes of adolescents to the disease, ability to understand and predict patterns of symptoms, increasing strength to resolve the state of tension, and developing available resources in emergencies. Particularly, families of adolescents plays an important role in maintaining the health of adolescents with Moyamoya disease.

Conclusion(s): The factors affecting salutogenesis in adolescents were identified by reflecting on the characteristics of the developmental stage of adolescents and the symptoms and situations that are unique to adolescents. In order for adolescents with Moyamoya to acquire and maintain health, it is important for them to recognize available resources and use them appropriately to successfully manage the state of tension caused by stress. Based on the results of this study, we suggest the development of interventions to maintain and promote the health of adolescents with Moyamoya disease.

Keyword: Moyamoya disease, Salutogensis, Deductive content analysis, Health management

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Self-rated health and dietary adherence in people with chronic kidney disease

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Aim(s): Self-rated health (SRH) was thought to be an important indicator for health-related behavior in people with chronic diseases. It also has been reported that SRH was a significant predictor for dietary adherence in people with other chronic diseases. However, little is known about SRH and its relationship to dietary adherence in people with chronic kidney disease (CKD). Thus, the purposes of this study were 1) to describe SRH, 2) identify its associated factors, and 3) investigate the relationship between the SRH and dietary adherence in people with CKD.

Method(s): This was a secondary analysis of dataset from 7th Korea National Health and Nutrition Examination Survey (2016-2018). Those who had estimated glomerular filtration rate (eGFR) of <60 mL/min/1.73 m2 (N=557, mean age=71.75, eGFR=58.9, male=56.8%) were included in this study. Data for demographic and clinical characteristics, and dietary adherence were obtained by interview and physical examination. Compliance for diet therapy and daily potassium level were included to describe dietary adherence. Descriptive and inferential statistics were used to analyze the data.

Result(s): 320(57.5%) participants rated their SRH as "good" or "moderate" (better SRH), whereas 237(42.5%) participants responded "poor" (worse SRH). Multivariate logistic regression showed that male participants, those who were old, had middle income level, did muscular exercise were more likely to have better SRH. Current smoker and those with anxiety/depression and multiple chronic diseases were less likely to have better SRH. Regarding relationship of SRH to dietary adherence, those with better SRH were more likely to be noncompliant to diet therapy and to take more than 2.5grams of potassium, after controlled for other covariates.

Conclusion(s): Understanding of associated factors for SRH and its relationship to dietary adherence will help healthcare providers develop more effective interventions to improve SRH and its impact on dietary adherence in people with CKD.

Keywords; chronic kidney disease, dietary adherence, Korea National Health and Nutrition Examination Survey, self-rated health

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Effect of Organizational Silence and Organizational Justice on Bullying in the Workplace of Hospital Nurses

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Aims: The purpose of this study was to measure the level of organizational silence, organizational justice, and bullying in the workplace of hospital nurses and to identify the relationships among these three variables.

Methods: The study was a cross-sectional survey of 235 full-time nurses in Korea. Data were collected online using Google Docs from June 14 to July 9, 2021, as a face-to-face survey was not possible with COVID-19. The collected data were analyzed using the SPSS 25.0 program.

Results: The average score for organizational silence was 3.15 (out of 5), organizational justice was 2.56 (out of 5), and bullying in the workplace was 2.80 (out of 4). Male(11.1% in the total subjects), age in their 20s, single, less than five years of experience, nurses working in special departments experienced more often workplace bullying than nurses with other characteristics, and they usually endured alone rather than reporting it when bullying occurred. There were positive relationships among organizational silence, organizational justice, and bullying in the workplace. Factors influencing workplace bullying were acquiescent silence, bullying experience (have), distributive justice, defensive silence, gender (male), and marital status (single), which accounted for 56% of bullying in the workplace.

Conclusions: These results show that male nurses and young unmarried nurses are vulnerable to bullying in the workplace. And it also shows that bullying in the workplace occurs often in organizations with high acquiescent and defensive silence and low distributive justice. Therefore, it could be concluded that nursing managers need to take care of young unmarried nurses and male nurses so that they do not experience bullying in the workplace. And it could be also concluded that nursing managers should strive to improve their organization's communication skills and level of distributive justice.

Key Words: Organizational silence, Organizational justice, Bullying, Nurse

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Factors Influencing the Level of Fall Incidents in Korean Hospitals

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Aim(s): Falls are the most prevalent patient safety incidents in hospitals and can cause serious injury and death. This study aims to examine the prevalence and the factors that influence the level of fall incidents in Korean hospitals.

Method(s): This cross-sectional descriptive study used secondary data from the "Korean Patient Safety Incident Report 2019" and was based on the International Classification for Patient Safety conceptual framework. We analyzed 4,176 fall incidents between January 1 and December 31, 2019. Data were analyzed using descriptive statistics and χ^2-test. Also, multinomial logistic regression analyses were conducted to identify factors that influence the level of these incidents.

Result(s): Among the fall incidents, 443 (10.6%) were sentinel events, 2,514 (60.2%) were adverse events, and 1,219 (29.2%) were near miss. The level of incident (sentinel event, adverse event, and near miss) showed significant differences according to age (χ^2=50.06, p<.001), gender (χ^2=63.39, p<.001), diagnosis (χ^2=120.68, p<.001), medical department (χ^2=64.42, p<.001), type of hospital (χ^2=239.74, p<.001), bed size (χ^2=82.28, p<.001), accident location (χ^2=19.21, p<.014), and reporter (χ^2=69.17, p<.001). The result of the multinomial logistic regression showed that the factors associated with sentinel events were old age (≥60 years), gender, diagnosis, medical department, early detection after falls, long-term care hospital, and reporter. Adverse events were significantly associated with patients' diagnosis, medical department, nurses' night shift time, large bed size, accident location (operating room, recovery room, and intensive care unit), and reporter.

Conclusion(s): Our findings indicate that both patient and incident characteristics were significantly associated with the level of fall incidents in hospitals. Therefore, multiple factors should be taken into account to establish healthcare policies, and thus prevent fall risks and minimize damages following falls in hospitals.

Keywords: Falls, Risk factors, Patient safety, Public reporting of healthcare data

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Construction of a Model for Smart Device Overdependence of Preschoolers

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Aim(s): With the development of information and communication technology, preschoolers are naturally being exposed to smart devices. It is estimated that preschoolers' smart device overdependence (PSO) is 25.7%, which is higher than that of adults aged 20-59 (22.2%) in South Korea. Considering that it could adversely affect the overall development of preschoolers, it is essential to understand the causes of PSO. This study aimed to develop and test a structural model to gauge PSO.

Method(s): This study involved a structural model analysis to verify a hypothetical model for factors that explained PSO. The study collected and analyzed data of 283 mothers who are raising children aged 3-6 years, during January-May 2021. The evaluation variables included mothers' emotional intelligence and negative parenting behavior, preschoolers' attachment instability and smart device overdependence. The data were analyzed using the SPSS 23.0 and AMOS 23.0 program.

Result(s): After estimating the values of the modified model, the standardized path coefficients were found to be significant in four paths. The model fit indices were $\chi^2=22.023$, (DF=8, p=.005), χ^2/df=2.753, CFI=.976 (≥.9), NFI=.963 (≥.9), SRMR=.037 (≤.1), RMSEA=.079 (.040~.120) (<.1), and AIC=48.023. Mothers' negative parenting behavior directly influenced PSO (β=.286, p<.001) and preschoolers' attachment instability (β=.463, p<.001). These predictors explained 44.6% of the variance in PSO. Mothers' emotional intelligence had an indirect effect on PSO by mediating mothers' negative parenting behavior (β=−.125, p<.001) and preschoolers' attachment instability (β=−.114, p<.001).

Conclusion(s): These results show that mothers' negative parenting behavior and preschoolers' attachment instability increased PSO. Conversely, mothers' emotional intelligence reduced vulnerability to PSO by sequentially affecting their negative parenting behavior and preschoolers' attachment instability. Therefore, it is imperative to provide interventions that improve mothers' negative parenting behavior and preschoolers' attachment instability by increasing mothers' emotional intelligence to reduce PSO.

Keywords: attachment; child, preschool; emotional intelligence; smartphones

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Factors Influencing Healthcare Provider-Patient Communication in Korea

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Aim(s): The aim of the study is to establish a hypothetical model for the medical service communication of medical consumers and to verify of the factors affecting the medical service communication of consumers, based on Cox's interaction model of client health behavior and Street's ecological framework of communication in medical encounters.

Method(s): This cross-sectional descriptive study used data from a national survey of cancer and health-related information-seeking behavior for Koreans. The data was collected for consumers, aged 19 years or older in 2018. Regional quota sampling method was used. Socio-demographic characteristics, personal characteristics, media characteristics, and cognitive-affective influences were assessed as factors related to health care provider-patient communication. Data were analyzed for 895 Korean adults using descriptive statistics, t-test, ANOVA, and multiple regression analyses.

Result(s): The average score for healthcare provider-patient communication was 2.30 (SD: 0.68). Among the six items, "patients made sure they understood the things they needed to do to take care of their health" was the highest (2.45±0.79), whereas the score of "spent enough time with healthcare provider" was the lowest (2.13±0.87). Provider-patient communication in healthcare was significantly associated with age, patients who lived alone, patient activation, and health information technology (HIT) efficacy.

Conclusion(s): Our findings indicate that socio-demographic, personal, and media characteristics were significantly associated with provider-patient communication in hospitals. To improve communication in healthcare, providers need to be aware of the level of patient activation and HIT efficacy, and it is necessary to provide more information to patients based on patient-centered care.

Keywords: Health communication, Patient-centered care, Consumer health information, Information seeking behavior

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The Effects of Simulation Problem-based Learning for Cesarean Section Maternity Nursing: Based on Peplau's Interpersonal Relationship Model

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Aim(s): The purpose of this study was to verify the effects of simulation problem-based learning (S-PBL) on the communication skills, communication attitude, and team efficacy as learning transfer of nursing students.

Method(s): A quasi-experimental control group pretest and posttest design was used. A total of 93 nursing students at one university in South Korea were allocated using convenience sampling to the experimental group (n=47) and the control group (n=46). Data were collected from 24 May to 16 July 2021. The S-PBL based on the Peplau's Interpersonal Relationship Model consisted of prebriefing (60 minutes), operation (15 minutes), and debriefing (60 minutes) stages. Students in the control group participated in a conventional type of maternity nursing clinical practice, while students in the experimental group participated in cesarean section maternity nursing S-PBL. The students' communication skills, communication attitude, and team efficacy were measured via a self-reported questionnaires. Data were analyzed using descriptive statistics, paired t-test and ANCOVA using SPSS 22.0.

Result(s): Compared with the control group, communication attitude significantly increased in the experimental group (t = 2.41, p = 0.020). On the other hand, communication skills (t = 1.47, p = 0.150) and team efficacy (F = 3.296, p = 0.073) increased in the experimental group, but not statistically significant.

Conclusion(s): With the emergence of the coronavirus disease (COVID-19), many medical institutions have not permitted nursing clinical practice or have operated their training on a restricted basis. To overcome these limitations, there is a growing need to supplement the experience of interaction between the nursing students and patients with applying S-PBL. In the era of COVID-19, S-PBL was found to be an effective strategy for improving communication attitude as nursing core competency. Thus, S-PBL in clinical nursing practice education is recommended to improve learning transfer, applying learned communication and nursing knowledge to simulated nursing situations.

Keywords: cesarean section; communication; learning transfer; maternity nursing; simulation; problem-based learning

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Research Trends in Family Centered Care for Children with Chronic Disease: Keyword Network Analysis

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Aim(s): Family Centered Care is an approach to promote the health and well-being of children with chronic disease and their families. It helps to maintain qualified care in their daily lives with mutually beneficial partnerships among health care providers, patients, and families. We aimed to explore the knowledge components, structure, and research trends related to family-centered care for children with chronic disease by utilizing the advantages of Keyword Network Analysis (KNA).

Method(s): Three stages of keyword co-occurrence network analysis include searching and screening of relevant studies, keyword extraction and refinement, and data analysis and visualization. A total of 3,419 raw keywords was exacted from 1,494 studies, extracted from 3012 published articles on family-centered care with chronic illness published from 2010 to 2019 searched from seven databases, with 9,732 frequencies. We selected 289 keywords having a higher frequency than the average. Network centrality analysis, cohesive subgroup analysis, and trend analysis by period using UCINET 6 and Gephi software were conducted.

Result(s): The core keywords were child, adolescence, parent, and disabled. Identified keywords with the high value in the between centrality were chronic disease, caregiver, quality of life, qualitative research, pediatric, and family, which indicates how much a keyword performs as an intermediary among keywords. Four cohesive subgroups in the network based on 50 highly ranked in degree centrality included groups of keywords on psychological and developmental problems, community care, accessibility, communication, decision making, transition, children with special health care needs, and palliative care. Research trends in the three phases of a recent decade have been changed.

Conclusion(s): Knowledge components and structure in the family-centered care for children with chronic disease have been varied. Based on the systematic understanding of the context of the knowledge structure, the provision for future research direction on children with chronic diseases based on family-centered care is suggested.

Keywords: children, chronic disease, family, partnership

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Psychometric evaluation of PROMIS® item banks of self-efficacy domain for the Korean people using Item Response Theory model

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Aim(s): To assess the real experiences of patients, the patient-reported outcomes are used in various clinical fields. The purpose of this study was to evaluate the psychometric properties of the Korean version of Self-efficacy for Managing Medications and Treatments(SE-MT) and Managing Symptoms(SE-S) item banks of the Adult PROMIS® (Patient-Reported Outcomes Measurement Information System®).

Method(s): This study conducted the graded response model of Item Response Theory (IRT) to reflect the patient-reported outcomes as an individualized response. Criterion validity was analyzed with two other measurements: Summary of Diabetes Self-Care Activities—Revised (SDSCA-R) and Diabetes self-management assessment report tool (D-SMART). The Cronbach's alpha and test-retest reliability were assessed to identify the internal consistency.

Result(s): A total of 323 patients with type II diabetes mellitus in a tertiary hospital participated in this study. The Korean version of SE-MT and SE-S' internal consistency reliability (Cronbach's alpha=0.95, 0.98) and test-retest reliability (intraclass correlation=0.96, 0.97) were proper. Criterion validity was supported by the high correlation with SDSCA-R (r=0.29, 0.36) and D-SAMRT (r=0.44, 0.59). Confirmatory factor analysis using diagonally weighted least squares, and omega hierarchical(ωh) value identified the assumptions of IRT (CFI=0.982, 0.989; NNFI=0.980, 0.988; RMSEA=0.135, 0.274; ωh=0.83, 0.87). The item trace-plots of each item were derived based on the results. These plots confirmed that the Korean version of SE-MT and SE-S had qualitative evidence of psychometric properties.

Conclusion(s): Healthcare providers are required to identify patients' self-efficacy levels accurately to contribute to individualized care intervention for improving patients' self-efficacy and health-related outcomes. This study identified the appropriate validity and reliability of the Korean version of the PROMIS® SE-MT and SE-S. The SE-MT and SE-S can help evaluate the degree of self-efficacy in patients with chronic disease initially. Further psychometric evaluation is needed to be performed in other chronic conditions and various settings.

Keywords: Psychometrics; Validity study; Patient health questionnaire; Self efficacy

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Longitudinal association between frailty, cognitive function, and fall in the older Korean population

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Aims: This study aims to investigate the longitudinal association between frailty, fall, and cognitive function among community-dwelling older people by gender.

Methods: This study utilized the 1st (2016-2017) and 2nd (2018-2019) waves of the Korean Frailty and Aging Cohort Study (KFACS) data using cross-lagged panel analysis. Data were collected from two waves and a total of 2318 people aged ≥70 years were included. Frailty was assessed with the Fried's frailty index and fall was classified into the presence or absence of a fall experience. Cognitive function was measured using the Mini-Mental State Examination (MMSE) and digit span. Cross-lagged panel model was tested for frailty, fall, and cognitive function (MMSE, digit span).

Results: Frailty and digit span of cognitive function at wave 1 had a significant longitudinal association with fall at wave 2 in older people, which indicates that frailty and poor cognitive function were associated with high fall experience after 2 years (frailty at wave 1 to fall at wave 2: standardized regression coefficient [β] =0.065, 95% confidence interval [CI] =0.011, 0.051; p =<0.01; digit span at wave 1 to fall at wave 2: β =−0.041, 95% CI =−0.009, −0.001; p =<0.05). In the female group, there was a statistically significant longitudinal association between frailty at wave 1 and fall at wave 2. However, frailty at wave 1 was not predictive of fall at wave 2 in male group.

Conclusions: The findings indicate that poor cognitive function of working memory and attention-concentration in older people may the risk of falls. Especially, higher frailty predicts experience of falls in female group. Therefore, community nurses should plan fall prevention programs, including the improvement and/or maintenance of physical frailty and cognitive function of the elderly. Targeting improvement of frailty brings a feasible approach to reduce the burden of falls among older female people.

Keywords: accidental falls, cognition, frail elderly, frailty

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Factors related to Posttraumatic growth and QOL of Early gastric cancer patients

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Aim(s): The purpose of this study is to identify factors related to posttraumatic growth (PTG) and quality of life (QOL) in early gastric cancer (EGC) patients who have completed treatment through endoscopic resection treatment. This is to identify and provide fundamental data for nursing interventions to improve QOL and PTG in EGC patients.

Method(s): This study is a descriptive correlation study of 187 EGC patients undergoing endoscopic resection. This study examines the effects of PTG, self-esteem, social support, and personality characteristics on the relationship between the QOL and factors of EGC patients.

Result(s): During the PTG scale of EGC patients, the spirituality increase was measured low at 2.02 points (average 2.72). Positive correlations have been found in PTG, self-esteem, social support, outgoing and open characteristics, and QOL. As a result of multiple regression analysis, the factors affecting QOL in EGC patients were self-esteem, and explanation power increased to 48.2% due to social support, difficulties in daily life, employment, and inconvenient symptoms after endoscopic treatment.

Conclusion(s): PTG in EGC patients requires active intervention for the spiritual growth of nursing intervention. In addition, interventions such as self-esteem and social support should be made to improve QOL in EGC patients.

Keywords: Posttraumatic growth, Quality of life, self-esteem, social support

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Home-Based Combined Intervention with 360-degree Virtual Reality Videos and Activity Tracker to Improve Mood and Physical Activity in Midlife Immigrant Women: A Pilot Study

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Aims: There is a higher prevalence of depression and lack of exercise in midlife immigrant women than in native women. Virtual reality videos can provide emotional well-being and activity trackers that can facilitate physical activity. However, no combined intervention has targeted midlife immigrant women. The purpose of this pilot test is to assess the feasibility, acceptability, and preliminary efficacy of home-based intervention with virtual reality and Fitbit activity trackers.

Methods: One group pre- and post-test design was used. Participants were 11 community-dwelling midlife immigrant women in South Korea. The 4-week home-based intervention consisted of a wearable activity tracker and 360-degree nature videos in virtual reality. Participants were taken through an orientation and provided with brochures on the proper use of virtual reality headsets (Oculus Go) and activity monitors (Fitbit charge 3). During the intervention period, participants were instructed to practice the intervention at their home for 35-40 minutes (5-10 minutes of virtual videos and 30 minutes of walking) every day, at least 5 days per week. Feasibility was assessed by examining participant retention, while acceptability was assessed using a 5-point scale of satisfaction. Physical activity, mood, depression, self-efficacy, and body composition were compared before and after intervention. To evaluate the difference between the baseline and 4 weeks after, paired t tests were conducted.

Results: Participant retention was 91.7%. Participants had significant improvements in activity hours (t=-5.23, p<.001) and negative affect (t=2.82, p=.018). There were no statistically significant differences in body composition, depression, positive affect, and self-efficacy. Furthermore, most participants (90.9%) answered "satisfied" or "very satisfied" with the intervention.

Conclusions: Home-based intervention delivered through virtual reality videos and Fitbit activity trackers seems feasible and has preliminary efficacy in improving mood and physical activity. Further research is warranted to evaluate the effectiveness in a more rigorous randomized controlled trial.

Keywords: affect, exercise, immigrants, virtual reality

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A Structural Equation Model on Social Readjustment of Stroke Patients: Based on Roy's Adaptation Model

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Aim(s): This structural model study aimed to identify the factors affecting social readjustment of stroke patients, to propose a hypothetical model, and to test the developed model with empirical data.

Method(s): The hypothetical model was developed based on Roy's adjustment model (1991) and a review of previous literature on the topic. It consists of four exogenous variables (neurological damage, sex, age, and social support) and five endogenous variables (activities of daily living, acceptance of disability, depression, rehabilitation motivation and social readjustment). The subjects were 321 stroke patients. The data were analyzed using IBM SPSS/WIN 22.0 and AMOS 23.0.

Result(s): The fit of the hypothetical model was $\chi2=222.902$, $\chi2/df=2.533$, CFI=.937, TLI=.902, RMSEA=.069, SRMR=.054, which indicates that the model is fairly suitable. 18 of the model's 28 research hypotheses were supported, and explained 64.1% of stroke patients' social readjustment. According to the findings, social readjustment is directly and significantly affected by age (SRW=-.379, $p<.001$), social support (SRW=.295, $p<.001$), activities of daily living (SRW=.335, $p<.001$), and depression (SRW=-.244, $p<.01$). On the other hand, neurological damage (SRW=-.062, $p=.358$), sex (SRW=.059, $p=.282$), acceptance of disability (SRW=-.100, $p=.218$), and rehabilitation motivation (SRW=.055, $p=.391$) did not have significant direct effect.

Conclusion(s): Continuous assistance should be provided to stroke patients who require long-term rehabilitation and care on account of disabilities caused by sudden neurological damage, including active nursing intermediation in physical, psychological, and social aspects, so as to improve their social readjustment gradually. In order to improve stroke patients' social readjustment, their activities of daily living should be increased, and enhanced social support should be provided to prevent depression.

Keywords: Social Re-adjustment, Stroke, Roy's Adaptation Model

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Exploring shift workers' sleep and metabolic syndrome: A systematic review

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Aim(s): Sleep disturbances (SD) are identified as a strong indicator of metabolic syndrome (MetS). Shift workers (SW) are likely to develop SD due to self-imposed sleep restrictions and work demands. Accumulated SD causes reciprocal changes in circulating hormones such as leptin and ghrelin that facilitate insulin resistance, low-grade chronic inflammation and oxidative stress. Therefore, SW may be more vulnerable to MetS. This study aimed to conduct a systematic review of currently available literature to find evidence on pathways linking SW, SD and MetS.

Method(s): A systematic search was conducted using Medline, EMBASE, CINAHL, Web of Science databases after consulting an expert medical librarian. Two authors independently searched, reviewed and extracted data from all retrieved articles. A third reviewer was available for consultation if consensus could not be reached. The quality of selected studies was assessed using the Newcastle-Ottawa Scale.

Result(s): From 4,982 potentially relevant articles, a total of 15 studies were included. Overall, SW exhibited a positive correlation with SD, and any type of SW was correlated with reduced sleep duration and poor sleep quality. Up to 37.01% of MetS prevalence was observed among SW, with the highest risk in those with longer exposure (≥ 10 years). The pathways between the three components varied depending on the SD definitions. SD, defined based on sleep duration, showed higher MetS prevalence and higher average number of MetS components in SW with SD. However, SD based on the sleep quality failed to find significant results in SW with SD on MetS.

Conclusion(s): Sufficient evidence show SW to be independently associated with multiple aspects of subjective sleep parameters including sleep quantity and also with MetS. However, the current body of knowledge remains inconclusive to explain the causality and mediating effect of sleep in the relationship between SW and MetS, and, so, further studies are recommended with specific attention to the sleep quality.

Keywords: metabolic syndrome, sleep disturbance, shift work schedule

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Factors Affecting the Continuous Employment among the Waged Workers with Mild Motor or Sensory Disorders: A Survival Analysis from the Panel Survey of Employment for the Disabled in Korea

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Aim(s): The purpose of this study was to investigate factors affecting the period of continuous employment among the waged workers with mild disabilities, especially with motor or sensory disorders, in Korea.

Method(s): We used data from the Panel Survey of Employment for the Disabled (PSED), from 2016 through 2019. The sample chosen for this study included 1,091 waged workers with mild motor or sensory disorders aged 15-64. Life table analysis and Kaplan-Meier survival analysis were adopted to examine the differences in the continuous period of employment depending on the type of disabilities among the panels with mild motor or sensory disorders. The statistical influence of certain variables on the duration of employment was estimated by Cox proportional hazard regression analysis. The Neuman Systems Model was utilized as a conceptual model to identify factors affecting employment for waged workers with mild motor or sensory disorders: basic structures (socio-demographic variables), intrapersonal factors (vocational preparedness), interpersonal factors (social interaction), and extra-personal factors (job environments and task difficulties)

Result(s): The period of continuous employment was longer in the motor disorders (n = 805, Median ± SE = 29.50 ± 3.12 years) than in the sensory disorders (n = 286, Median ± SE = 19.33 ± 3.94 years; χ^2 = 10.77, p = .001). As a result of univariate Cox regression analysis, the persons with motor disorders and sensory disorders differ in some predictors of leaving employment: age at onset of disabilities, educational attainment, co-morbidity, self-efficacy, occupation, and aptitude for the task. Referring to the multivariate analysis, suitable aptitude for the task was still statistically related to the longer period of employment in persons with motor disorders.

Conclusion(s): The findings of this study contribute to identifying factors that impact continuous employment in persons with motor disorders or sensory disorders and suggest the importance of considering disability-specific needs for keeping their current jobs.

Keywords: Disabled Persons, Employment, Career Mobility, Work Engagement

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Longitudinal association between frailty, cognitive function, and fall in the older Korean population

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Aims: This study aims to investigate the longitudinal association between frailty, fall, and cognitive function among community-dwelling older people by gender.

Methods: This study utilized the 1st (2016-2017) and 2nd (2018-2019) waves of the Korean Frailty and Aging Cohort Study (KFACS) data using cross-lagged panel analysis. Data were collected from two waves and a total of 2318 people aged ≥70 years were included. Frailty was assessed with the Fried's frailty index and fall was classified into the presence or absence of a fall experience. Cognitive function was measured using the Mini-Mental State Examination (MMSE) and digit span. Cross-lagged panel model was tested for frailty, fall, and cognitive function (MMSE, digit span).

Results: Frailty and digit span of cognitive function at wave 1 had a significant longitudinal association with fall at wave 2 in older people, which indicates that frailty and poor cognitive function were associated with high fall experience after 2 years (frailty at wave 1 to fall at wave 2: standardized regression coefficient [β] =0.065, 95% confidence interval [CI] =0.011, 0.051; p =<0.01; digit span at wave 1 to fall at wave 2: β =−0.041, 95% CI =−0.009, −0.001; p =<0.05). In the female group, there was a statistically significant longitudinal association between frailty at wave 1 and fall at wave 2. However, frailty at wave 1 was not predictive of fall at wave 2 in male group.

Conclusions: The findings indicate that poor cognitive function of working memory and attention-concentration in older people may the risk of falls. Especially, higher frailty predicts experience of falls in female group. Therefore, community nurses should plan fall prevention programs, including the improvement and/or maintenance of physical frailty and cognitive function of the elderly. Targeting improvement of frailty brings a feasible approach to reduce the burden of falls among older female people.

Keywords: accidental falls, cognition, frail elderly, frailty

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Influence of Emotional Labor, Empathy Competence and Communication Competence on Nursing Stress of the Aged with Cancer

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Aim(s): The purpose of this study was to investigate the levels of emotional labor, empathy competence, communication competence and geriatric nursing stress experienced by nurses caring for elderly patients in cancer hospitals, and to identify how emotional labor, empathy competence and communication competence affect geriatric nursing stress levels.

Method(s): The subjects were 155 nurses with more than 6 months of experience at a cancer hospital located in Gyeonggi-do, and the data was collected using a questionnaire. The collected data were analyzed with descriptive statistics, independent t-test and one-way ANOVA, Scheffe's test, Pearson correlation coefficient, and multiple regression analysis.

Result(s): The mean scores of geriatric nursing stress and emotional labor were 2.89±0.39 and 3.64±0.41 respectively. Empathy competence was 3.71±0.41 and communication competence was 3.60 ±0.43 on average. Geriatric nursing stress was significantly different by education (F=3.18, p=.026), marital status (t=2.65, p=.009), clinical experience (F=4.61, p=.004), and difficulties of the aged nursing (t=3.54, p=<.001). In multiple regression analysis, elderly nursing work (β=0.31, p=<.001), clinical experience (β=0.22, p=.004), and emotional labor (β=0.19, p=.016) were significantly affected geriatric nursing stress and those variables explained 15.1 percent of the variance (F=10.11, p=<.001).

Conclusion(s): In conclusion, the emotional labor of nurses was identified as a major factor influencing the geriatric nursing stress. Therefore, it is needed that various efforts, including the development of policy alternatives and programs at the hospital level, are needed to reduce the emotional labor experienced by nurses in the field in order to reduce the stress level of nursing care for the geriatric.

Keywords: Emotional Labor, Empathy Competence, Communication Competence, Geriatric Nursing Stress

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Development and Evaluation of Education Program on Early Detection of Breast Cancer for Married Immigrant Vietnamese Women

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Aim(s): The purpose of this study is to develop an education program for early detection of breast cancer and to verify its influences to enhance marriage immigrant Vietnamese women's ability to perform BSE(Breast Self- Examination) effectively.

Method(s): The Education program on early detection of breast cancer (EPEDBC) for married immigrant Vietnamese women was developed based on the theoretical assumptions of the Information-Motivation-Behavioral skills model (IMB model). EPEDBC consists of 4 sessions of 90 minutes each (90minutes a day, twice a week for two weeks), and is composed of 'Understanding breast anatomy and physiological changes', 'Understanding breast cancer and understanding the necessity of BSE', 'Performing BSE correctly (2 sessions)'. The effect of EPEDBC developed by the researcher was verified using a one-group pre-test and post-test design. The participants of this study were 13 married immigrant Vietnamese women registered at the multicultural center in D city. The data collection period was from February 15 to March 26, 2021, and the collected data were analyzed by Shapiro-Wilk test and Repeat Measures ANOVA using SPSS Win 18.0.

Result(s): As a result of EPEDBC effect verification, knowledge of breast cancer and BSE ($F=25.06$, $p<.001$), attitude toward BSE ($F=13.26$, $p=.002$), BSE self-efficacy ($F=30.99$, $p=<.001$) and BSE practice ($F=17.46$, $p<.001$) showed a significant difference between the three time points (before education, immediately after education, and after 4 weeks of education).

Conclusion(s): Based on the results of this study, the EPEDBC developed by the researcher improved the knowledge of breast cancer and BSE, formed a positive attitude toward BSE, and enhanced BSE self-efficacy among married immigrant Vietnamese women. It can be concluded that this is a useful program to effectively enhance the ability of participants to perform BSE effectively.

Keywords: Breast self-examination Knowledge, Attitude, Self-efficacy, Practice.

P-207

Relationship between Attitudes and Anxiety of Nursing Students Participating in Clinical Practice during the COVID-19 Pandemic

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Aim(s): Coronavirus disease (COVID-19) is a novel respiratory infection that is still an ongoing worldwide pandemic, so the COVID-19 poses an overwhelming threat to society. Especially, nursing students need to continue their clinical practice as future healthcare workers at risk of infection. Therefore, the purpose of this study is to identify the relationship between attitudes toward overcoming COVID-19 and anxiety of nursing students in clinical practice during the pandemic.

Method(s): A total of 197 undergraduate nursing students conducted self-assessment questionnaires online at three universities in D and G city from March to April 2021. Research instruments were attitudes toward overcoming COVID-19 (five items) and anxiety subscale of the Hospital Anxiety and Depression Scale (seven items). The collected data were analyzed with descriptive statistics and Pearson's correlation coefficients using IBM SPSS Statistics 25.0.

Result(s): The mean score for attitude was 20.87 ± 2.07 points (range 10 to 25), and the total score for anxiety was 7.87 ± 3.41 points (range 0 to 18). In addition, there were 110 (55.8%) subjects who denoted considerable symptoms of anxiety with a total score above 8 points out of a possible 21. Finally, positive attitudes toward overcoming COVID-19 had significantly correlated with the low level of anxiety (r = -0.19, p = .008).

Conclusion(s): Nursing students are a particular group that shows high interest in public health through clinical practice in hospitals and communities; therefore, it is necessary to understand their attitudes and anxiety about COVID-19. The findings of this study indicate that increasing a positive attitude toward COVID-19 is will be a practical nursing approach to reduce anxiety and promote the mental health of nursing students in a pandemic situation.

Keywords: Attitude; Anxiety; Nursing; Students

P-208

Text Network Analysis of Research Topics on Virtual Simulation in Nursing

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Aim(s): The purpose of this study is to examine the relationship between keywords on virtual simulation in nursing studies and to develop schematic diagrams of the relationship between these keywords from a macro perspective. It is to identify the trend of the literature on virtual simulation in nursing.

Method(s): This was a text-mining study that collected, processes, analyzed text data. For this study, we searched several databases such as PubMed, CINAHL, EMBASE, Web of Science, SCOPUS from 1st~15th, July, 2021. The Inclusion criteria included the following: (a) peer-reviewed, (b) journal article, (c) written in English, (d) including a text 'virtual' or 'virtual reality', 'simulation', 'education', 'learning', 'training' in its each title, abstract and keywords. (e) with nursing students and nurses, (f) to 31, May, 2021. Exclusion criteria included following: (a) not journal articles (dissertations, conference proceedings, Book section et al. b) language besides English, c) not involved virtual simulation, d) participants that did not include nurses and nursing students. Thus, 570 studies were selected in the library databases. Among these data, duplicate (222), no abstract (8), unrelated studies (72) and not articles (63) were excluded. As a result, a total of 213 papers were extracted. The keywords from 213 articles were preprocessed and keyword analysis and topic modeling were performed using NetMiner 4.3 software. For topic modeling, Latent Dirichlet Allocation was applied.

Result(s): As for virtual simulation in nursing, keywords with the most frequent appearance and the highest networking degree in centrality were 'nurse', 'skill', 'care', 'knowledge', 'performance', 'communication', 'disaster', 'experience', 'health'. A total of 2347 keywords were categorized into 10 topics: 'dementia care competency', 'pain assessment', 'airway placement management', 'operating procedure', 'presence & satisfaction', 'communication & attitude improvement', 'platform world', 'disaster response', 'game usability', 'system for confidence'

Conclusion(s): The identified trends in this study will help nursing educators and researchers to grasp the trends and insight for virtual simulation in nursing and to guide future research directions on virtual simulation in nursing.

Keywords: Nursing, Text Network Analysis, Topic Modeling, Virtual Simulation,

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Clinical practice experience of nursing students during the COVID-19 pandemic

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Aim: The purpose of this study was to analyze nursing students' clinical practice experiences during the COVID-19 pandemic, and to use the data collected as a basis for providing education and guidance to them.

Methods: Thirteen nursing students with clinical practice experience at a hospital during the COVID-19 situation, participated in depth interviews conducted either online or face-to-face. The data was collected from June to July 2021 and was analyzed by the Braun & Clark (2006)'s thematic analysis method.

Results: Based on the analysis, four themes were extracted i.e., "Strictly follow the quarantine rules with an anxious mind," "Believe that hospitals are safe," "Recognize the importance of practice," and "Have a sense of duty as a prospective nurse."

Conclusions: While the nursing students experienced anxiety and worries due to the COVID-19 pandemic, they recognized the importance of nursing practice and worked harder at it. Therefore, it is necessary to encourage a positive attitude toward practice even during such anxiety provoking circumstances and strengthen their knowledge about infections.

Keywords: clinical practice, COVID-19, experience, nursing students

P-211

Strategies to Promote Resilience Among School-age Children Whose Parents Have Mental Disorders: Analysis of Focus Group Interviews

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Aim(s): The study aims to investigate ways to improve the resilience of school-aged children whose parents have mental disorders and provide basic information to encourage the healthy development of the children.

Method(s): This was a qualitative study in which interviews were conducted with a focus group consisting of coaches who participated in a program to promote the resilience of children with parents who have mental disorders. Six nurses, five students, and five mental health social workers participated as study subjects, and a total of three group meetings were held once with each team from June 14 to 28, 2019. The final data were analyzed through the content analysis method.

Result(s): An analysis of the interviews resulted in the extraction of 324 meaningful codes and four topics. First, difficulties experienced by children (children with difficulties behaving and expressing like a typical child, children under the influence of parents, children experiencing difficulties forming rapport), and second, individual resilience strategies (activities to express child-like behaviors, self-expression through role-play therapy, the experience of their choice to be accepted, improvement in their sense of achievement and self-esteem through individual approaches, and improvement in concentration through structured activities). Third, family-oriented strategies to enhance resilience (conversations with parents, education on parenting). Lastly, a policy strategy to promote resilience (link with schools, cooperation with local governments, multilayered coaching with experts, and enlisting the participation of college students).

Conclusion(s): Improving the resilience of school-aged children with parents who have mental disorders requires an understanding of the children's difficulties and approach strategies at the individual, family, and community levels. Based on the results of the study, community programs targeting vulnerable children will be needed continuously.

Keywords: Children, Resilience, Mental Health, Parents

P-212

Factors Influencing Smartphone Overdependence in University Students: Based on an Ecological Model

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Aim(s): The study aimed to verify the factors influencing university students' smartphone overdependence, based on an ecological model.

Method(s): This study used a sequential explanatory mixed-methods study design. The data were collected through an online survey of 482 students from 13 universities, in six regions across the country, between October 20, 2020 and May 6, 2021. To gather qualitative data, focus group interviews were conducted with 18 of the survey respondents who could participate offline. The survey data were analyzed using descriptive statistics, x2 test, independent t-test, ANOVA, and hierarchical multiple regression analysis, and the qualitative data by content analysis.

Result(s): Results showed that, having self-awareness of smartphone overdependence (β=.324, p<.001), autonomy (β=-.258, p<.001), smartphone usage time (β=.179, p<.001), senior grade (β=.163, p=.010), the motive for smartphone use to build relationships with others (β=-.150, p=.011), female (β=-.142, p=.011) and age (β=-.139, p=.023) among intrapersonal factors, and friends' support (β=.134, p=.019) among interpersonal factors influenced smartphone overdependence. The explanatory power of the model was 34.9%. Qualitative analysis showed that the changes in the environment, namely, decreased in-community social networks and the restrictions imposed due to COVID-19, triggered an increase in smartphone use. Furthermore, differences in influencing factors were identified according to gender. The factors for males were the use of 5G, studying purposes, and information search. Among females, friends' support and SNS use were the influencing factors.

Conclusion(s): This study concluded that the internal and external environmental factors surrounding the individual, exerted influence on smartphone overdependence among university students. Therefore, there is a need for differentiated intervention strategies which take into account the environmental characteristics, to prevent and manage university students' smartphone overdependence.

Keywords: Ecological model, Self-determination, Smartphone overdependence, Universities

P-213

Vulnerability in Community Building by People with Illness

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Aim: Care for communities or groups is important for nursing. The activity or group done/constructed by people having illness have some difficulties for management. Troubles tend to be treated as should be excluded. However, troubles must arise. Therefore, it is necessary to develop a vision to treat these difficulties. This study aims to show a new vision of management to deal with difficulties.

Method: Fieldwork was done at two activities. One was performance activity carried out by people with mental illness, the other involved activities for cancer survivors. In this research, organizational vulnerability was the focus, and the fieldwork results were analyzed by comparing to the vision of exclusion of troubles.

Results: There are some difficulties of management of activities at performance groups. Performers experience some difficulties, including forming human relationships. The dynamics of human relationships were observed through the process of treating troubles. Some relationships ended while others were newly created. In the activity for cancer survivors, some difficulties arose. The COVID-19 pandemic caused some difficulties for management to deal with. The purpose of activity became maintaining the activities themselves. Some troubles between survivors and non-survivors were observed. Activities put values on exposing vulnerability. Challenges of facing vulnerability will lead individuals to reframe various problems within their social groups. Difficulties in group management may be treated as a process of organizational development than treated as should be excluded.

Conclusion: A new care vision for community building is considered by treating trouble as the process of organization building over the viewpoint of problem exclusion.

Keywords: vulnerability, organizational management, social groups

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Staff Nurses' Importance and Performance on Nursing Competencies According to the Stages of the Clinical Ladder in Small and Medium sized Korean Hospitals: Based on Importance-Performance Analysis

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Aims: Little research has examined staff nurses' perception of importance and performance of nursing competencies according to the stages of the clinical ladder in small and medium sized hospitals of local provinces. The purpose of this study was to explore staff nurses' perception on the importance and performance of nursing competencies according to the stage of the clinical ladder in small and medium sized hospitals using the importance-performance analysis (IPA).

Methods: This was a descriptive study. The data were collected from 214 nurses working at five hospitals in a province using a self-reporting questionnaire. Data were analyzed by descriptive statistics, t-test, ANOVA, and IPA.

Results: About 75% of the participants had experienced nursing competency training. Additionally, almost of them wanted more advanced competency education or training. Total mean score for perceived performance on nursing competencies was lower levels than for importance. IPA showed that three of the 14 nursing competencies require further development (Quadrant II 'concentrate here'): self control, professional development power, developing others. There were significant differences in the levels of impotance, performance, and importance-performance gaps by the stages of the clinical ladder. In particular, novice nurses placed highest levels of importance, but lowest levels of performance.

Conclusions: An educational program for improving nursing competencies which is focused on both the each stage of clinical ladder and the level of the importance-performance gaps is needed for staff nurses. In addition, the clinical ladder system should be developed for nurses who have worked at small and medium sized hospitals in local provinces.

Keywords: Professional competence, Nurses, Hospitals, Importance-performance analysis

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Development of a Disaster Nursing Simulation in Geriatric Care Incorporating a Debriefing Model for Nursing Simulation

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Aim: This study aimed to develop a disaster nursing simulation program in geriatric care and to explore the efficacy of a debriefing model for nursing simulation compared to a conventional model.

Design: This was methodological research to develop a nursing simulation program and evaluate its effectiveness with a nonequivalent quasi-experimental design.

Methods: The simulation program was developed based on the ADDIE (Analysis-Design-Development-Implementation-Evaluation) model, an acronym for the five stages of a development process. A total of 45 nursing students participated in this study and were evenly allocated to the experimental group (debriefing by Share-Explore-Notice-Support-Extend model), comparison group (debriefing by Gather-Analyze-Summarize model), and control group (no debriefing). Post-tests of the participants' counseling self-efficacy, learning self-efficacy, and psychological safety was collected and analyzed by the IBM SPSS Statistics, Version 22.0 program.

Results: There were significant differences among three groups of counseling self-efficacy (χ^2=9.035, p=.011), learning self-efficacy (χ^2=9.284, p=.010), and psychological safety (χ^2=18.72, p<.001). Additional post-hoc analyses did not indicate statistical significance between the experimental and comparison groups, while the control group still showed significant differences between each experimental group and the comparison group.

Conclusions: Results show that debriefing is an essential factor in improving educational effectiveness. Therefore, nursing education institutions need to repeatedly apply and evaluate simulation-based disaster nursing education programs to produce nurses with professional disaster preparedness capabilities.

Keywords: debriefing model; disaster nursing; geriatric care; simulation

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The Effects of Team-Based Learning on Communication ability, Problem Solving Ability, Self-Directed Learning and Learning attitude in Nursing Students

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Aim(s): Recently, by applying learner-centered education methods such as team learning, which is small group interaction-centered learning, we are actively working to improve the competency needed for medical personnel. Therefore, The purpose of this study was to examine the effects of team-based learning (TBL) program on Communication ability, problem solving ability, self-directed learning, Learning attitude in Nursing Students.

Method(s): This study was quasi-experimental study by using one group pre-posttest design. Participants were 45 nursing students (3rd grade). The study was conducted three times (6 hours) for team-based learning about Women Health care from 2019. Data was analyzed by a chi-square test, independent t-test with SPSS for Windows version 21.0.

Result(s): The results showed that Communication ability (t=-4.639, p =<0.001), problem solving ability (t=-7.061, p =<0.001), self-directed learning (t=-9.952, p =<0.001) and Learning attitude (t=-4.806, p =<0.001) of nursing college students were significantly increased after applying team-based learning.

Conclusion(s): Team-based learning program in women health nursing was effective in Communication ability, problem solving ability, self-directed learning, Learning attitude in Nursing Students. and in order to supplement the limitations of the study design, a follow-up study measuring the effect after applying the long-term learning method is proposed

Keywords: Team-Based Learning, Communication ability, Problem Solving Ability, Self-Directed Learning

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Sources of Meaning in Life for Korean Older Adults during the COVID-19 Pandemic: A Qualitative Study

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Aim: The coronavirus (COVID-19) pandemic has significantly affected the lives of older adults. It has been established that meaning in life for older adults is closely associated with health, quality of life, and well-being. However, little attention has been given to examining what provides them with meaning in life during the pandemic. The aim of the study was to explore sources of and impacts on meaning in life for older adults during the pandemic.

Methods: A qualitative study was performed from June to July 2021. Six focus group interviews with 18 Korean older adults were conducted, and data were recorded and analyzed using the content analysis method.

Results: According to the results of data analysis, the following three subcategories were extracted under the category "sources of meaning in life for older adults: moving continuously forward"; "practicing beyond myself"; "continuous learning and personal growth"; and "striving to maintain health." Under the category "sources of meaning in life for older adults after COVID-19: adapting to change," the following two subcategories were extracted: "significant change caused by the pandemic" and "diametrically opposite adaptation to the pandemic."

Conclusions: This study explored sources of meaning in life for older adults during the prolonged COVID-19 pandemic, and is therefore helpful in identifying how older adults' meaning in life has changed. The study results are useful in enhancing meaning in life of older adults, thus improving their health, quality of life, and well-being, despite the ongoing COVID-19 pandemic.

Keywords: COVID-19 pandemic, Meaning in life, Older adults, Sources of meaning in life

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An Empirical study on Learning flow in Nursing students: Focusing on Mindset and Grit

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Aims: This study aimed to identify the relationship between nursing students' learning flow according to the types of college admission, focusing on growth mindset and grit, and to seek strategies to increase nursing students' learning capacity and improve learning flow.

Methods: We used a structured questionnaire that consisted of 8 questions on mindset, 12 questions on grit, and 20 questions on learning flow. The collected data were presented using descriptive statistics, and analyzed using one-way ANOVA and t-test, Pearson's correlation, and stepwise multiple regression.

Results: The participants' mean score for growth mindset was high (4.30 ± 0.72). Grit showed a high mean score for consistency of interest (2.69 ± 0.77) and perseverance in effort (3.36 ± 0.74). Regarding learning flow, the highest mean score was for cognitive flow (3.77 ± 0.65). Learning flow and mindset showed a positive correlation with growth mindset ($r = .48$, $p < .001$). In terms of learning flow and grit, perseverance in effort ($r = .60$, $p < .001$) and consistency of interest ($r = .18$, $p = .026$) showed a positive correlation. The regression analysis revealed that major satisfaction, subjective health status, grade point average, and interpersonal relationships explained the variance of learning flow by 33.7% ($F = 19.61$, $p < .001$) and grit explained a total of 50.3% of learning flow ($F = 17.86$, $p < .001$).

Conclusion: Our analysis did not yield statistically significant results on the mindset level and learning flow according to the types of college admission. We found a partial difference in the grit level, showing the impact of only persistent effort. Growth mindset and grit were found to be key variables affecting learning flow. Education that focuses on the process of learning new skills to complete difficult tasks is needed to improve students' growth mindset.

Keywords: Grit, Learning flow, Mindset

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The mediating effect of self-regulated learning on the relationship between learning presence and learning effect of nursing students

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Aims: This study aims to improve academic efficiency and quality of learning process in an e-learning environment that can be continuously used in the future by identifying the relationship between the learning presence, self-regulated learning, and learning effect experienced by nursing students in the e-learning environment.

Methods: The research instrument consisted of a questionnaire consisting of 5 general characteristics, 26 questions of learning presence, 15 questions of learning effect, and 16 questions of self-regulated learning, and a total of 62 questions. For data analysis, t-test, One-Way ANOVA, Pearson Correlation Coefficient and Baron and Kenny's 3-step mediating effect verification procedure using multiple regression analysis was performed using SPSS/WIN 22.0 program.

Results: The mean score of the subjects' learning presence was 3.78±0.58, and environment structuring was the highest at 3.85±0.65. Learning effect and learning presence (r=.90 p<.001), and learning effect and self-regulated learning (r=.77 p<.001) showed a high correlation among the four sub-factors of self-regulated learning. Learning presence and self-regulated learning (r=.78 p<.001) showed a positive correlation. It was found that self-regulated learning partially mediates the learning presence and learning effect.

Conclusions: Nursing students' learning presence and self-regulated learning were found to affect their learning effects. Also, it was found that self-regulated learning partially mediates the relationship between learning presence and learning effect. Among learners' self-regulated learning, the environmental structuring is the highest, so it is necessary to create learning conditions in order to improve the learning effect. Learning presence appears to significantly predict the learning effect, so methods to increase the learning presence through active communication between professor and learners is needed. In addition, effective instructional design and various operational strategies for nursing students are essential to improve the quality of learning effects.

Key Words: learning effect, learning presence, self-regulated learning

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A study on the effect on birth satisfaction in women who gave birth naturally in a midwifery clinics

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Aim(s): The purpose of this study was to confirm the birth satisfaction of women who gave birth naturally at midwifery clinics.

Method(s): This is a descriptive research study to confirm the birth satisfaction of women who gave birth naturally at midwifery clinics. In this study, a total of 77 respondents in 2019 to 2020 were used using the online survey method for women who gave birth with a gestational period of 37 weeks or more. Using SPSS version 26.0 for Windows, general characteristics were analyzed with frequency and percentage, and birth experience, birth care experience, perceived quality of birth care through mothers' eyes, and birth satisfaction were analyzed with mean and standard deviation. Correlation between parity, family care, personal care, emotional empowerment, information provision, labor pain, perceived safety, birth experience, birth care experience, and birth satisfaction were analyzed by Pearson's correlation coefficient. The Affecting factor on birth satisfaction was analyzed using regression analysis.

Result(s): The average score for birth experience was 84.12 points (±7.73), the average score for birth care experience was 73.08 (±4.08), and the average total score of nursing quality perceived by the mother was 26.26 (±3.41). Birth satisfaction was statistically significant positive correlation with birth experience (r=.79, p<.001), birth nursing experience (r=.68, p<.001), and sense of safety (r=.45, p<.001). On the other hand, birth satisfaction and labor pain (r=−.32, p=.005) showed a statistically significant negative correlation. Factors influencing birth satisfaction were birth experience (b=.65, <.001), birth nursing experience (b=.33, p=.003), family care (b=.19, p=.004), personal care (b=.19, p=.018), perceived safety (b=.19, p=.029), and the explanatory power of the model was 72.5% (F=22.79, p<.001).

Conclusion(s): Birth satisfaction is affected by birth experience, birth nursing experience, family care, personal care, and perceived safety.

Keywords: Birth satisfaction, Childbirth, Midwifery, Online survery.

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Survey for the career choice by nursing university student first year

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Aim(s): The purpose of this study was to investigate the self-efficacy of nursing university students in their career choices and to obtain the suggested future educational method.

Method(s): The subjects were 89 first-year university nursing. Valid responses were 83(93%). A survey was conducted using Uragami's (1995) "self-efficacy scale for career selection". Factor analysis was performed using Spss ver27. This study Conducted based on the Ethics Review Committee of the University. We explained the purpose of the research, the freedom to participate in the research, and how to manage the data.

Result(s): There were 14 male students and 69 female students. The students decided that they became a nurse was an average of 16 (SD3.3) years old. The lowest age was elementary school. The results of the factor analysis were extracted from four categories. First, "planning", Second, "doing", Third, "decision making", and Fourth ,"coping".

Conclusion(s): When they decided nursing university in future, it was revealed that they prepared for the future towards thought premeditatedly. In deference to the thought that a first-year chose a nursing job, we will fix the support system in future so that interest has been raised more.

Keywords: nursing university students, career choices, future educational

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Development and Evaluation of Binary Scale for Korean Geriatric Health Promotion Behavior

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Aim(s): In Korea, life expectancy has continuously increased due to the development of medical technology and the improvement of the economic level, and efforts and interest in living a healthy life without suffering from diseases during the increased life expectancy are increasing. The elderly can achieve healthy aging by maintaining and promoting cognitive ability, physical function, mental function, and social function by practicing health-promotion behavior, and can improve the quality of life in old age. This study was attempted to develop the Korean Geriatric Health Promotion Behavior Scale (K-GHPBS), and to verify the reliability and validity of this scale.

Method(s): Process for development and evaluation the validity of the K-GHPBS was designed based on DeVellis' scale development guidelines, and proceeded to the development phase and the validation phase of the scale. In the development phase of the scale, a conceptual framework was established after an extensive review of the literature, and using original questions. 45 initial items were derived based on in-depth interviews with 16 older adults. The applicability of this study was confirmed after verifying the content validity of the 10 experts and by conducting preliminary research on 20 community-dwelling older adults aged 65 or older. During the verification phase, data were collected throughout October to November 2019 from 300 community-dwelling older adults aged 65 or older. The collected data were verified using item analysis, exploratory factor analysis, confirmatory factor analysis, construct validity and criterion validity. Reliability was verified by calculating the internal consistency index, KR-20, and test-retest reliability.

Result(s): The initial the K-GHPBS's Item-level content validity (I-CVI) value was .80~1.00 and scale-level content validity index (S-CVI/Ave) value was .97. As a result of an exploratory factor analysis using 42 items selected from the item analysis, 28 items for 5 factors were extracted 52.51% of the total variance. Confirmatory factor analysis showed 5 factors including 23 items explaining and 5 distinct factors were 'exercise and physical activity', 'chronic disease management', 'healthy lifestyle', 'maintain cognitive function' and 'acceptance with optimism'. In this study, there was a positive correlation (r=.39, p<.001) between the Health Self Rating Scale and the K-GHPBS, indicating that convergent validity was established. There was an inverse correlation (r=-.16, p=.006) between the Geriatric Depression Scale Short Form (GDS-SF) and the K-GHPBS, indicating that discriminant validity was established. According to the depression score, the mild depression and normal group had higher K-GHPBS scores than the depression group (F=4.67, p=.010). Criterion-related validity compared to the HPLP II showed significant correlation (r=.60, p <.001). Reliability was verified by evaluating stability by performing a 4-week test-retest on 23 elderly subjects Pearson's correlation coefficient was .98. and internal consistency reliability KR-20 was .79.

Conclusion(s): The K-GHPBS developed in this study were consistent as a self-report questionnaire with a total of 5 factors 23 items. Each item was composed using the 'yes or no' binary scale. The K-GHPBS is a scale that can measure the health-promotion behavior for aged in a multidimensional manner and has validity and reliability.

Keywords: Aging, Health Aging, Health Behavior, Development of Scale

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The Effect of Simulation-based SBAR Training Program on Nursing Students Communication and Clinical Judgement in Korea

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Aim(s): Situation-Background-Assessment-Recommendation (SBAR) communication technique helps healthcare professionals including nursing students to transfer critical information. This study aimed to develop a simulation-based SBAR training program and to verify the effects of this program on the communication clarity communication self-confidence, critical thinking, and clinical judgment of senior nursing students.

Method(s): A non-equivalent control group pre-post design was used. The participants were 55 senior nursing students (29 in the experimental group and 26 in the control group) enrolled in one nursing college at Gwangju, Korea. The experimental group received the simulation-based SBAR training program including lecture, video viewing, demonstration, and role play, while the control group was received the general simulation program for 4 weeks (3-4 hours /session(/week). The collected data were analyzed by SPSSWIN 20.0 program.

Result(s): The analysis revealed that the scores of communication clarity (t=5.32, p<.001), communication self-confidence (t=8.63, p<.001), critical thinking (Z=-3.54, p<.001), and clinical judgement (t=3.67, p<.001) in the experimental group were significantly higher than those in the control group when comparing pretest to posttest changes.

Conclusion(s): According to the obtained results, the simulation-based SBAR training program was effective in increasing the communication clarity, communication self-confidence, critical thinking, and clinical judgment of senior nursing college students. Through repetitive training and constant education on the SBAR as a standardized communication tool could be one way of applying clinical expertise which is a key element of the evidence-based practice. Therefore, it should be integrated into clinical practicum in nursing curriculum.

Keywords: simulation training, communication, nursing, students

P-224

Educational Needs for Communication Regarding Patient Safety among Nursing Graduates

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Aims: The purpose of this study was to assess nursing graduates' educational needs for communication competency regarding patient safety.

Methods: This study was a secondary analysis examining the current state of communication competency regarding patient safety and the corresponding education needs among new graduates from nursing colleges in South Korea. Data from 142 graduates in 2020 from four colleges were analyzed. Communication regarding patient safety was evaluated in terms of importance and confidence using four learning outcomes and 28 objectives from Jang's 2018 study based on the third domain of the Canadian Patient Safety Institute's framework. The data were analyzed with SPSS/WIN 25.0, using descriptive statistics, the paired t-test, the independent t-test, importance-performance analysis, and Pearson correlation coefficients.

Results: The importance and confidence level of communication competency for patient safety of new graduates averaged 4.30±0.56 and 3.55±0.51 points, respectively. All items showed significantly lower confidence than importance scores (p<.001). The correlation between confidence and importance was .33 overall (p<.001). In the importance-performance analysis, the first learning outcome was identified as an area with high importance and confidence, the second learning outcome was identified as an area with importance but low confidence, and the third and fourth learning outcomes were identified as areas with low importance and confidence.

Conclusions: A systematic approach is required for communication education for effective patient safety in nursing education. Based on the results of this study, it is necessary to provide a practical educational strategy for high-risk communication before students enter the clinical field as nurses. In addition, undergraduate programs should take steps to improve nursing students' awareness and skills regarding effective document-based communication and the use of communication skills for patient

safety.

Keywords: Communication; Education; Needs assessment; Patient Safety

P-225

Effects of Forest/Thermal Combined Therapy for Smokers on Anxiety and Stress

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Aim(s): Smoking can be a means of coping with anxiety and stress. The purpose of this study is to identify the effects on anxiety and stress by applying forest/thermal combined therapy for smokers with willingness to quit smoking.

Method(s): A total of 30 participants were included in the study, 15 in the experimental group and 15 in the control group. Experimental subjects participated in the three-day forest/thermal combined therapy program. The program consisted of walking and meditation in the forest, thermal therapy in the charcoal kiln. Before and after the program, physiological indicators such as cortisol, heart rate variability and serotonin were measured together with the self-report questionnaires for anxiety (State-Trait Anxiety Inventory, STAI) and stress (Psychosocial Well-being Index, PWI) in both groups.

Result(s): STAI (p=.018) and PWI (p=.006) between the experimental and control groups showed a statistically significant difference. But, cortisol, heart rate variability and serotonin were not significantly different between the two groups after the program

Conclusion(s): These results show that forest/thermal combined therapy are effective for smokers' anxiety and stress. It is necessary to extend the duration of the program to determine its effect on cortisol, heart rate variability and serotonin.

Keywords: Anxiety, Forest therapy, Stress, Thermal therapy

P-226

The relationship between knowledge, compliance of bowel preparation, and bowel cleanliness with health literacy in elderly patients who underwent a colonoscopy

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Aim: Compared to young adults, it is difficult for the elderly with relatively low health literacy to perform proper bowel preparation for a colonoscopy. As a result, elderly examinees either do not receive an adequate colonoscopy or tend to have a high retest rate. This study aims to identify the relationship between knowledge, compliance of bowel preparation, and bowel cleanliness with health literacy in elderly patients who underwent a colonoscopy.

Method: 110 elderly (over 65 years old) patients scheduled for a colonoscopy were recruited from an endoscopy hospital in G metropolitan city, South Korea. The structured questionnaire included health literacy, knowledge and compliance of bowel preparation, and the Aronchick bowel cleanliness scale. The data were analyzed using descriptive statistics, χ-test, Pearson correlation, t-test, and ANCOVA using SPSS 26.0 program.

Results: The average age of the study participants was 71.0 years old, and the average health literacy level was 7.55 out of 12. Participants who were younger (F= 18.44), had a higher education level (F=-4.16), and had a better economic status (F=-3.88) had a statistically significantly higher health literacy level. The index of bowel cleanliness was positively correlated with health literacy and knowledge and compliance of bowel preparation. Elderly patients with a health literacy level of greater than 7 points had a high level of knowledge (taking a bowel cleansing agent), a high level of compliance for bowel preparation, and a high bowel cleanliness index (all p<.05).

Conclusions: These results showed that the health literacy of the elderly receiving a colonoscopy could affect the knowledge and compliance of the examination preparation, which may impact the accuracy of the colonoscopy. This suggests that it is necessary to develop a customized nursing education intervention program that can improve health literacy for successful bowel preparation and examination of the elderly population undergoing a colonoscopy.

Keywords: bowel preparation, colonoscopy, elderly, health literacy

P-227

Factors affecting the HPV vaccination among Asian immigrants
: An integrative review

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Aims : Previous review articles included the studies based on the samples of immigrants from diverse countries or studies which focused on Asian immigrants residing in the USA. It was hereby difficult to understand the relevant factors which influence on HPV vaccination among Asian immigrants residing in various countries. Therefore, this integrative review aimed to show relevant health beliefs and demographic factors which influenced on HPV vaccination among Asian immigrants residing in more diverse countries rather than USA only.

Methods: This study followed the process of integrative review suggested by Whittemore and Knafl. We searched for related articles published in three international databases (PubMed, Embase, CINAHL) and four domestic databases (RISS, KISS, NDSL, DBpia) between June 1st, 2006 and June 30th, 2021. 23 studies were reviewed, and the quality of each articles were evaluated using the Mixed Methods Appraisal Tool version 2018.

Results: The countries in which 23 studies were conducted were more primarily the USA, and in lesser degree UK, Canada, and South Korea. The population was parents of the children who might be vaccinated in majority of the studies. The identified factors affecting the HPV vaccination were categorized into five domains based on Health Belief Model as follows: Perceived benefits, Perceived barriers, Perceived susceptibility, Perceived severity, Cues to action. The results showed that lack of information about HPV, medical distrust, religion and cultural factors, recommendations by surrounding people and other factors affected the decision making of HPV vaccination.

Conclusion: It was identified that various cultural factors as well as knowledge influenced the HPV vaccination intention or uptake among Asian immigrants. Therefore, we suggest to consider each participants' cultural factors for publicity campaign and intervention development of HPV vaccination.

Keywords: Asian, HPV vaccination, Immigrant

P-228

Affecting Factors on the Self-esteem after Radical Prostatectomy in elderly patients

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Aims: Elderly prostate cancer patients experience symptoms such as uncontrolled sexual dysfunction after radical prostatectomy, which lowers their self-esteem. Moreover, the lack of access to information and educational media increases information-related uncertainty about the disease, requiring intervention such as family support. Therefore, this study identified factors affecting the self-esteem of elderly patients underwent surgery for prostate cancer and provided basic data for establishing nursing strategies that can promote healthy lifespan.

Methods: A total of 149 elderly patients over the age of 65 who underwent radical prostatectomy at two university hospitals participated in this cross-sectional study. The data were collected from September to December 2017 and the factors affecting the self-esteem of elderly radical prostatectomy patients were analyzed using the Hierarchical Multiple Regression Analysis in the SPSS/WIN 24.0 program.

Results: The average age of the study participants was 71.5 (±4.5) years old, and the factors affecting the self-esteem of prostate cancer surgery patients were information-related uncertainty (β = −0.36, p < .001), which had the highest influence, followed by postoperative symptom experience (β = −0.18, p = .007), and family support (β = 0.13, p = 0.23). These variables explained 54.4% of variance in self-esteem.

Conclusions: To improve the self-esteem of elderly patients who undergo radical prostatectomy, it is necessary to develop an integrated program, including physical symptom management and family support, to reduce their uncertainty.

Keywords: Self-esteem, Radical Prostatectomy, Family support, elderly, Information.

P-229

Patient safety silence and safety nursing activities: Mediating effects of moral sensitivity

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Aims: Among factors that threaten patient safety and quality of care due to the diversification and complication of hospital environments, nurses play a pivotal role regarding patient safety in the clinical setting. This study investigates the mediating effects of moral sensitivity on the relationship between nurses' patient safety silence and safety nursing activities and to contribute to developing strategies.

Methods: A total of 120 Nurses employed for at least one year in two university hospitals in Korea between September 1 and October 30, 2020, participated in the study. Data were analyzed using t-test, Pearson's correlation coefficients, and multiple regression using the SPSS/WIN 22.0 program. The mediating effects were analyzed using Baron and Kenny's method and bootstrapping using the PROCESS macro for SPSS.

Results: Safety nursing activities had a significant negative correlation with patient safety silence (r = -.337, p < .001) and significant positive correlation with moral sensitivity (r = .359, p < .001). Patient safety silence was significantly negatively correlated with moral sensitivity (r = -.248, p = .006) . Moral sensitivity partially mediated the relationship between patient safety silence and safety nursing activities.

Conclusions: Safety nursing activities may differ even among nurses with similar tendencies regarding patient safety silence based on their individual moral sensitivity. There is a need to develop and implement individualized ethical programs that enhance moral sensitivity in nurses to promote patient safety nursing activities.

Keywords: Patient safety, safety management, nurses, hospitals, ethics

P-230

Associations between non-adherence behaviors and chronic obstructive pulmonary disease severity

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Aims: To examine the factors associated with non-adherence in health behaviors, specifically focusing on chronic obstructive pulmonary disease severity.

Design: This study used a cross-sectional and descriptive correlational design using a secondary analysis.

Methods: A secondary data analysis was conducted with the data from 2016-2019 Korea National Health and Nutrition Examination Survey. The analyzed data were from 1,627 individuals aged over 40 who had a FEV1/FVC ratio less than 70% as a result of spirometer. Non-adherence in health behaviors of this study was defined as the sum of seven health promoting behaviors in terms of smoking cessation, alcohol abstinence, regular exercise, weight control, recommended sleep time, influenza vaccination, and medical check-up. Statistical analysis was performed using one-way ANOVA, independent t-test and multiple linear regression.

Results: The most non-adherence behavior was medical check-up(74.6%), followed by Alcohol abstinence(58.4%) and Influenza vaccination(38.0%), and the lowest non-adherence behavior was regular exercise(17.7%). The non-adherence behavior of the individuals with COPD significantly associated with comorbidity (p=.017), stress (p=.002), and COPD severity (moderate, severe; p=.010, p=.039 respectively). In addition, the moderate and severe COPD severity groups showed higher non-adherence rate overall than the mild COPD group. Specifically, non-adherence to weight control was the behavior that demonstrated significant difference according to COPD severity levels based on GOLD classification of airflow limitation.

Conclusion: Our study findings support that those with more stress, more comorbidities, and more severe disease conditions are more likely to show non-adherence behaviors. Thus, healthcare providers and policymakers should provide tailored approaches according to the severity of COPD to educate and support health behaviors to individuals with COPD.

Keyword: Chronic obstructive pulmonary disease, Health behaviors, Non-adherence, Severity.

P-231

Barriers and Facilitators of Older Adults' Usage of Mobility Devices: A Scoping Review

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Aim(s): The study aimed to explore the barriers and facilitators related to the usage of mobility devices among older adults.

Method(s): A total of 815 literatures were retrieved from Scopus by organizing queries with the words "Assistive technology", "Older adults", and "Disability" between the period of 2000-2020. Among them, eight primary research studies met the eligibility criteria and were selected in the scoping review. Systematic processes of study identification, data extraction and data synthesis were used.

Result(s): The barriers and facilitators were identified in terms of three aspects – environment, user and device. Environmental barriers included limited indoor and outdoor accessibility, transportation option and weather. Curb ramps for helping accessibility, amenities for anti-fatigue and crime surveillance were identified as the environmental facilitators. Negative perceptions of older adults prevented them from using mobility devices, in particular, when they considered it as a sign of disability and dependence. However, users' adoption of mobility devices was facilitated if devices were perceived as an aid for balancing and preventing older adults from falling or recommended by medical staff. In addition, the design of the devices influenced the positive or negative acceptance of the older adults. Fashionable design is often desired.

Conclusion(s): The findings suggest that a policy improvement is important to lower barriers of mobility device usage and improve the environment for older adults with mobility impairment. In addition, the design and functions of the mobility devices need to meet the needs and preferences of older adults, while preserving their self-image and dignity.

Keywords: Mobility device, Older Adults, Barrier, Facilitator

P-232

Validation of the Korean version of the Mental Health Literacy Scale

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Aim(s): Mental health literacy refers to knowledge and beliefs about mental illness pertaining to their recognition, management, or prevention. Mental health literacy can be an important factor in early detection of mental disorders because it directly influences help-seeking behavior. The aim of this study is to validate the Korean version of the 26-item English mental health literacy scale with adolescents and adults.

Method(s): Individuals in their teens to 50s participated in this study to identify the psychometric properties of the Korean version of the Mental Health Literacy Scale, which underwent a linguistic validation. An exploratory factor analysis was first performed (n = 242), followed by a confirmatory factor analysis (n = 252). The criterion-related validity and Kuder-Richardson Formula 20 for instrument reliability were also examined.

Result(s): There were 16 items in the Korean version of the Mental Health Literacy Scale. Three factors were extracted from the items, which included eight items on beliefs about mental health, four items on knowledge of mental health, and four items on the perception of resources for mental health. The three factors were found to explain 55.76% of all the items. The results of a confirmatory factor analysis showed a comparative fit index of 0.943, Tucker Lewis index of 0.932, and root mean square error of approximation of 0.052, indicating that the model was suitable. Criterion-related validity results for the Korean Mental Health Literacy Scale and Attitudes toward Seeking Professional Help were r = 0.40 and r = 0.44, respectively. The Kuder-Richardson Formula 20 reliability coefficient was 0.825 for all the items.

Conclusion(s): The validity and reliability of the Korean version of the Mental Health Literacy Scale were substantiated for all adolescent and adult participants. This scale can be valuably used to examine the level of understanding of mental health in adults and adolescents.

Keywords: mental health literacy scale, validation, help-seeking

P-233

Experience of Lecture Format of Nursing Students Who Took Hospice Nursing Classes Remotely due to COVID-19

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1 Korean Christian University

Aim(s): This study was conducted to examine the experiences of nursing students who took hospice and spiritual nursing classes remotely due to COVID-19.

Method(s): The participants of this study were 12 nursing college students who completed hospice and spiritual nursing classes conducted remotely from March to June 2021. Four weeks after the end of the class, individual interviews were conducted by applying semi-structured questions. The collected data were analyzed by the content analysis method, which is a qualitative research method. Due to Corona 19, we analyzed based on the temporal dimension, focusing on the story of the class format experienced while completing hospice and spiritual nursing through video and real-time non-face-to-face classes. Efforts were made to secure the validity of the study through researcher review, joint review between researchers and participants, and qualitative research expert review.

Result(s): Through this study, the meaning of the experiences of the students who completed the hospice and spiritual nursing distance classes were derived as follows. 237 statements from the data were significantly selected and classified into 4 categories and 9 subcategories. The categories and subcategories are as follows. 1) Curriculum; Before clinical practice, at least 2 credits, required courses, 2) Lecture type; Face-to-face and real-time non-face-to-face parallel, flipped learning, discussion-centered, 3) Lecture size; Small groups of 15-20 people or less, 4) Lecture support; Discover, secure, and support related programs

Conclusion(s): This study intends to provide useful basic information related to the operation of hospice and spiritual nursing lectures for nursing students. It will provide to establish the curriculum, lecture type and scale, linkage program development, education policy, and financial support.

Keywords: Content analysis, Hospice, Nursing students

P-234

Nursing Professionalism that Nursing Students Perceive

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Aim(s): The purpose of this study is to explore the qualities of nurses recognized by nursing students in the COVID-19 situation and to confirm the meaning through content analysis.

Method(s): This study analyzed the journal of reflection submitted by 50 anonymous nursing students on the qualities of a nurse using an inductive qualitative research content analysis method.

Result(s): The qualities of nurses recognized by nursing students were derived as follows. From the data, 517 statements were significantly selected and classified into 4 categories and 13 subcategories. 1) A sincere attitude with character; consideration, respect, 2) Flexible adaptation to changing times; cooperation, empathy, acceptance, encouragement, 3) Immersion in people with health problems; interest, ethics, responsibility, communication, 4) Acquiring knowledge based on critical thinking; experience, sincerity, challenge

Conclusion(s): This study provided meaningful information on the qualities of nurses perceived by nursing students. It is significant in that it contributed to laying the foundation for a new, positive approach to the present age to respond to the needs of the times and to establish the identity and professionalism of nurses themselves.

Keywords: Nurse, Nursing, Professionalism

P-235

The Influence of Expanded role-Clinical Nurse's Self-Leadership, Role Conflict and Practice Environment on Patient Safety Competency

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Aim(s): This study aims to examine the relationship among self-leadership, role conflict, practice environment, and patient safety competency and to identify the influencing factors on patient safety competency in clinical nurses with expanded roles.

Method(s): Participants were 152 clinical nurses with expanded roles working in 4 university hospitals. A questionnaire scale was used to collect the data. Data were analyzed by SPSS/WIN 25.0 using descriptive statistics, independent t-test, one-way ANOVA, and Scheffé test, Pearson's correlation coefficients and stepwise multiple regression.

Result(s): Patient safety competency was positively correlated with self-leadership (r=.451, p<.001), practice environment (r=.427, p<.001), and whether having regular educational program for clinical nurses with expanded roles (t=−2.404, p=.017). The significant predictor of patient safety competency were self-leadership (β=.362, p<.001), and practice environment (β=.330, p<.001). These variables explained 29.5% of the patient safety competency.

Conclusion(s): In this study suggest that it is required to provide the tailored education for clinical nurses with expanded roles, and to develop training program to promote self-leadership for them. In addition, it is needed to consider how to improve the practice environment so that it enhances patient safety competency of clinical nurses with expanded roles.

Keywords: Environment, Leadership, Patient Safety, Professional competence

P-236

An Experience on the Needs for Developing a Virtual Reality based Newborn Baby Care Programs with for Marriage Immigrant Women: Focus Group Interview

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Aim(s)： The purpose of this study was to investigate the education needs related to prenatal care programs in married immigrant women and to the development of newborn baby care with virtual reality.

Method(s)： This study is a qualitative study that applied a focus group interview(FGI) to understand the educational needs of married immigrant women about newborn baby care before discharge after childbirth.

Result(s)： Three Vietnam women, one mother from Thailand and Russia, were interviewed for about 40 minutes. The mothers felt the cultural differences in their parenting environment and strongly appealed for the need for education, including Bathing, Umbilical code care, Feeding, Defecate, Bottle feeding, Breathing, and others. In particular, educational materials required realistic content with subtitles, which confirmed the demand for video using VR technology.

Conclusion(s)： The FGI was conducted to find out the needs and training of neonatal care after childbirth for married migrant women. They had little knowledge of newborn care, and the support resources were also very poor. There is a great need for a sustainable education system for them. In addition, research that can confirm the effect of using the developed virtual reality-based newborn baby care program should be carried out.

Keywords： Marriage Immigrant women, Newborn Baby Care, Virtual Reality, FGI

P-237

Development and Validation of Screening Scale for Preterm Birth Risk

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Aim(s): This study was aimed to develop a valid and reliable Screening Scale for Preterm Birth Risk in Korean (PBRSS-K).

Method(s): This study used the mixed method approach to develop PBRSS-K. Subjects for exploratory factor analysis were 167 women delivered before 37+0weeks after who had preterm symptoms and admitted to high-risk pregnant intensive care unit. Preliminary items were generated by an extensive review of the literature and in-depth interviews. Twenty-three experts of women's health nursing evaluated the content validity of PBRSS-K. After item reduction process with exploratory factor analysis, the scales of its psychometric properties were assessed using SPSS 26. The confirmatory factor analysis to get final item was done using Amos 26.

Result(s): The final version of the PBRSS-K comprises 23 items within seven dimensions. Factor analysis identified items explaining 65.9% of the total variance with CFI=.950, IFI>.90, LI>.90, and RMSEA<.06. The final confirmatory factor analysis confirmed the model estimates were satisfactory for the construct. The PBRSS-K showed a high internal consistency and satisfactory reliability with Cronbach's alpha .85. The validity also was confirmed with the Risk of Preterm Delivery for predictive validity (r=.44, p<.001), with physical symptoms for criterion validity (r=.87, p<.001), and with pregnant stress for discriminative validity (r=.77, p<.001).

Conclusion(s): The PBRSS-K is a valid and reliable instrument to assess pregnant women's risk of preterm birth. Clinical nurses are encouraged to apply and to get information for effective intervention at maternal fetal intensive care unit (MFICU). It is suggested to be evaluate it for standardization and cut-off score.

Keywords: Instrument; Preterm birth; Scale development

P-238

A Pediatric Oncology Diverse Learning Course on Caring for nursing students' reflection

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Aim(s): This study aimed to determine if a pediatric oncology diverse learning course could enhance nursing students' theoretical knowledge and understanding of clinical care for children with leukemia and their families.

Method(s): This was a qualitative retrospective study. Data were collected in July 2016. Participants were college nursing students (N = 33) enrolled in a diverse learning course in pediatric oncology, which was taught between November 2014 and January 2015 at a science and technology university in Taiwan. The three-part course included reading picture books, participating in role-playing, and watching a cancer-related family movie. Focus group discussions occurred during each part. Students maintained written reflections during the course, which were submitted to an e-learning website. Reflections were analyzed using content analysis.

Result(s): Students' reflections resulted in five main themes: (1) Pediatric oncology nursing knowledge and skills learned; (2) Understanding children with leukemia and their families suffering; (3) Empathy parents' and children's reactions to the effects of leukemia; (4) Nursing skills necessary for caring for children with leukemia; and (5) Expect future role as a pediatric oncology nurse.

Conclusion(s): The pediatric oncology simulation course employed multiple teaching strategies. The improvements in student cognition, empathy, and understanding of care requirements of children with leukemia and emotional needs of families as pediatric oncology nurses suggest the teaching objectives of enhancing student learning were achieved. The knowledge and skills acquired could assist students in developing professional competencies and values in nursing.

Keywords: Nursing education, pediatric oncology, qualitative studies, students' reflections

P-239

Factors Influencing Life Satisfaction with Community-dwelling Psychiatric Patients

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Aim(s): We aimed to provide basic data for improving various methods of interventional nursing and guidelines for community nursing, which, by exploring ways the community- dwelling psychiatric patients can live out by themselves in the community, can improve their life satisfaction.

Method(s): This study is a descriptive research using a structured questionnaire. This study investigated activities of daily living (ADLs), hope, and the degree of social support of 237. The patient group was selected by the following criteria-diagnosed by a board-certified psychiatrist as having a DSM-5 recognised mental illness for more than 1 year, and having participated in a community mental health centre weekly rehabilitation programme. The collected data was analysed using SPSS 23. The characteristics of the participants were analysed with basic statistics. Correlation was analysed using Pearson's Correlation Coefficient, and the affecting variables were analysed using Multiple Regression.

Result(s): The mean ADLs, hope, social support, and the life satisfaction score was 2.77, 3.40, 2.71, and 3.12, respectively. The correlation between ADLs, hope, social support and the life satisfaction showed that ADLs correlated with hope ($p<0.000$), social support ($p <.000$), and life satisfaction ($p <.000$) with statistical significance. Multiple regression analysis with ADLs, hope and social support as the continuous variable showed that the biggest factor on the life satisfaction was ADLs($\beta=.463$). Social support ($\beta=.330$) showed average increase of .503, compliance score of psychiatric drugs 9–10 ($\beta=.234$) showed average increase of .400, hope ($\beta=.122$) showed average increase of .146 of life satisfaction.

Conclusion(s): Our research showed that ADLs, hope and social support has a significant influence on the life satisfaction of community-dwelling psychiatric patients.

Keywords: community-dwelling psychiatric patients, ADLs, hope, life satisfaction.

P-240

Comparison of Factors affecting prediabetes by gender in 30-50yr Korean adult; the 2019 KNHANES

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Aim(s): This study conducted to compare the factors affecting prediabetes by gender. We compared health behaviors, health related quality of life(HINT-8), and clinical characteristics in prediabetes men and women.

Method(s): This study was an observational study with a cross-sectional design based on data from the 2019 Korea National Health and Nutrition Examination Survey (KNHANES) that used stratified, multi-stage-cluster-sampling design to obtain a nationally representative sample. Multiple logistic regression analysis was employed to compute the odds ratios of health behaviors, health related quality of life (HINT-8), and clinical characteristics to identify the risk factors for prediabetes.

Result(s): In the prediabetes, 65.3% were men and 34.7% were women (X2=80.64, p<.001). In multiple logistic regression by gender, the factors associated with IFG in men were as follows: perceived health status (OR 1.48, 95% CI 1.11–1.98), climbing stairs (HINT-8) (OR=1.48, 95% CI 0.01–0.92), high BMI (OR=1.93, 95% CI 0.38–0.70), and triglycerides (OR=1.86, 95% CI 0.38–0.76) were influencing factors. On the other hand, in women were as flows: education level (OR=1.7, 95% CI 1.15–2.51), lifetime smoking (OR=1.15, 95% CI 0.06–0.78), energy (HINT-8) (OR=1.03, 95% CI 0.21–0.91), high BMI (OR=1.34, 95% CI 0.22–0.44).

Conclusions: Strategies should be targeted to improve health behaviors and health related quality of life, and clinical characteristics for those in their 30s and 40s, men in bad perceived health status, those who overweight men, women with low education level, and less physical activities. Moreover, healthcare providers should understand the barriers to health behaviors and health related quality of life to effectively deliver healthcare service.

Keywords: prediabetes, health related quality of life

P-241

Analysis of the Status of COVID-19 Vaccination and Confirmed Cases in the OECD Countries

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Aim: Vaccination is the hope for resolving the pandemic situation; however, its results vary depending on the economic size or socio-cultural context of each country. Thus, this study was conducted to seek measures for controlling COVID-19, analyzing the differences in the status of COVID-19 vaccination in the OECD countries.

Methods: Vaccination data are updated daily and are made available via two channels. First, all data and scripts used for data collection are published and updated in our public GitHub repository (https://github.com/ owid/covid-19-data/tree/master/public/data/vaccinations). This study only used data dating between January and June 2021.

Results: Chile, Hungary, Iceland, Israel, the U.K., and the U.S., were the OECD countries with more than 50% of the population fully vaccinated, and the relative rate of change in the number of newly confirmed COVID-19 cases was highest in Estonia (1.96), followed by Ireland (1.89), Greece (1.69), Turkey (1.19), and Hungary (1.19) as of June, when the number of vaccinated people increased, compared to January when the vaccination earnest began. When the rate of change in the number of confirmed cases per month from January through June was examined, most of the OECD countries showed a decreasing tendency; however, Australia, Colombia, Israel, and Portugal were countries with a sharp increase in the number of confirmed cases in June compared to the previous month.

Conclusion: Since the health policy or public health and medical system, and socio-cultural context promoted in each of the OECD countries differ depending on the countries, it is a meaningful task to assess the background of the differences in the COVID-19 vaccination responses of the OECD countries and analyze the relationship with the health care system. Comparative analysis of vaccination-related indices in the OECD countries allows us to look at the issue from a global.

Keywords: COVID-19, Pandemics, Vaccination

P-242

Physical and cognitive functioning to explain the quality of life among older adults with mild cognitive impairment

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Aim(s): Physical and cognitive functioning are both indicators of aging process. Older adults experience abnormal declines in physical and cognitive functioning that increase their risk of dependence, subsequently quality of life. This study aims to explore the relationship between physical and cognitive functioning, and mediation effect of cognitive functioning on the relationship of physical functioning and health-related quality of life among older adults with mild cognitive impairment.

Method(s): Seventy-nine older adults living in community participated in the study. Measurements included the self-reported questionnaire for physical functioning consisted of grip strength, one leg standing with eyes open (balance), and Timed Up and Go (mobility). Cognitive functioning was measured by Korean version of MOCA. SF-12 was used to assess physical and psychological components of quality of life (QOL). Data were using multiple regression and a simple mediation model applying the PROCESS macro for mediation.

Result(s): Physical functioning explained 14.5% of variance in cognitive functioning. Physical and cognitive functioning together explained 22.4% of variance in physical component of QOL, 18.7% of variance in mental component of QOL. Indicators of physical functioning significantly related with cognitive functioning with balance (B=0.41, p=.02). Cognitive functioning had significant indirect effects B= 0.19, 95%CI (.491~.008) between balance and physical component of QOL, while the indirect effects was not significant with mental component of QOL (B=0.06, 95%CI -.107~0.332).

Conclusion(s): The findings showed cognitive functioning had a significant mediating effects between the physical functioning and physical components of QOL. These findings have suggested that nursing intervention to improve physical functioning such as balance, mobility and grip strength may also improve cognitive functioning, consequently improving physical component of QOL for older adults with mild cognitive impairment. Further studies are warranted to explore the effects of health promotion programs designed to enhance physical and cognitive functioning in this population.

Keywords: balance; cognition; health-related quality of life; physical conditioning.

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The Structural Equation Modeling on Health Promotion Behavior in Migrant Workers : Multi- group Analysis by Period of Residence and Nationality

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Aim(s): This study aims to verify the structural relationship among relevant variables to forecast health promotion behavior of migrant workers, and the moderating effects of residence period and nationality were investigated through multi-group analysis.

Method(s): The data were collected from 298 migrant workers in 9 regions all over the country from December 2020 to March 2021. E-Health literacy, occupational stress, acculturation and social support were exogenous variables, and perceived benefits of action, self-efficacy and health promotion behavior were endogenous variables for analysis of structural model. The data were analyzed using SPSS Version 25.0, AMOS Version 20.0, and R-4.0.3. programs.

Result(s): The model fit indices for the hypothetical model were appropriate: $\chi2=234.94(p<.001)$, $\chi2/df=3.22$, GFI=.91, NFI=.88, IFI=.91, TLI=.87, CFI=.91, and RMR=.03. The twelve of total forty-two research hypotheses were statistically significant and explained health promotion behavior 58.9%. Social support was the direct biggest influence on health promotion behavior of migrant worker. Perceived benefits of action and self-efficacy played a mediating effect in the relationship among e-health literacy, social support and health promotion behavior. According to multi-group analysis, the group of migrant workers with less than 5 years had a more statistically significant effect than the group of those with over 5 years in the route from perceived benefits of action to health promotion behavior. Also, the Nepal group had a more statistically significant effect than other groups in the route from social support to health promotion behavior.

Conclusion(s): To enhance the health promotion behavior of migrant workers, providing social support should be considered on the preferential basis as an important administrative strategy. Additionally, online health information should be searched, understood, and utilized to stimulate motivation so that health promotion behaviors are perceived as beneficial behaviors, and motivational strategy that can enhance self-efficacy about personal achievements by boosting social support should be applied onto intervention programs. Moreover, migrant workers with short-term residence of less than 5 years should be educated about the benefits of health behaviors so that they can continuously apply it during long-term residence and prevent a decline in the health promotion behavior. In addition, when developing mediation by utilizing social support, it is necessary to consider the cultural backgrounds of each nationality, and through this, the differences in the health promotion behavior of multinational workers can be narrowed down.

Keywords: Health Promotion, Self- Efficacy, Social Support, Transients and Migrants

P-244

Development of a middle-range theory for nurses' posttraumatic growth

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Purpose: Nurses who have experienced traumatic events in clinical practice have undergone posttraumatic growth, which is defined as positive change resulting from struggles with a major life crisis or a traumatic event. This study describes the development of the middle-range theory of nurses' posttraumatic growth.

Methods: Walker and Avant's (2011) theory-synthesis strategy was used to integrate Calhoun and Tedeschi's (2006) posttraumatic growth model and Lazarus and Falkman's (1984) transactional theory of stress and coping. Three processes were used to develop a middle-range theory: (a) specifying the focal concepts, (b) identifying related factors and relationships, and (c) constructing an integrated representation. A literature review was conducted for the proposed theory using multiple databases, including the Cumulative Index for Nursing and Allied Health Literature (CINAHL), PubMed, and two Korean databases.

Results: The study results indicate, first, that the theory comprises nine major concepts: traumatic events, distress perception, rumination, primary appraisal, secondary appraisal, emotional focus, a focus on problems, posttraumatic growth, and posttraumatic stress. Second, this theory's basic assumptions are simple: the trauma experience may be related to posttraumatic growth to avoid stressful situations, and the nurse–posttraumatic growth relationship should be viewed holistically. Third, in terms of usefulness, the developed middle-range theory can inform guidelines for coping with traumatic experiences in actual clinical settings and can be used to provide interventions to nurses who have experienced traumatic events. Thus, nurses' posttraumatic growth theory can be tested in nursing research and practice, and the findings can be applied to improve care and patient outcomes.

Conclusions: The new theory sheds light on a comprehensive conceptualization of nurses' posttraumatic growth. The proposed middle-range theory for nurses' posttraumatic growth focuses on the trauma processes associated with traumatic events experienced by nurses at work and explains how nurses should deal with traumatic events after experiencing them. Organization and nurse leaders could use the proposed middle-range theory to develop mental health education programs for improving how South Korean nurses cope with traumatic experiences.

Keyword: Middle-range theory, nurse, nursing theory, posttraumatic growth

P-245

The Effect of Verbal violence on Turnover Intention among new Korean nurses : A Time-lagged Survey

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Aim(s): This study aimed to construct and test a hypothetical model about the effect of verbal violence against new nurses on their turnover intention and the mediating effects of emotional reaction and burnout based on the Affective Events Theory.

Method(s): A purposive sample of 212 new nurses were recruited from one nurse's Internet community for Korean nurses and data were collected using self-reported questionnaires between September and October 2020. In this study, the time-lagged survey was used to collect data at two intervals (time 1 and time 2) that were two weeks apart between T1 and T2. The collected data were analyzed using SPSS 25.0 and AMOS 20.0 programs. For data analysis, structural equation modeling and multiple mediating effects analysis using phantom variable and bootstrapping were performed.

Result(s): Verbal violence against new nurses significantly increased negative emotional reaction, burnout, and turnover intention. Negative emotional reaction significantly increased burnout, which led to increased turnover intention. While the indirect effect of verbal violence on turnover intention through the mediation of burnout was significant, the indirect effect through emotional reaction was not significant. Nevertheless, the indirect effect of verbal violence on turnover intention through the serial mediation of emotional reaction and burnout was significant.

Conclusion(s): The results of this study suggested that preventing verbal violence against new nurses should be preceded to decrease their turnover intention. Furthermore hospital-centered interventions to decrease negative emotional reactions and burnout caused by verbal violence may benefit to reduction of turnover intention of new nurses.

Keywords: Verbal Violence; Turnover Intention; Emotional Reaction; Burnout, New nurses

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Mediating Effect of eHealth Literacy between Cultural Adaptation and Parenting Efficacy of Married Immigrant Women with Infant and Young Children

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Aim(s): Married immigrant women experience difficulties in raising children due to different languages and cultures. This study was done to identify the mediating effect of eHealth literacy in the relationship between cultural adaptation type and parenting efficacy of married immigrant women with infant and young children.

Method(s): Participants were 216 foreign immigrant females who married Koreans and were living in Korea. Data were collected from November 18 of 2016 to May 12 of 2018, using self-report questionnaires. The regression method of Baron and Kenny was used to test the mediating effects of eHealth literacy between cultural adaptation and parenting efficacy.

Result(s): Parenting efficacy had a significant positive correlation with integration type of cultural adaptation (r=.28, p<.001) and eHealth literacy (r=.30, p<.001). Also, integration type of cultural adaptation had a significant positive correlation with eHealth literacy (r=.32, p<.001). eHealth literacy was found to be partial mediators, in the relationship between integration type of cultural adaptation and parenting efficacy.

Conclusion(s): Findings indicate that integrative adaptation of culture enhances the parenting efficacy of married immigrant women with infant and young children. Furthermore, eHealth literacy further improves parenting efficacy in these relationships. Therefore, intervention strategies to improve the parenting efficacy of married immigrant women should be considered cultural adaptation and eHealth literacy.

Keywords: Parenting efficacy, eHealth literacy, Immigrant women

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A Prediction Model on Health Behavior for Cardiovascular Disease Prevention in Patients with Diabetes

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Aims: Diabetes mellitus is a leading chronic disease of cardiovascular disease (CVD), and it has become essential to investigate and continuously manage variables related to the health behavior of diabetic patients. Therefore, this study aimed to verify the mutual causal relationship between cognitive factors such as illness perception and knowledge of diabetes, emotional factors such as depression and self-efficacy in disease management, and oral health-related variables based on previous studies.

Methods: The subjects include adult diabetes patients that were aged 30 or older and medically diagnosed with diabetes six months before or longer from four general hospitals and ten health care centers in Seoul, Gyeonggi Province, and Jeolla Province. After the exclusion of those who had diabetes complications, a total of 272 were used in the final analysis. Data was collected on December 1, 2020~January 29, 2021. Postal and Google surveys were conducted via in-person and non-contact forms. Collected data were analyzed with the SPSS 25.0 and AMOS 22.0 programs.

Results: Self-efficacy (β=.158, p=.048) and oral health practice behavior (β=.257, p<.001) had direct effects on cardiovascular disease prevention health behavior with the explanatory power of 19.1%. Cardiovascular disease prevention health behavior was influenced by the perception of illness (β=.243, p=.001), depression (β=-.251, p<.001), self-efficacy (β=.243, p=.016), and oral health practice behavior (β=.257, p<.001). Illness perception (β=.137, p<.001) and depression (β=-.103, p=.020) had indirect effects on cardiovascular disease prevention health behavior via self-efficacy with the explanatory power of 33.1%. Self-efficacy (β=.084, p=.002) also had indirect effects on cardiovascular disease prevention health behavior via oral health practice behavior with the explanatory power of 22.9%.

Conclusions: These results show that self-efficacy and oral health practice behavior have a direct effect on cardiovascular disease prevention health behavior in diabetic patients. In addition, illness perception, diabetes knowledge and depression were found to be influential factors that indirectly affect cardiovascular disease prevention health behavior through self-efficacy. In order to induce cardiovascular disease prevention behaviors in diabetic patients, this study confirmed the need for education on oral health practices as well as strengthening self-efficacy for diabetes management.

Keywords: Diabetes complications, Self-efficacy, Oral health, Cardiovascular diseases, Health behavior

P-248

The effects of life and death education on the meaning of life, attitude on terminating life support, and Personality

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Purpose: Life and Death education is an education that helps people to understand life and death correctly, values the present life, and allows them to live more meaningfully. The purpose of this study is to investigate the effect of life and death education on meaning of life, perception of death, attitude on terminating life support, and personality of nursing school students.

Methods: The subjects of this study were college of nursing students, who was taking life and death classes at first year of college. The contents of classes were prepared referenced by the thanatology, and well-dying education. The education was consisted of 13 weeks and the contents were consisted with history of death education, the different definitions of death, the death problems of elderly, hospice care, life-sustaining treatment decision related act, death-related legal issue, the funeral culture, and bereavement management of family, meaning of life, and happiness and so on. For investigating the effect of the education, we investigated the meaning of life, attitude of death, perception of death, perception of hospice, attitude on terminating life support, concept of good death, and personality. The data were collected at two times that were at the beginning of the education, and after the education. For analyzing the results, we did pared-test analysis, using SPSS 18.0 program.

Results: Total 142 students answered the questionnaires. After taking the life and death education, the meaning of life, perception of death, perception of hospice, attitude on terminating life support, concept of good death, and personality have been significantly changed.

Conclusion: According to the results, life and death education can help the nursing students to build positive perception of death, meaning of life, and personality, thus life and death class is a necessary and important class for nursing school students.

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Factors Influencing Performance of Standard Precautions in Small and Medium Hospital Nurses

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Aim(s): The Purpose of this study was to identify the factors influencing performance of standard precaution in small and medium hospital nurses.

Method(s): From June 1 to July 30, 2020, self-report questionnaire were distributes and collected from 202 of small and medium hospital nurses in G metropolitan city. The instruments used in this study are organizational culture for infection control (10 item), infection exposure prevention environment (36 item), awareness and performance related to standard precautions (35 item). Data were analyzed using descriptive statistics, t-test, ANOVA, Pearson's correlation coefficients, and multiple regression analysis with SPSS/WIN 22.0 program.

Result(s): The mean score of small and medium hospital nurses' organizational culture for infection control, infection exposure prevention environment were 5.95±0.89, 4.05±0.61. And awareness, performance of standard precautions were 4.51±0.42, 4.53±0.43. Differences in compliance with the standard precautions depending on the general characteristics of the subjects were statistically significant in relation to their work experience (F=9.67, p=.022) and affiliated departments (F=3.71, p=.006). The subjects' performance with the standard precautions had a statistically significant positive correlation with their awareness of the standard precautions (r=.76, p<.001), organizational culture for infection control (r=.71, p<.001), and infection exposure prevention environment (r=.63, p<.001). The variables affecting the subjects' compliance with the standard precautions were their awareness of the standard precautions (β=.63, p<.001) and organizational culture for infection control (β=.23, p<.001). The explanatory power of the performance with the standard precautions in relation to these variables was 65.6% (F=54.36, p<.001).

Conclusion(s): It is suggested that nurses recognize the importance of performance with the standard precautions through repetitive and systematic education. In addition, hospital managers will have to pay constant attention and effort to create a positive organizational culture for infection control.

Keywords: Hospitals, Standard precautions, Performance, Infection

P-250

Affecting factors the Academic achievement in Nursing Students of Non-face-to-face class in COVID-19 situation

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Aim(s): This study is conducted to identify factors affecting academic achievement in nursing students of non-face-to-face class in COVID-19 situation.

Method(s): From June 20 to July 15, 2021, self-report questionnaire were distributes and collected from 126 of second year student in the department of nursing at a university in G metropolitan city. The data were based on self-reported materials using structured google questionnaires asking about academic self-efficacy(28 items), self-directed learning(22 items), learning commitment(22 items) and academic achievement(9 items) including general characteristics. Data were analyzed using descriptive statistics, t-test, ANOVA, Pearson's correlation coefficients, and multiple regression analysis with SPSS/WIN 22.0 program.

Result(s): As a results, the mean scores of academic self-efficacy was 95.85±11.76 point, self-directed learning was 79.49±11.07 point, learning commitment was 72.86±10.22 point, and academic achievement was 31.15±4.41 point. The relationships among academic self-efficacy(ASE), self-directed learning(SDL), learning commitment and academic achievement(AA) showed significant positive correlations. In the results of multiple regression analysis, Important factors related to academic achievement in nursing students were found to be non-face-to-face class satisfaction, academic self-efficacy, self-directed learning and learning commitment. And these factors explained 42.2% of the total variance.

Conclusion(s): In order to improve the academic achievement of nursing students in non-face-to-face classes due to COVID-19, it is necessary to expand the application of various teaching methods that facilitate interaction between professors and learners. To improve ASE, various self-confidence improvement programs should be developed. In addition, it is necessary to develop and apply various teaching and learning methods that allow students to immerse themselves in learning in non-face-to-face classes.

Keywords: Nursing Students, academic achievement, COVID-19

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Factors Affecting the Health Promoting Behaviors in Working Men in Korea using Pender's Health Promotion Model

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Aim: Working men in our country are making great efforts to ensure a successful life for work and family. In adulthood and middle age, it is easy to be exposed to chronic diseases, and it is easy to harm one's health if one does not continue to make efforts to improve one's health in daily life. Therefore, the purpose of this study was to provide basic data for developing health promotion programs for office male workers by applying Pender's health promotion model to analyze factors affecting the health promoting behaviors.

Method: The data was collected for 10 days from July 15, 2021, using a questionnaire for 149 office male workers. The data analysis was conducted with frequency, percentage, mean, standard deviation, t-test, ANOVA, Scheffe test, Pearson's correlational coefficients, and stepwise multiple regression.

Result: Health promoting behaviors and previous health-related activities (r=.58, p<.001), perceived profitability (r=.41, p<.001), self-efficacy (r=.53, p<.001), social support (r=.39, p<.001), self-esteem (r=.47, p<.001), action plan (r=.67, p<.001) showed a high amount of correlation at a statistically significant level. The factors affecting of a subject's health promoting behavior were the establishment of an action plan (β=.36), self-esteem (β=.27), previous health-related behaviors (β=.27) and health conditions (good) (β=.21), and their variables accounted for 61.0% of the health promoting behaviors of the subjects.

Conclusion: To improve health promoting behaviors for office male workers, it is necessary to try to develop and operate health promotion programs considering their variables. The system and support are needed to facilitate work- and community-oriented health promotion activities that can be planned and carried out by working men themselves. It is also necessary to encourage men's self-esteem, perception of health and health-related behaviors.

Keywords: Health promoting behavior, Action plan, Self-esteem, Previous health-related behaviors

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Comparison of fall recurrence between young-old and old-old

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Aim: As the elderly population is increasing, fall-related problems are emerging as important health problems. This study aimed to identify factors related to recurrent falls in community-dwelling young-old (65-74 years old) and old-old elderlies (≥75 years).

Method: Data from 2017 National Survey of Older Koreans were used, and a total of 10,044 subjects over the age of 65 were included in analysis. X2 test, ANOVA, and logistic regression were performed for data analysis.

Results: In the young-old elderly, limitations in ADL (OR=2.25, 95% CI: 1.44~3.54), visual aids (OR=1.56, 95% CI: 1.18~20.7), cognitive function (OR=0.93, 95% CI: 0.90~0.97), suicidal thoughts (OR=1.69, 95% CI: 1.17~2.45), number of chronic diseases (OR=1.22, 95% CI: 1.13~1.32), and number of prescribed medications (OR=1.06, 95% CI: 1.02~1.11) were factors that affected fall recurrence. In the old-old elderly, spouse (OR=0.76, 95% CI: 0.59~0.98), national basic livelihood security system (OR=1.53, 95% CI: 1.05~2.20), exercise (OR=1.48, 95% CI: 1.14~1.91), limitations in ADL (OR=1.98, 95% CI: 1.46~2.69), visual aids (OR=1.54, 95% CI: 1.17~2.02), suicidal thoughts (OR=1.63, 95% CI: 1.10~2.43), number of chronic diseases (OR=1.18, 95% CI: 1.11~1.26), and Parkinson's disease (OR=3.53, 95% CI: 1.83~6.79) were factors that affected fall recurrence.

Conclusion: Through this study, it was observed that there were differences in factors related to recurrent falls between young-old and old-old elderlies. Based on the findings, it would be necessary to develop appropriate interventions in order to prevent recurrent falls.

Keywords: Accidental falls; Aged; Young-old; Old-old

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Acceptance and commitment therapy (ACT) for men: A scoping review

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Aim(s): Men are less prone to seek help while they have psychological problems. In recent years, empirical studies suggested that men's mental health is an underrated problem. Acceptance and commitment therapy (ACT) is a psychotherapy that has been found promising in improving mental health among people with mental problems. However, it is not known the issues of adoption ACT in men. This review aims to describe the adoption of ACT for men.

Method(s): A scoping review was conducted to identify English papers published after 2000, 4 databases (CINAHL Complete, MEDLINE, PubMed and PsycINFO) were systematically searched using the keywords of "acceptance and commitment therapy" and "male* or men or man". Only randomized controlled trials and studies that took men as an independent group for measuring outcomes were included. Seven randomised controlled trials with 868 participants were included in this review.

Result(s): Only three studies have adopted ACT for men in Asia. Most studies (n=3) delivered ACT via individual approach in 12-14 hours. No significant difference of effect across different delivery modes could be seen. ACT is effective for men in terms of mental and social well-being, and treatment-specific aspects including pornography view, smoking, post-traumatic stress disorder, penile injection and drug-using. Its effect is maintained in follow-up. However, it might not as effective as other interventions in some subscales of social and mental well-being.

Conclusion(s): ACT is an effective psychotherapy for men. Due to the limited number of the primary studies in this area, future studies on these topics are suggested.

Keywords: Acceptance and Commitment Therapy, Male, Mental Health

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Effectiveness of Psychosocial Supportive Interventions in Neonatal and Pediatric ICUs Nurses: A Systematic Review and Meta-Analysis

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Aim(s): This review aimed to evaluate the effectiveness of psychosocial supportive interventions for nurses in neonatal and pediatric ICUs.

Method(s): This study was conducted according to Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA). It was applied to PICOTS-SD (Participants, Intervention, Comparisons, Outcomes, Timing of Outcome Measurement, Settings, Study design) and PubMed, EMBASE, CINAHL, RISS, KISS, KMbase, NDSL databases (Until June 2021) were searched. To estimate the effect size, a meta-analysis of the studies was performed using the RevMan 5.3 program. The effect size used was the standardized mean difference (SMD).

Result(s): Of 1,630 studies identified, 4 met the inclusion criteria, and 3 studies were used to estimate effect size of psychosocial supportive interventions. The main outcome variable of this studies was stress. The effect of the intervention program on stress was also found to have no effect in individual studies, and the overall effect size was not statistically significant (SMD=−0.06; 95% CI: −0.33, 0.20; Z=0.48, p=.630). However, according to the individual literature included in this study, after the stress management program was applied as a group, a significant reduction in the stress was shown in the experimental group (p =.021).

Conclusion(s): These results show that small number of psychosocial supportive programs were effective in stress management by group approach. Therefore, it is necessary to develop psychosocial supportive interventions for stress management for nurses in neonatal and pediatric ICUs more diversely.

Keywords: Intensive Care Units, Nurses, Review, Stress

P-255

Trajectory Classes of Social Activity and their Effects on Longitudinal Changes in Cognitive Function among Older Adults

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Aim(s): This study aimed to identify the social activity trajectory by class and the effects on the cognitive function trajectory among older adults.

Method(s): Data from six waves of the 2006–2016 Korean Longitudinal Study of Aging were analyzed. This study included 3,002 participants aged ≥65 years. Latent class growth modeling was used to classify the respondents based on their engagement in social activity over 10 years. Latent growth modeling was used to examine the effect of their social activity trajectory by class to predict participants' cognitive function trajectory.

Result(s): We identified four social activity trajectory classes: high-stable (7.8%), moderate-stable (50.3%), high-decreasing (2.9%), and low-decreasing (39.0%). Older adults with an age of 75 years or older, a low education level, instrumental activities of daily living limitations, and depressive symptoms were more likely to be in the low-decreasing social activity trajectory class. The respondents in the high-stable (B = 0.680, p < 0.001) and moderate-stable (B = 0.362, p < 0.001) classes showed a slower rate of cognitive decline compared with those in the low-decreasing class.

Conclusion(s): Community-based strategies need to be developed to encourage older adults to maintain their social activity engagement and ultimately prevent cognitive decline.

Keywords: Aged, Cognition, Latent class analysis, Social participation

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Mediating Effects of Loneliness on the Relationship between Cognitive Function and Depression in the Elderly Women Living Alone

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Aim(s): The purpose of this study was to identify the mediating effects of loneliness on the relationship between cognitive function and depression in the elderly women living alone.

Method(s): This study was a secondary data analysis research using data from 'the 7th Korea Longitudinal Study of Ageing' of the Korea Employment Information Service. A total of 734 elderly women living alone participated in the study. Data were analyzed by descriptive analysis, t-test, one-way ANOVA, Pearson correlation coefficient and a three-step regression analysis using Baron and Kenny's method for mediation with the SPSS/WIN 23.0 program.

Result(s): The mean scores for loneliness, cognitive function (Mini-Mental State Examination, MMSE), and depression (CES-D10) were 1.70 ± 0.82 (0-4), 21.44 ± 6.61, and 2.11 ± 2.16, respectively. There were negatively correlations between cognitive function and loneliness ($r = -.27$, $p < .001$). Depression negatively correlated with cognitive function ($r = -.25$, $p < .001$) and positively correlated with loneess ($r = .65$, $p < .001$). Loneliness was found to partially mediate the relationship between cognitive function and depression in elderly women living alone ($Z = -7.91$, $p < .001$).

Conclusion(s): To reduce depression among elderly women living alone, it is necessary to decrease their loneliness and improve their cognitive function. This study will provide fundamental information on programming and a policy proposal related to depression in the elderly women living alone.

Keywords: cognitive function, depression, elderly women, loneliness

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Death Recognized by Nursing students Who Experienced the COVID-19 Situation

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1 Korean Christian University

Aim(s): The purpose of this study was to analyze the contents to explore the meaning of death perceived by nursing students in the COVID-19 situation.

Method(s): This study analyzed the contents of an inductive qualitative research content analysis method that 51 anonymous nursing students submitted as a reflection journal related to their understanding of death.

Result(s): The deaths perceived by nursing students were derived as follows. From the data, 408 statements were significantly selected and classified into 3 categories and 14 subcategories. 1) Process; parting, severance, completion, passage, plan, circulation 2) Spirituality; expectation, encounter with the Absolute, liberation, rest, return, 3) Emotions; sadness, fear, anxiety

Conclusion(s): This study provides meaningful information on the meaning of death perceived by nursing students who are experiencing the COVID-19 situation. It is required to develop a differentiated and flexibly approached curriculum and educational program that reflects the perception of death among nursing students.

Keywords: Covid-19, Death, Nursing students

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Nursing students' defense mechanism identification and exploration experience

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1 Korean Christian University

Aim(s): The purpose of this study is to identify the defense mechanisms of nursing students and to confirm the meaning of the exploratory experience through content analysis.

Method(s): This study identified the frequency and average of defense mechanisms of nursing students, and analyzed 49 self-reflection journals written and submitted anonymously by nursing students after the defense mechanism exploration class using the inductive qualitative research content analysis method.

Result(s): The frequency of major defense mechanisms (Sten score of 8 or higher) was highest in 17 cases (34.0%) of altruism, 11 cases of anticipation (22.0%), and 10 cases of avoidance (20.0%). As for the average defense mechanism, altruism, anticipation, inhibition, humor, and regression were relatively high with more than 5 points, and transposition and denial were relatively low with less than 2 points. There were 4 patients (8.0%) in the narcissistic stage, 18 patients in the immature stage (36.0%), 9 patients in the neurotic stage (18.0%), and 26 patients (52.0%) in the mature stage. The meaning of the defense mechanism exploration experience of nursing students was derived as follows. 298 statements from the data were significantly selected and classified into 3 categories and 8 subcategories. 1) Navigation; self, others, relationships; 2) Confirmation; self-awareness, reality perception 3) Planning; improvement, advancement, application

Conclusion(s): This study provides meaningful information on the defense mechanisms experienced by nursing students. It will be possible to provide basic data for the development and application of educational programs for nursing students and clinical nurses.

Keywords: Content analysis, Defense mechanism, Nursing students

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Effects of Online Psychiatric Nursing Practice on Self-Awareness, Other Awareness, and Empathy in the COVID-19 Situation

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1 Korean Christian University

Aim(s): This study is a single-group, pre- and post-primitive experimental design study to analyze the effects on self-awareness, other recognition, and empathy of nursing students who have experienced non-face-to-face online psychiatric nursing practice due to COVID-19.

Method(s): In this study, a self-report questionnaire was collected from 50 4th grade nursing students from May to June 2021 in an online survey method in a non-face-to-face state. For data analysis, frequency and percentage, mean and standard deviation of the general characteristics of subjects were obtained using IBM SPSS Statistics 21.0 program. Hypothesis test to confirm the effect of experimental treatment was analyzed by paired t-test. The online psychiatric nursing practice education program used in this study was intensively operated for a total of 10 days, 8 hours a day.

Result(s): After applying the online psychiatric nursing practice program, the social anxiety score during self-awareness increased significantly after practice than before practice, and social anxiety was reduced(t=-2.057, p=0.045). The total score of recognition of others (t=-2.217, p=0.031), internal recognition of others (t=-2.031, p=0.048), and external recognition of others (t=-3.005, p=0.004) were significantly improved. In addition, the total empathy score (t=-2.413, p=0.020) and cognitive empathy (t=-2.830, p=0.007) showed statistically significant positive changes after the practice compared to before the application of the practice program.

Conclusion(s): Through this study, the effect of non-face-to-face online psychiatric nursing practice education program for nursing students can be confirmed. This will be able to provide evidence for online-based practical education and follow-up research to be applied in the future.

Keywords: Empathy, Nursing student, Psychiatric Nursing Practice, Self-awareness

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cardiovascular health in overweight or obese postmenopausal women

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Aim(s): The aim of this study was to examine the effects of a Home-based Lifestyle Intervention (HoLi) on cardiovascular health in the middle-aged women at risk of progressing to cardiovascular disease (CVD).

Method(s): This quasi-experimental study used a non-equivalent control group pretest and posttest design and intervention program was based on the Information-Motivation-Behavioral Skills model. The HoLi program demonstrated that exercise and diet can be practiced at home for postmenopausal women who have major risk factors for CVD. This 6-week program consisted of brisk walking, DASH (Dietary Approaches to Stop Hypertension) diet, individual education, tailored counseling, self-monitoring using a smart band and a diary. A total 45 subjects were divided into two groups, 21 to intervention group and 24 to control group. The data were analyzed by descriptive statistics, χ^2-test, Fisher's exact test, independent t-test, Mann-Whitney U test, ranked ANCOVA were utilized using SPSS program (ver. 25).

Result(s): Overall, intervention group significantly improved in the CVD prevention knowledge, self-efficacy (exercise, diet), CVD prevention health behavior, body weight, body mass index, body fat percentage, waist circumference, total cholesterol, LDL-cholesterol, fasting blood glucose and systolic blood pressure (BP) compared to the control group. However, there were no significant differences between groups in the triglycerides, HDL-cholesterol, and diastolic BP.

Conclusion(s): The results suggested that the home-based lifestyle intervention for cardiovascular health in overweight or obese postmenopausal women was effective in improving their knowledge, self-efficacy, health behaviors, anthropometric indicators, lipid profile, and cardiovascular risk. Therefore lifestyle intervention program targeting modifiable cardiovascular risk factors might be an effective strategy if offered with tailored approach and concentrated support for them to adhere to the program.

Keywords: cardiovascular disease, postmenopausal women, lifestyle, exercise

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Affecting Factors of Smartphone Addiction among College Students

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Aim(s): This study was conducted to understand the degree of self-control, loneliness, and smartphone addiction of college students, and the degree of influence of these variables on smartphone addiction.

Method(s): The participants of this study were college students using smartphones. 261 copies were used for the final data analysis. The research tools used in this study were the Korean version of the brief self-control scale, the Korean version of the revised UCLA loneliness scale, and the smartphone addiction proneness scale for adults. For data analysis, descriptive statistics, t-test, ANOVA, Pearson's correlation, and multiple regression analysis were used using the SPSS program.

Result(s): The mean age of a total of 261 participants was 21.0 (±2.13) years, and 130 (49.8%) participants were male. The average self-control of the subjects was 38.89(±6.94), the average of loneliness was 35.10(±10.41), and the average of smartphone addiction was 33.75(±7.97). In the case of smartphone addiction, the high-risk users group is 8.8%, the potential risk users group is 12.6%. The correlations between variables in this study were self-control and loneliness (r=.424, p<.001), self-control and smartphone addiction (r=.516, p <.001), loneliness and smartphone addiction (r= .454, p<.001) all showed a statistically significant. In this study, self-control (β=.394, p<.001) and loneliness (β=.287, p<.001) were found to explain 32.9% of smartphone addiction among college students (F=64.60, p<.001).

Conclusion(s): In this study, the degree of smartphone addiction among college students was moderate, but 2 out of 10 were in the high-risk group and the potential-risk user group. Considering that self-control and loneliness have a significant effect on smartphone addiction among college students, interventions are needed to increase students' self-control and overcome loneliness.

Keywords: Self-control, Loneliness, Smartphone Addiction

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A Cost-Benefit Analysis of Integrated Nursing and Care Service Scheme in the Republic of Korea

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Aim(s): The Korean National Health Insurance Service (NHIS) introduced the integrated nursing and care service (INCS) scheme in 2015 to provide comprehensive nursing and caregiving services for inpatients to reduce the burden of informal care, such as family care or paid care. For the successful settlement of new nursing policy in Korea, this study aims to estimate the cost and benefits of the INCS scheme from a limited societal perspective.

Method(s): We used National Health Insurance claims database, Korea Health Panel Study data, and the primary survey data on the inpatients and nurses from August 18 to August 28 in 2020. Costs and benefits were calculated from 2015 to 2019, respectively, and a cost-benefit analysis was conducted with the net benefits and benefit-cost ratio. The total cost of INCS nationwide was defined as the total additional hospitalization fee for INCS inpatients compared to general wards. The benefits were calculated as the sum of the benefits of reducing the cost of informal care, reducing the length of stay, and reducing pressure ulcer incidence.

Result(s): The estimated net benefits of INCS in 2015 was USD 16.8~25.4 in million. It was showing negative in 2017-2018 due to the expansion of the INCS. However, the net benefit increased again and was affirmed to be USD 50.9~175.5 in million and the ratio of benefit to cost was 1.1~1.3 in 2019.

Conclusion(s): Although there were some issues to be solved, such as inpatient's moral hazard and the imbalance of the nursing workforce in the small and medium-sized hospitals, the INCS was verified as a cost-effective policy for reducing the societal burden of caregiving for inpatients.

Keywords: Caregiver Burden, Cost-Benefit Analysis, Health Policy, Integrated Nursing Care Service

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Trends in the prevalence of multiple pregnancies and associated adverse pregnancy outcomes in Korea

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Background: Recent decades have seen a major increase in the rates of multiple gestations globally. Multiple pregnancies can lead to significant health problems for women and their babies. Multiple gestations are associated with higher age and with greater weight gain during pregnancy than with singleton pregnancies, and both of these characteristics are risk factors for gestational diabetes mellitus (GDM), high blood pressure during pregnancy, and postpartum hemorrhage (PPH).

Purpose: The aim of this study was to assess the trend in the incidence rates of multiple pregnancies, GDM, gestational hypertensive disorders (GHDs), and PPH in Korea.

Methods: We extracted data about all women of reproductive age who experienced pregnancy for each year during 2002-2019 from the data of Korean National Health Insurance Service. Age-adjusted incidences were calculated by the direct method with the 2002 population as the standard population. Annual percent change (APC) was calculated to estimate the trends in rates of prevalence.

Results: Over 18 years, the average age of pregnant women increased from 29.49 to 32.84 years, and pregnant women aged 35 years or older increased from 11.06% to 37.00%. The average APC in age-adjusted incidence rates of multiple pregnancies was 11.1 (95% CI, 10.5-11.6). The average APCs of GDM, pregnancy-induced hypertension (PIH), preeclampsia, eclampsia, and PPH were 16.8 (95%CI, 12.9~20.9), 12.9 (95%CI, 11.7~14.0), −0.4 (95%CI, −1.7~1.0), −7.8 (95%CI, −11.2~−4.3), and 12.5 (95%CI, 10.6~14.4), respectively. In case of preeclampsia, however, the 3 jointpoint analysis revealed that an increase only 2014-2019 had a significant change (APC=11.9 [95%CI, 8.0~15.9]).

Conclusions: The prevalence of multiple pregnancies and the associated adverse pregnancy outcomes except eclampsia are on the rise trends with an increase of the average age of pregnancy. It is important to evaluate adverse pregnancy outcomes of multiple pregnancies, with making efforts to decrease incidence rates of GDM, GHDs, and PPH.

Keywords: pregnant women, multiple pregnancy, gestational diabetes, pregnancy-induced hypertension, postpartum hemorrhage

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Preterm births and the associated conditions in pregnancy: Trends in the rates of incidence in Korea

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Background: Preterm birth, being born before 37 weeks of pregnancy, is a major reason why newborns die and may also mean long-term disability for surviving infants. Although many factors have been shown to increase the risk of preterm birth, uterine or cervical abnormalities (e.g. incompetent cervix, premature rupture of membrane (PROM)) and multifetal pregnancies are known to be major risk factors.

Purpose: This study aimed to explore the trends in the incidence or prevalence rates of preterm births and the related conditions including incompetent cervix, PROM, multifetal pregnancy, and preterm contraction in Korea.

Methods: We extracted data about all women of reproductive age who experienced pregnancy for each year during 2002-2019 from the data of Korean National Health Insurance Service. Age-adjusted incidence rates were calculated by the direct method with the 2002 population as the standard population. Annual percent change (APC) was calculated to estimate the trends in rates of prevalence or incidence.

Results: The average APCs in age-adjusted incidence rates of preterm contraction, multiple pregnancy, incompetent cervix, and PROM were 19.7 (95%CI, 16.9~22.5), 11.1 (95%CI, 10.5~11.6), 12.2 (95%CI, 10.0~14.5), and 9.4 (95%CI, 6.8~12.1), respectively. The trend in incidence rates of preterm births was divided into 3 segments: an increasing period for 2008-2012 (APC=11.9 [95% CI, 3.2~21.5]), a decreasing period for 2012-2016 (APC= -6.7 [95% CI, -17.6~5.8]), and then the increasing period again for 2016-2019 (APC=5.8 [95%CI, -9.6~23.9]) showing that an increase only 2008-2012 had a significant change.

Conclusions: The rates of incidence or prevalence of preterm birth and the associated conditions have been increasing over the last 18 years. The study findings suggest that nurses need to educate the public about preterm birth and the associated conditions, and participate in the development and evaluation of public health strategies to reduce the preterm birth rates.

Keywords: pregnant women, premature birth, multiple pregnancy, uterine cervical incompetence

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Development and Evaluation of the Korean Version of Fighting Spirit Scale for Cancer Patients

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Aim(s): Fighting spirit has been shown to accept to cancer diagnosis and actively overcome it, so it is necessary to accurately evaluate for the quality of life and positive adaptation of cancer patients. Therefore, the aim of this study was to develop the Korean Version of Fighting Spirit Scale (KFSS) that reflects the sociocultural characteristics of Korea to measure the fighting spirit of Korean cancer patients, and to verify its validity and reliability.

Method(s): A survey was conducted with adult cancer patients who visited the outpatient clinic of N Cancer Center in Korea from August 2019 to March 2020. The scaled was developed by combining the results of a previous study on the relevant concept analysis and the results obtained from individual in-depth interviews conducted with 9 cancer patients. Participants were 310 cancer patients recruited to test the reliability and validity of the preliminary scale. The exploratory factor analysis and confirmatory factor analysis were conducted to construct validity, and the concurrent validity and the intensive validity were verified through the correlation analysis with previous instruments. The internal consistency reliability was verified through the Cronbach's coefficient alpha and the test-retest reliability.

Result(s): Exploratory factor analysis with 23 items showed that 6 factors (will to overcome, social support, positive attitude, spiritual belief, preferred environment, will of life) explained 65.3% of the variance, and the factor structure of KFSS model showed a suitable fit. The reliability of the test-retest correlation coefficient was r=.91 (p<.001), the intra-class correlation coefficient was r=.95 (p<.001), and the internal consistency reliability Cronbach's α was .88.

Conclusion(s): The KFSS was developed with a 4-point self-report scale composed of 20 items of 6 factors. The KFSS developed through this study reflects the characteristics of Korean cancer patients and can be evaluated in multiple dimensions, and since reliability and validity are verified, it is useful for application to domestic cancer patients.

Keywords: Fighting spirit, Neoplasm, Scale development, Validity

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Nursing Strategies in a Multicultural Environment
Ongoing Japan-Germany Online Case Study

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Aim: The purpose of this study is to examine nursing strategies in a multicultural environment through a collaborative case study group in which nurses from Japan and Germany, who have different experiences in healthcare systems and cultural responses.

Method: The online seminars for Japanese nurses were conducted in 2020 to learn about cultural competence training at the Charité Medical University Hospital in Germany. As the next step, in 2021 using Japanese cases which were common clinical situations that research members have experienced, nursing strategies in a multicultural environment were examined through a back-and-forth between theory and practice. From Germany, the lecturer Dr. Siebert of Charité seminar and Charité nurses participated in the seminar. The case study sessions had three cases, each lasting approximately one and half hours. Interpretation was provided in Japanese, English, and German.

Result: In Case 1, a pregnant woman from Poland traveling in Japan encountered problems due to differences in the way she was examined. It was suggested that the boundaries of shame vary from culture to culture and that these boundaries can be changed through nursing care. Case 2 was a problem with food during hospitalization. It was suggested that the resources available in the hospital are decreasing. In Case 3, an international student from Mongolia died unexpectedly in his room, and his family was called from his home country to conduct a funeral according to tradition. The hospital was able to provide culturally sensitive end-of-life care by integrating the hospital's community resources.

Conclusion: Boundaries and hospital resources were showed as nursing strategies in a multicultural environment. These results suggest new developments in the impact of boundary-changing nursing interventions and the diminishing resources available to nurses in hospitals.

Keywords: Multicultural Environment, Nursing Strategy, Japan-Germany Online Case Study, Boundaries and Hospital Resources

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Relationship between Muscle Strength Loss and Psychological Vulnerability of Older Adults by Gender

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Aim(s): This study aimed to examine the overall relationship between physical vulnerability and psychological vulnerability among older adults by gender. Specifically, the mediating effect of the stress on the relationship between muscle strength loss and depression was examined by gender.

Method(s): This was cross-sectional study using 2705 older adult (1218 males and 1487 females) from the data of the Korea National Health and Nutrition Examination Survey VII 2016 and 2018. Descriptive statistics were used to represent sample characteristics, and moderated mediation model was used to examine the major study aim. The data was analyzed using PROCESS Version 3.5.3 in SPSS 21.0.

Result(s): Among older adults, the correlation between variables showed that there were significant relationships between hand grip strength and stress (β =-0.072**, $p<0.01$), between hand grip strength and depression (β=-.186, $p<0.01$), and between stress and depression (β =.342, $p<0.01$), respectively. In the moderated mediation model demonstrated that the interaction term of hand grip strength and gender had a negative effect on stress, which indicated that gender had a moderated role of the mediating model of stress on the association of hand grip strength and depression (β=-0.0112, SE=0.0052, t=-2.1739, $p<0.05$). In conditional indirect effect model according to gender, it is not significant in male (β=-0.0011, 95% CI [0.0076, 0.0053]), but it is significant in female (β=-0.0123, 95% CI [-0.0208, -0.0038]).

Conclusion(s): Stress had a mediating effect on the relationship between physical vulnerability and depression differed by gender. Therefore, a stress-mediated depression intervention program should be developed in consideration of female specificity.

Keywords: older adults, stress, depression, muscle strength

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Perceived Effectiveness of High-Fidelity Simulation in the Acquisition of the Cognitive, Psychomotor and Affective Learning in a Department of Nursing in South Korea

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Aim(s): This descriptive-correlative study determined Junior & Senior nursing students' perceived effectiveness of High-Fidelity Simulation (HFS) and assessed specific behavioral indicators in the acquisition of learning among the three domains of learning.

Method(s): A total of 124 out of 166 respondents were randomly chosen after retrieval of the gathered 30-item questionnaires during the Fall and Spring Semesters, Academic Years 2016-2018 at a nursing department in the Republic of South Korea. Data were statistically treated using frequency and percentage distribution, weighted mean, Cramer's V and Pearson's Moment of Correlation.

Result(s): Findings of the study revealed that the respondents perceived as highly effective the use of HFS in the acquisition of learning in the three domains of learning. There was a marked significant relationship that existed between the students' perception on the effectiveness of HFS and their year level in the cognitive and affective domains, but not in the psychomotor learning domain. On the other hand, acceptance of the null hypothesis was noted between perceived effectiveness of HFS in the three domains of learning and gender variable.

Conclusion(s): Majority of the female Senior Nursing students perceived HFS as highly effective in the acquisition of their learning with affective domain ranked as the highest and cognitive as the lowest. On significant relationship that was established between the variables correlated, it was more evident to have higher learning on the cognitive and affective domains of learning among Senior nursing students than the psychomotor domains. All were engaged and performed regardless of their year level and gender into the expected performance in this simulation class. For better understanding of the specific context of students' appreciation of their learning gains in the domains of learning, succeeding study may further explore about their simulation learning experiences per se to comprehensively explain complex issues of acquisition of learning.

Keywords: Acquisition of Affective, Cognitive and Psychomotor Learning, High-Fidelity Simulation, Perceived Effectiveness

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Attitude towards to and Use of Technology among College Students in a Private University in Republic of Korea

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Aim(s): Higher education has a changing cohort over the years. Universities are em-bracing more technology and implementing technology integration in the class as widely as possi-ble. This study aims to provide a more comprehensive account of the technological devices students most ly use to complete their academic tasks within a university context. This study also seeks to evaluate student attitudes towards using technology for learning, in order to provide recommend dations on the most effective way to integrate digital technology into the classroom.

Method(s): This is a cross-sectional research, involving 176 college students. Stratified random sampling with a random start was used to draw the respondents of this study. Upon retrieval of the questionnaire, the data were scored, classified, and subjected to computer-processed statistics, analyzed, and interpreted. Descriptive sta-tistics such as frequency distribution and means were employed to analyze variables such as re-spondent's profile (sex and grade level), attitude towards technology, and use of technology. Inferential statistics such as T-test and Analysis of Variance with Scheffe test for post-hoc analysis were used for differences in respondents' attitudes towards and use of technology grouped according to their profile. Gamma test was used to determine the relationship between respondents' attitudes towards and use of tech-nology.

Result(s): The majority of the respondents are males and in their second grade. Gen-erally, they had a good attitude towards technology as they perceived it to be fascinating, easy to learn, more interesting, and making them comfortable in doing academic tasks. They use technology in accomplishing their school works on a daily basis, such as a laptop, mobile phone, internet, and email.

Conclusion(s): Irrespective of their sex and grade level, still the students had a good attitude towards technology. Both male and female students had the same level of technology use while those in the third and fourth grade used the technology frequently as compared to lower grade students. Moreover, a good attitude towards using technol-ogy led the students of using it more often in school. Recommendations include a further study on the specific preferences like traditional or technological tools of students in performing certain academic tasks.

Keywords: Use of Technology, Attitude towards Technology, ICT Tools, ICT Usage

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A study on the motivations and behaviors of students who re-enrolled in a nursing school after graduating from university

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Aim(s): As the number of students who re-enrolled in a nursing school after graduating from university are currently increasing, appropriate support should be designed and provided for them. Therefore, understanding their motivations and experiences are necessary.

Method(s): Thirteen (out of 29) fourth year re-enrolled students agreed to participate in the study and in-depth interview was performed. Data were coded and categorized according to the Strauss and Corbin's grounded theory analysis model.

Result(s): The age of participants ranged from 26 to 56, and the time between graduation and re-admission was 4 to 7 years. The ratio of female to male was 10:3. The goal of the re-enrolled was to get a decent job (by having a nursing license). They experienced some economic burden, but none of them were forced to earn a living on their own. Overall satisfaction was good, and they enjoyed clinical clerkships. However, they found it difficult in understanding concepts and theories delivered in lectures and, their academic performance was low. Some of them devoted their time to solve as many problem books as they could rather than concentrating on understanding regular lectures.

Conclusion(s): These findings suggested that the primary motivation of the re-enrolled students (and maybe the only one in many of them) was getting a nursing license as they were sure that the license was a good way for securing a decent job. Their strategy was to pass the examinations by superficial learning, but they were wrong on the fact that the license is given as a proof of deep understanding and dedication to nursing science. Individualized teaching aids and a program to change their personal understanding early in their nursing school years seemed to be necessary.

Keywords: nursing, students, qualitative research, motivation

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The relationship between rejection sensitivity, resilience, and interpersonal competence among college students

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Aim(s): This study was conducted to understand the degree of rejection sensitivity, resilience, and interpersonal competence of college students, and to understand the correlation between variables.

Method(s): In this study, a questionnaire survey was conducted on college students. 239 copies were used for final data analysis. Korean version of the Rejection Sensitivity scale, Resilience for Korean adolescents and Korean version of the Interpersonal Competence Questionnaire were used in this study. For data analysis, descriptive statistics, t-test, ANOVA, and Pearson's correlation were used using the SPSS program.

Result(s): The average age of the subjects in this study was 21.05 (±1.71) years, and 157 (65.7%) of them were female. The average rejection sensitivity of the subjects was 41.90(±11.06), the resilience was 96.45(± 12.61) and the interpersonal competency was 97.69(±9.56). Among the general characteristics, there were statistically significant differences in gender. The rejection sensitivity was higher on female than male (t=17.80, p=.001), resilience was higher on male than female (t=13.15, p=.001), and interpersonal competence was higher male than female (t=11.006, p=.001). Interpersonal competence showed negative correlation with rejection sensitivity (r= −.320, p=.025). Rejection sensitivity showed negative correlation with resilience (r=−.369, p=.008). Finally, Resilience showed positive correlation with interpersonal competence (r=.573, p=.001).

Conclusion(s): In times like COVID-19, as non-face-to-face activities increase, you may feel difficulties in interpersonal relationships. When resilience was high and rejection sensitivity was low, interpersonal competence was high. In order for college students to have a satisfactory college life, it is necessary to develop a program that can form effective relationships with others in various situations.

Keywords: rejection sensitivity, Resilience, Interpersonal Competence

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Influencing Factors on the Satisfaction of Communication with the Elderly in Nurses

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Aim(s): This study was performed to utilize for foundation data of research related nursing communication and developing nursing intervention by examining the relationship between nurses' perception of the elderly and communication.

Method(s): This study is a descriptive research using a set of questionnaires that examines the relationship between nurses who provide care to the elderly by confirming their perception of the elderly, communication difficulties with the elderly, communication behavior, and satisfaction with communication. After IRB approval, data were collected either face-to-face survey or by online survey. A total of 292 nurses participated in this study. The collected data were analyzed as descriptive statistics, t-test and ANOVA, Duncan test and Pearson's Correlation Coefficients, Multiple Regression Analysis by using SPSS/WIN 26 program.

Result(s): As a result, a significant correlation was identified between perception of the elderly and communication disorders, communication behavior, and communication satisfaction. We found that nurses who had more positive perceptions about the elderly had less communication disorders, better communication behaviors, and higher communication satisfaction with the elderly. The variables affecting the nurse's communication satisfaction with the elderly were the perception of the elderly and the communication behavior with the elderly.

Conclusion(s): From this result, we suggest that nurses caring for the elderly should receive education on communication methods with elderly to improve their perception. Furthermore, we suggest future studies to improve nurse's perception of the elderly and communication.

Keywords: Communication, Nurse, Old ages, Perception.

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Factors Affecting Health-Related Quality of Life for Middle-Aged Men by Participating in Economic Activities

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Aims: The purpose of this study was to measure health-related quality of life (HRQoL) and investigate the affecting factors for middle-aged men by participating in economic activities using Korea Health Panel Data 2017.

Methods: The Korea Health Panel data 2017 was collected from February to June 2017 by the Korea Institute for Health and Social Affairs and the National Health Insurance Corporation and 1,626 respondents were analyzed. The data was analyzed by descriptive statistics, chi-square, t-test and multiple logistic regression using SPSS 25.0 program.

Results: The most affecting factors in HRQoL for middle-aged men participating in economic activities were activity restrictions. Other influential factors in HRQoL were age, education, annual household income, chronic diseases, vision problems, hearing problems, eating problems, stress, frustration and suicide ideation. These variables explained 28% of the total in HRQoL .
In middle-aged men who did not participate in economic activities, the most affecting factors in HRQoL was activity restriction. Other influential factors in HRQoL were education, frustration. These variables explained 47% of the total in HRQoL .

Conclusions: Health care providers should consider the differences between participants in economic activities and nonparticipants when they design a program in order to improve HRQoL of middle-aged men.

Key words: Middle aged, Men, Quality of life, Health

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Nurse's turnover prediction using artificial intelligence

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Aim(s): This study aims to develop a program that can predict the turnover and turnover of nurses by applying HR Analytics, a big data and artificial intelligence technology that has recently drawn attention, and to propose efficient management of nursing personnel.

Method(s): Collect data of retirees and employees from 2011 to 2021. Convert to vector and normalization and standardization of unstructured data. All variables are processed as order variables and normal variables. Remove null values or outliers from collected data. Classify train and test data. Define target and feature data. Build the predictive model using random forest and evaluate the accuracy. Random forest uses only some of the input variables and ensures diversity in decision making through data sampling and variable selection. We rank the importance of variables in regression problems to determine X, which has significantly affected Y in HR Analytics.

Result(s): Of the 1409 data, 55.3% were employed and 44.7% were retired. The age of 24 to 30 accounted for the majority of the nurse, with more people turnover from the ward than from the special department. The turnover rate was the highest in those in their 30s except for retirement. The highest correlation with retirement was salary. Turnover prediction accuracy was 99%.

Conclusion(s): Human resources analytics predicted a high probability of nurse turnover. More variables are needed to improve accuracy, and to this end, various information used in human resource management should be made big data and the potential and performance of nursing personnel should be evaluated and analyzed more objectively and utilized in a timely manner. Through this, it is expected to make it possible to efficiently manage not only jobs but also employment, performance management, and work satisfaction.

Keywords: Artificial intelligence, Nurse, Turnover

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Nursing Professional Values on Nursing Performance: Mediating Effect of Compassion Competence and Positive Psychological Capital

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Aim(s): This study aimed to test the mediating effect of compassion competence and positive psychological capital in the relation between nursing professional values and nursing performance.

Method(s): The participants were 141 nurses from a tertiary hospital of P city in Korea. Data was collected using a self-reported questionnaire. The Measurements included the nursing professional values, compassion competence, positive psychological capital, and nursing performance Inventory. Collected data were analyzed by SPSS/WIN 22.0 software using descriptive statistics, independent t-test, ANOVA, Scheffe's test, Pearson's correlation coefficient, and multiple regression following the Baron and Kenny method and Sobel test for mediation.

Result(s): The mean score for nursing professional values, compassion competence, positive psychological capital, and nursing performance were respectively 3.32 out of 5 points, 3.67 out of 5 points, 3.86 out of 6 points, and 3.72 out of 5 points. There were significant correlations among nursing professionalism, empathy competency, positive psychological competency, and nursing performance. Compassion competence (β=.66, p<.001) had a complete mediating effect in the relation between nursing professional values and nursing performance (Z=6.57, p<.001). Positive psychological capital (β=.51, p<.001) had a partial mediating effect in the relation between nursing professional values and nursing performance (Z=4.87, p<.001).

Conclusion(s): To improve nursing performance, interventions that strengthen nurses' empathy and positive psychological capital will be effective. In addition, if education or experience that enhances the professionalism of clinical nurses is properly used, it will have a positive effect on nursing performance.

Keywords: Empathy, Nursing professional values, Performance, Positive psychological capital

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Empathy of caregivers who care for older adults with dementia

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Purpose: The purpose of this study was to pave the way for developing nursing intervention strategies to enhance family resilience by identifying unique patterns of resilience in families of elderly patients with dementia.

Methods: The Q-methodology was used to define types and describe characteristics of empathy in caregivers. After in-depth interviews with 10 caregivers and study of related literature, final 38 Q-samples were selected by collecting the opinions of experts. The selected 38 Q-statements were sorted by 30 caregivers (P-samples). The PC-QUNAL program was used to analyze Q-sort data.

Results: Seven distinctive Q-factors for empathy of caregivers were identified: I. Information oriented cognition, II. Sensory communication, III. Compassion, IV. Performance-seeking through self-reflection V. Intuitive Empathy, VI. Role-Centered Sincerity, VII. Passive Obligation.

Conclusion: The empathy of caregivers caring for the elderly with dementia showed various characteristics according to each subjective value and judgment. The results of this study can be useful in identifying the empathy types and characteristics of caregivers caring for the elderly with dementia, and these results will contribute to improving the quality of care in the process of caring for the elderly with dementia.

Keywords: Empathy,caregivers, older adults with dementia

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Effect of life satisfaction on depression among childless married couples
: A cross-sectional study

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Aim(s)： Depression among childless middle-aged and elderly people is a serious social problem in Korea. However, few studies examine the influence of life satisfaction on the depression of spouses as actors and partners. Hence, this study analyzes the influence of life satisfaction (a positive factor childless married couples may have) on depression.

Method(s)： This cross-sectional study employed data on couples to analyze the effect of life satisfaction on the depression of childless married couples as actors and partners via the actor-partner interdependence model. The Korea Longitudinal Study of Aging was employed to investigate life satisfaction and depression among 207 childless middle-aged and elderly couples.

Result(s)： Regarding actor effects, wives' (β = -0.285, p = 0.004) and husbands' (β = -0.403, p < 0.001) life satisfaction significantly affected individual depression. Regarding partner effects, husbands' life satisfaction (β = -0.255, p = 0.011) significantly affected wives' depression, and the wives' life satisfaction (β = -0.375, p < 0.001) significantly affected husbands' depression.

Conclusion(s)： A childless actor's life satisfaction affected own and partner's depression. Thus, spouses should work together to improve their life satisfaction, thereby improving their depression.

Keywords: actor-partner interdependence model; depression; family characteristics; personal satisfaction

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SLE Patients' Experiences with Daily Life Support from Their Partners: A Qualitative Study

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Background/Purpose: Systematic lupus erythematosus (SLE) patients need daily life support from their partners. However, the kind of support they need and how they want to be supported has yet to be clarified. This study explores SLE patients' real-life experiences with daily-life support from their partners.

Methods: We recruited outpatients at a rheumatology center. The participants were patients with SLE, who lived with their partners.We conducted aqualitative descriptive research using semi-structured individual interviews with seven participants with SLE. Thedata were qualitatively and recursively analyzed, and findings were synthesized using a thematic approach.

Results: Participants were women, mean age was43.1±7.9 years, and SLE duration was 14.4±6.1 years. Seventy-one percent of participants had 2 or 3 children, and 68% had a job. Thematic analysis identified the following six support categories: partner 1) helps with housework afterflare-ups of SLE; 2) converses in a manner that gives assurance and comfort to the patient; 3) gains and deepens understanding about SLE from others' interactions with the patient; 4) improves understanding about SLE through the patient's intentional daily disclosures; 5) supports insufficiently because of a lack of understanding of SLE; and 6) provides a sense of security that the partner will provide support whenever it is necessary.

Conclusion: The daily-life support the SLE patients need from their partners can be summarized by the following two categories: 1) "help with housework after flare-ups of SLE" and 2) "gain and deepen understanding of SLE through others' interactions with the SLE patients". These findings indicate that, in order to reduce SLE patients' burdens, further research is necessary on interventions focused on partners' education.

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The attitude of nurse to turnover: Q methodological approach

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Aim(s): This study was designed to explore the attitude and characteristics of nurse's turnover using Q-method.

Method(s): Q-population was organized through in-depth interview with 9 nurses. A total 43 Q-samples were selected in the 126 Q-population. The 30 nurses sorted the 43 statements using the principle of forced normal distribution. PC-QUNAL program was used for Q-factor analysis.

Result(s): Eight attitude types of turnover of nurses were found. Those were named as follow; Professional satisfaction, In-organization recognition, A bitter pill to swallow, self-center and calculating, No action talking only, Work-life-balance, Interpersonal dependence, Justification.

Conclusion(s): Findings of this study will serve as the basis for the understanding of nurse's turnover attitude. And also, these results will help to develop nursing management strategies to increase nurse's retention.

Keywords: Q method, Nurses, Turnover attitude

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Validity and Reliability of the Korean version of the Self-Care of Diabetes Inventory

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Aims: To evaluate validity and reliability of the Korean version of Self-Care of Diabetes Inventory (SCODI).

Methods: Type 2 diabetic patients (n = 210) from a university hospital who agreed to participate in this study from November 1st, 2018 to June 30th, 2019 were enrolled. Content validity, construct validity, and criterion-related validity were evaluated. Cronbach's α was used to assess reliability. IBM SPSS Amos and SPSS WIN 22.0 software were used for data analyses.

Results: The SCODI Korean version consisted of 40 items in four dimensions. Four factors (activity-nutritional behavior, health-adherence behavior, health-promotion behavior, diet-restriction behavior) in the dimension of self-care maintenance, two factors (health status monitoring, symptom recognition) in the dimension of self-care monitoring, three factors (glucose self-control, problem solving behavior, consultative self-care) in the self-care management dimension, and one factor (Self-care Confidence) in the dimension of confidence were extracted. Confirmatory factor analysis supported good fit and reliable scores for the Korean version of the SCODI model (χ^2/df <5, RMSEA < 0.1, CFI ≥ 0.9, GFI ≥ 0.9). The Korean SCODI showed a high positive correlation coefficient of .75 with SDSCA, confirming the convergent validity. Cronbach's α was 0.92 for the overall scale and 0.69 to 0.90 for the four dimensions.

Conclusions: The Korean version SCODI is a valid and reliable instrument for assessing self-care of patients with type 2 diabetes in Korea.

Key words: diabetes, self-care, self-efficacy, validity, instrument development

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Nursing Experience of Pediatric Oncology Nurse

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Aim(s): The purpose of this study was tried to understand the nature of nursing experiences and meaning structure of the nurses in the ward for pediatric cancer, moreover to seek their supporting plans.

Method(s): This study were explored by phenomenological analytic method suggested by Colaizzi. Data was collected through in-depth interviews with 14 nurses who applied to participate in this study among those who had worked for more than a year in the ward for pediatric cancer, and the data were collected from January to March 2021.

Result(s): The analysis produced 5 categories: 'Fear and expectation that felt upon meeting the pediatric cancer patient at the first time,' 'Marginal situation of nursing,' 'Emotional difficulty felt in nursing,' 'Firming up as the nurse in the ward for pediatric cancer,' and 'Realizing the meaning and value as the nurse in the ward for pediatric cancer and positioning.'

Conclusion(s): These results can present a vivid evidences base the understand the meaning and value of nursing of the nurses in the ward for pediatric cancer in detail. According to the results, Nurses in the ward for pediatric cancer sought rewarding and meaning that nursing pediatric cancer patients is for the hope of the future and they became firm as the nurses in the ward for pediatric cancer. Further studies of this subject can prove contribute to prepare the basic interventions for training, supporting plans, and management interventions of the nurses who take care of pediatric cancer patients.

Keywords: Nurse, Pediatric care, Qualitative research, Tumor

P-285

Effects of Flipped Learning-based Collaborative Team Activity on Communication Skills, Academic Self-efficacy, and Problem-solving of Nursing Students

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Aim(s): This purpose of this study was to evaluate effects of flipped learning-based collaborative team project on communication skills, academic self-efficacy, and problems solving abilities on Korean Nursing Students.

Method(s): the study used a single-group time-series design. Thirty-three students participated in this study. Students experienced collaborative team activities for 15weeks with 4 weeks of flipped learning. The pre-test 1, pre-test 2 and post-test were conducted to compare the differences in communication skills, academic self-efficacy, and problem-solving abilities. Data were analyzed using descriptive statistics, t-test, one-way ANOVA, and repeated measure ANOVA.

Result(s): After students had received the flipped learning, the results of post-test showed communication skills were significantly higher than pre-test 1 (f=5.63, p=.009) and problem-solving abilities were significantly higher than pre-test 1 and pre-test 2 (f=7.20, p=.003).

Conclusion(s): The findings of this study suggest that flipped learning-based education is an effective method to increase communication skills and problem-solving on nursing students. The limitation of this study is that it is difficult to generalized as it conducted using a quasi-experimental study design with a single-group time-series design.

Keywords: Nursing Students, Communication skills, Problem-solving, Flipped learning

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A study on self-regulated learning ability, online class participation and satisfaction of nursing students

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Aim(s): This study is a descriptive research to investigate students' online class participation and satisfaction and to identify related factors as the class method has been changed from face-to-face to non-face-to-face due to the global corona pandemic.In particular, since online classes give learners the active ability to decide on their own learning content, learning order, and learning methods, this study aims to confirm class participation and satisfaction accordiβng to self-regulated learning ability.

Method(s): To achieve this goal, a survey was conducted with 100 students who took both the 2020-1st and 2nd semesters among T University students who experienced online learning in the context of the COVID-19 pandemic. The self-regulated learning ability tool by Yang(2000) and the online class satisfaction measurement tool developed by Cha et al(2012) were used. The collected data were analyzed by descriptive statistics, frequency, correlation analysis, independent test, one-way ANOVA, and multiple regression analysis were performed.

Result(s): The self-regulated learning ability of the subject was 3.61 points on average, which were 3.85 points for cognitive control, 3.35 points for behavior control, 3.57 points for motivation control, e 3.55 points for online class participation and 3.72 points for online class satisfaction. As a result of the correlation analysis of the three variables, it was found that there was a positive correlation. As a result of the analysis of factors affecting class participation, the explanatory power was 67% and the factors were beta-cognitive planning (β=-.181, p=041), beta-cognition, behavioral control (β=-.206, p=.05), and behavioral control (β=.472, p=.001). As a result of regression analysis on the effect on class satisfaction, the explanatory power was 59% and the factors were cognitive strategy-elaboration (β=.181, p=.019), beta cognitive planning (β= -.247, p=.017), motivational control goal orientation (β=.293, p=.018), motivational control achievement value (β=.250, p=.032), behavioral regulation (β=.472, p= .002)

Conclusion(s): As a result of this study, the higher the self-regulated learning ability of students, the higher their online class participation and satisfaction. Although it has come to prominence through the corona pandemic environment, modern society is changing into a smart society based on maximizing convenience that allows you to work without face-to-face in many fields. In the midst of these changes, as the online learning form is increasing in education, it is necessary to develop various contents to improve the effectiveness of online learning, to verify the competence of students who actually learn, and to develop necessary learning abilities.

Keywords:self-regulated learning ability, online class participation, online class satisfaction

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Perceived Good Death, Knowledge and Attitude toward Advance Directives among Hemodialysis patients in Korea

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Aim: An advance directives (AD) is a legal document intended to indicate a person's preferences or decisions about their end-of-life care ahead of time. There are lack of understanding about AD for hemodialysis patients in Korea. Therefore, the study purpose was to identify the relationship between perceived good death and knowledge and attitude toward AD in hemodialysis patients.

Methods: We conducted a cross-sectional survey. The study participants were 119 patients under hemodialysis, recruited from a secondary hospital. Data of this study were collected in 2021 by a self-administered questionnaire. Data were analyzed using t-test, ANOVA, and Pearson's correlation coefficient, Spearman's rank correlation coefficient.

Results: The total score for the level of perceived good death in hemodialysis patients was 47 out of 68. The study participants concern their clinical symptoms as an importance of good death. For the knowledge of AD, an average correct answer rate of 63.21%. The average score of the attitudes toward AD was 44.59 out of 64. The perceived good death and attitudes toward AD showed a positive correlation (r =.340, p <.001). The knowledge of AD and attitudes toward AD also showed a positive correlation (r =.191, p =.037).

Conclusion: As a result of this study, the more consistently the study participants agrees that it is good death with given questionnaire and the more knowledgeable about AD the more active and positive he/she was in the AD. It is necessary to develop education program to raise awareness of good death and develop end-of-life care plans in advance, and its effectiveness in hemodialysis patient has to be verified in future studies.

Key words: Advance Directives; Death; Hemodialysis; Terminal Care

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The Process of Self-control in Quarantined Individuals During the COVID-19 Pandemic in South Korea: A Grounded Theory

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Aim: Although it is an unpleasant and uncomfortable experience for those who undergo it, quarantine is a necessary practice to prevent the spread of a contagious disease, such as a novel coronavirus disease like COVID-19. This study aimed to generate a model of self-control in quarantined individuals during the COVID-19 pandemic in the context of South Korea, which has implemented a strong quarantine policy and monitoring system.

Methods: Data were collected from Nov. 8th to Dec. 15th in 2020. Twenty-one participants who underwent quarantine were recruited. All participants took part in semi-structured phone interview. The data were analyzed using the grounded theory methodology to generate a model.

Results: 'Enduring a controlled life with limited free will' was determined as a core category of their self-control. Their control experiences showed a specific pattern, which was classified into five phases: preparation, acclimation, exhaustion, lethargy, and liberation. Additionally, four intervening conditions affecting their self-control emerged: 1) trust in the national quarantine system, 2) concerns regarding community and family transmission, 3) psychological stability acquired through social support, and 4) the perceived threat of COVID-19 infection.

Conclusions: The findings of this study may help both quarantined individuals in controlling feelings of distress and discomfort during their quarantine as well as health officials who may be struggling with the dilemma between public health and individuals' right of liberty. Public health nursing interventions that fulfill basic needs and provide complete and specific information will help quarantined individuals endure their challenging situations and help people perceive quarantine as a mean of protecting others rather than as simply a coercive restriction of their liberty.

Keywords: COVID-19; grounded theory; pandemics; policy; public healt

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Exploring Research Topics and Trends of Metabolic Syndrome Intervention using Network Analysis from 1983 to 2018

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Aim(s): The present study aims to apply the network analysis method to identify the relationships between keywords of previous studies on metabolic syndrome intervention (MSI), while simultaneously examining the whole knowledge framework of research on this topic from a macro perspective. The aim of the study is to predict the future trends in research on interventions of metabolic syndrome by identifying the newly emerging research keywords.

Method(s): The study utilized electronic academic databases, PubMed, CINAHL, EMBASE, and Cochrane. The search strategy included metabolic syndrome AND (treatment OR intervention OR implementation). As a result, 5,978 studies published from 1983 to 2018 were found. Key research topics were extracted with the assistance of a text-mining professional who utilized the Text Rank analyzer. The filtered keywords were then reexamined by three professionals in nursing informatics and management and one text-mining expert.

Result(s): After analyzing the simultaneous appearance frequency of the 2,227 keywords, the study identified keywords with high frequency such as metabolic syndrome, cardiovascular disease, insulin resistance, risk factor, diabetes mellitus, blood pressure, physical activity, waist circumference, cardiovascular risk, abdominal obesity and so on. By applying relation of keywords on betweeness centrality, 7 clusters were established. Emerging topics were identified: the beginning phase (cardiovascular risk, abdominal obesity), the development phase (lifestyle modification, oxidative stress), the maturation phase (cardiometabolic disease, gut microbiota), and the expansion phase (cardiometabolic health, sleep duration).

Conclusion(s): This study provides vital insights that can be based on the development of MSI research. Thus, if new researchers refer to existing trends to establish the subject of their study and the direction of the development of future research on MSI can be predicted. Also, nursing should play a critical role in MSI research.

Keywords: Network Analysis, Metabolic Syndrome, Intervention, Topic, Trend

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A Literature Review and Meta-Analysis of Problem-Based Learning in Nursing Students

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Purpose: The objective of this systematic review and meta-analysis was to estimate the effectiveness of problem-based learning in developing nursing students' critical thinking, problem solving, self-directed learning.

Methods: To conduct a meta-analysis, a total 1,963 studies were retrieved from eight databases (Pubmed, EMbase, CINAHL, Cochrane Library, KERIS, KISS, NDSL, KoreaMed) without restriction on publication year and the articles published until March 2019 were selected for this study. Fourteen studies were selected for the meta-analysis based on their satisfaction of the inclusion criteria and low risk of bias. Baseline demographic data, exercise features, and outcome data were extracted from all included trials. The data was analyzed using the RevMan 5.3 program.

Results: Most studies were of low risk of bias. The pooled effect size showed problem-based learning was able to improve nursing students' critical thinking (ES=0.29, 95% Cl=0.04~0.54, p=.002), problem solving (ES=0.39, 95% Cl=-0.09~0.87, p=.11), and self-directed learning (ES=0.35, 95% Cl=-0.22~0.91, p=.23) compared with traditional lectures.

Conclusion: PBL help improve the critical thinking in nursing students. Although problem solving and self-directed learning were not affected, more research on large sample size and repeated meta-analysis of PBL are required.

Keyword: Meta-analysis, Problem-based learning, Problem solving, Self-directed learning, Thinking

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Organizational Culture for Infection Control and Practice of Standard Precaution in Veterans Hospital Nurses: The Mediating Effect of Self-Efficacy

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Objectives: The purpose of this study was to examine the relationships between organizational culture for infection control and practice of standard precaution, and explore the mediating effect of self-efficacy in Hospital nurses.

Methods: A descriptive research design was used. The subjects of this study were nurses working at the Hospital. Data collection was done using a self-report questionnaires in June 2019. Total 172 nurses participated for survey paper. IBM SPSS Statistics 21.0 was used.

Results: The mean scores of organizational culture for infection control and practice of standard precaution were 56.39 and 161.76 respectively and self-efficacy was 67.52. Practice of standard precaution was positively associated with self-efficacy (r=0.53, p<.001), and organizational culture for infection control (r=0.39, p<.001). Self-efficacy plays a full mediation in the relationship between organizational culture for infection control and practice of standard precaution (Z=4.43, p<0.001).

Conclusions: Improving self-efficacy may help in increasing practice of standard precaution.

Key words: Infection control, Organizational culture, Self efficacy

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The Mediating effect of Empathy between Clinical Practice Stress and Burnout in Nursing Students

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Purpose: This study was to examine the relationships between clinical practice stress and burnout, and mediating role of empathy in nursing students.

Methods: Cross-sectional research design was employed. One hundred seventeen nursing students completed the questionnaires on clinical practice stress, empathy (perspective-taking, fantasy, empathic concern, personal distress) and burnout in December 2017. IBM SPSS Statistics 23 was used and descriptive statistics, frequency, Pearson correlation coefficient and multiple regression were conducted. Baron & Kenny method and Sobel test were adopted for analysis of the mediation effect.

Results: The mean scores of clinical practice stress and burnout were 3.45 and 43.0, and perspective-taking, fantasy, empathic concern and personal distress of empathy were 2.67, 2.42, 2.62 and 2.19 respectively. The highest relationship between clinical practice stress and empathy was personal distress of empathy (r=.32, p<.001). Burnout was positively associated with clinical practice and personal distress of empathy (r=.22, p=.015; r=.51, p<.001). Personal distress of empathy demonstrated a complete mediating effect on the relationship between clinical practice stress and burnout (Z=3.22, p=.001).

Conclusion: These results showed that improving empathy is important for nursing students. Enhancing empathy may help in reducing clinical practice stress and burnout.

Key words: Psychological stress, Empathy, Professional burnou

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Analysis of compassionate care experience among clinical nurses using grounded theory

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Aim: The aim of this study was to explore the meaning of the experience of providing compassionate care to patients admitted to acute hospitals.

Method: This study design was qualitative research that applies the evidence theory method. The participants were clinical nurses who experienced direct patient care for more than three months (N=13). The data collection was an in-depth face-to-face interview from July 2020 to February 2021. The number of interviews per participant was one time, and the interview time was 30-60 minutes, which was recorded after obtaining informed consent, and the researcher immediately transcribed and analyzed after the interview. The data analysis was used the Strauss and Corbin (2008) method.

Result: The compassionate care experience of clinical nurses was derived from 78 concepts, 33 subcategories and 16 categories. The central phenomenon representing compassionate care among clinical nurses was derived from 'holistic care that understands disease progression'. The causal conditions of this process were shown to be 'immersion into the patient's difficult feelings' and 'sensitive awareness of the patient's physical and emotional needs'. Contextual conditions affecting the phenomenon were 'experience a patient's emotional vortex', 'workload pressure and time limits', 'lack of warmth and tolerance of the nurse' and intervening conditions were 'advice from colleagues', 'training through experience and learning'. The interaction strategies were 'recognizing emotions', 'trying to communicate', priority pain control', 'stay by your side by side', and 'to provide information, and the results were 'positive changes in the patients', 'the satisfaction and belief of a nurses', and 'be burned out'.

Conclusion: Based on the results of this study, the ultimate consequence of compassionate care was enhancing job satisfaction and professional beliefs from the nurse's perspective and leading to patient cooperation and positive health outcomes from the patient's perspective. It is expected that such nurses will be utilized as the cornerstone for developing the body of knowledge related to compassion-based care.

Keywords: Emotional Intelligence; Patient-Centered Care; Holistic Nursing; Grounded theory; Nurses

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Development of New Nurse Training Program with New Nurse Educator

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Aim(s): The importance of education to strengthen the capacity of nursing staff is increasing day by day. As a result, various nursing education programs have been developed and implemented at clinical sites. However, there is not enough education as required, and the degree of adaptation of new nurses is becoming an issue. However, there's always a shortage of resources, we need an efficient training program containing essential contents. A systematic education program development process, including an evaluation, is required for new nurse. We would like to propose a case of developing a training program for new nurses using an education nurse to provide a systematic nurse education.

Method(s): Based on the ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model, it is a methodological research that reports step-by-step process. The ADDIE model is a teaching design model that consists of five stages. We utilized survey for the satisfaction of new nurse and education nurses, and experts evaluated the program following the CIPP(Context, Input, Process, Product) evaluation model.

Result(s): Program modules and textbooks were developed to improve clinical performance, and the formation assessment increased the proportion of practice, reflecting both knowledge and skills and attitudes. In particular, comprehensive situation simulation practices are organized to provide integrated training to enable therapeutic communication, critical thinking and decision-making according to scenarios created by education nurses with major themes.

Conclusion(s): This study presents a case of training programs for new nurses in a tertiary hospital in terms of program evaluation and the use of educational nurses. Through this study, we have shown the possibility of training programs that can integrate knowledge and practice, and we expect that the training program with new nurse educator will contribute to qualified nursing care and retention of new nurses.

Keywords: Residency Training Program, New Nurse, New Nurse Educator

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Application of Skills Learned from Off-JT by Novice Nurses and Supervisory Approaches for Them in OJT

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Aim(s): To clarify novice nurses (novices)' and nursing supervisors (supervisors)' views on the application of skills learned from off-the-job training (Off-JT), situations where supervisors provide support for novices as part of supervision in on-the-job training (OJT), and the details of such support as a basis for effective support for novices to apply the skills they have learned from Off-JT in actual settings.

Method(s): The participants were 4 supervisors of a single facility and 3 novices who had been supervised by these supervisors in the same facility. Data were collected through semi-structured interviews. During the interviews, the participants were asked about the skills learned from Off-JT and applied/not applied in actual settings, as well as the supervisory approaches provided in OJT. Data analysis was performed, adopting a qualitative, descriptive method. The study was approved by the Research Ethics Committee of Mie University Graduate School/Faculty of Medicine.

Result(s): The category [understanding of manual techniques and procedures] represents the skills learned from Off-JT considered by both the supervisors and novices as applicable in actual settings. In contrast, the category [management of patients according to their responses] represents those considered by both parties as difficult to apply in such settings. In OJT, 3 situations were identified: <observation>, <monitoring>, and <reflection>. Supervisory approaches for <observation> were summarized into [manual techniques and procedures] etc. Those for <monitoring> were represented by [pointing out mistakes and giving instructions to novices] and [following up patients]. <Reflection> was recounted by [reflecting together] etc.

Conclusion(s): The identified skills learned from Off-JT and applied/not applied in actual settings suggest that both supervisors and novices define 'performing the manual techniques and procedures one has learned as they are in actual settings' as the application of learned skills. On the other hand, they considered that changing and using one's acquired knowledge according to patients' responses are also involved.

Keywords: Application of Skills, Novice Nurses, on-the-job training (OJT)

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Application of Skills Learned from Off-JT by Novice Nurses and Supervisory Approaches for Them in OJT

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Aim: Identifying factors affecting self-care behavior and treatment adherence in hemodialysis patients.

Methods: This study was a descriptive research and data was collected from 91 patients in four SNS communities. General and clinical characteristics, social support, importance of self-care, self -care behavior and treatment adherence were measured self-reported questionnaires. Data were analyzed using descriptive statistics, independent t-test, one-way ANOVA, Pearson's correlation, and multiple regression analysis using SPSS Statistics 26.0

Results: 56(61.5%) participants were men, mean age was 51.6(±9.37). Mean hemodialysis period was 7.8(±7.03) years, most common cause was glomerulonephritis. Mean self-care behavior was 3.49(±0.56), mean treatment adherence was 4.0(±0.46). Self-care behavior was significantly correlated with importance of self-care(r=.628), social support(r=.542), and treatment adherence(r=.613). Treatment adherence was significantly correlated with importance of self-care(r=.421) and social support(r=.345). Importance of self-care (β=.371), treatment adherence (β=.359), social support from friends (β=.195) and subjective health status (β=.202('Average'), β=.262('Good'), β=.256('Very good')) were significant influencing factors of self-care behavior, and the explaining power was 62.8% (F=14.82, p<.001). Self-care behavior (β=.453), education level (β=.47), and education frequency (β=.287(once a month), β=.279(once a week)) were significant influencing factors of treatment adherence, and the explaining power was 57% (F=7.64, p<.001).

Conclusions: Improving self-care behavior and treatment adherence in hemodialysis patients requires interventions that enable patients to assess their health status positively and promote social support. Additionally, interventions should consider the patient's education level, and should be performed as often as possible.

Keywords: Self-care behavior, Treatment adherence, Social support, Importance of self-care

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Illness uncertainty, coping, and quality of life of colorectal cancer patients during chemotherap

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Aim(s): Colorectal cancer patients undergoing chemotherapy may experience uncertainty in the course of treatment process and their quality of life could be affected by how they cope with the situation. This descriptive study aimed to identify the relationships between uncertainty, coping, and quality of life among colorectal cancer patients undergoing chemotherapy.

Method(s): Participants were 160 hospitalized colorectal cancer patients undergoing chemotherapy. The modified version of the Mishel Uncertainty in Illness Scale and the Cancer Coping Questionnaire was used for the scoring of uncertainty and coping respectively. With regard to scoring of quality of life, the EORTC QLQ-C30 was used. Data were collected from August to October of 2020, and analyzed using t-test/ANOVA and Pearson's correlations.

Result(s): Uncertainty showed negative correlations with general condition (r= -.521, p<.001) and functions (r= .410, p<.001) in quality of life, and positive correlation with symptom (r= .335, p<.001) in quality of life. Uncertainty and coping had negative correlation (r= -.456, p<.001), therefore, coping showed positive correlations with general condition (r= .678, p<.001) and functions (r= .542, p<.001) in quality of life, and negative correlation with symptom (r= -.440, p<.001) in quality of life.

Conclusion(s): The findings of this study imply that it is required to reduce uncertainty in illness and to increase coping skills for improving the quality of life of colorectal cancer patients undergoing chemotherapy. Therefore, the nursing intervention for the assessment and management of uncertainty and coping skills should be needed to improve quality of life of colorectal patients undergoing chemotherapy.

Keywords: Colorectal cancer, Coping, Quality of life, Uncertainty

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Factors affecting willingness to medical error-reporting of nursing students

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Aim(s): Anyone can make mistakes. Nurses should be able to report medical errors, and should be able to find the causes of errors and manage risks through the reporting. This study was conducted to identify factors affecting nursing students' willingness to medical error-reporting.

Method(s): A cross-sectional design was used and 175 senior nursing students participated the web-based questionnaire that included 'attitude and knowledge towards medical errors reporting', 'ethical sensitivity', 'systems thinking', and 'willingness to medical error-reporting'. Data were analyzed using descriptive statistics, t-test, ANOVA, Pearson's correlation coefficients and multiple linear regressions with SPSS/WIN 25.0 program.

Result(s): Willingness to report adverse events and to report near miss were significantly correlated with attitude (r=.48, p<.001 and r=.31, p<.001), and knowledge (r=.18, p=.015 and r=.18, p=.021) on medical error-reporting, ethical sensitivity (r=.50, p<.001, and r=.30, p<.001), systems thinking (r=.49, p<.001, and r=.25, p<.001) respectively. Willingness to report adverse events and to report near miss had also a significant correlation (r=.59, p<.001). Factors significantly affecting willingness to report adverse events included systems thinking (β=.25, p=.002), medical errors reporting attitude (β=.23, p=.002), and ethical sensitivity (β=.21, p=.011), and these variables accounted for 34.3% (F=23.73, p<.001). Factors significantly affecting willingness to report near miss included medical errors reporting attitude (β=.17, p=.047) that accounted for 11.5% (F=6.68, p<.001).

Conclusion(s): In order to increase nursing students' willingness to medical error-reporting, integrated education is needed to improve attitude and knowledge on medical error-reporting, ethical sensitivity, and systems thinking.

Keywords: Ethical sensitivity, Medical errors, Nursing students, Systems thinking

P-302

Factors related to Intention to Accept Virtual Clinical Simulation Training for Registered Nurses

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Aim(s): Virtual clinical simulation training has less limit in time, space and human resources while nurses may feel safe from the psychological burden in real-like environment. This study aims to examine the relationships of self-efficacy, technology anxiety, perceived enjoyment, personal innovativeness, perceived usefulness, perceived ease of use and intention to accept virtual simulation training, based on technology acceptance model.

Method(s): Using a cross-sectional design, a total of 206 registered nurses participated in an online survey. Multiple regression analysis was used to analyze data.

Result(s): Intention to accept virtual simulation training was 5.5(±1.2) out of 7 on average indicating a high level of acceptance. Significant positive correlations have been found in perceived enjoyment, perceived usefulness, perceived ease of use and intention to accept. As a result of multiple regression analysis, the factors affecting intention to accept were perceived enjoyment, perceived usefulness and perceived ease of use (F=96.64, p<0.001, R^2=0.74).

Conclusion(s): The findings indicate that is perceived enjoyment is an important factor in order to improve the usability and acceptance of virtual clinical simulation among nurses.

Keywords: Clinical practice; Nursing education; Virtual simulation;

P-303

The effect of family strength and will to childbirth on marriage values of college students

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Aims: The purpose of this study was to determine the degree of family strength, will to childbirth, and three types of marriage value, and investigate the effect of family strength and will to childbirth on marriage values of college students.

Methods: This study was conducted using a cross-sectional descriptive survey design. Data were collected 276 unmarried college students who understood the purpose of the study and agreed to participate in the study. Data were analyzed using descriptive statistics, t-test, ANOVA, Pearson's correlation coefficient, multiple regression with SPSS 22.0.

Results: The findings of this study showed that men had higher conservative-instrumental marriage value than women, and women had higher passive-exclusive marriage value was higher than men. Also, the total score of men's will to childbirth was higher than that of women. A positive correlation between family strength and stable-romantic marriage value, conservative-instrumental marriage value was found, whereas passive-exclusive marriage value showed negative correlations with family strength and will to childbirth. And this study found family strength and will to childbirth to be factors affecting three types of marriage value; stable-romantic marriage value (R^2=.123, F=8.502, p<.001), conservative -instrumental marriage value (R^2=.283, F=23.907, p<.001) and passive-exclusive marriage value (R^2=.396, F=39.743, p< .001). Also, family strength was identified as the most influencing factor of stable-romantic marriage value, and will to childbirth was identified as the most influencing factor of conservative-instrumental marriage value and passive-exclusive marriage value of college students.

Conclusion: The results of this study showed that family strength was a significant factor that contributes to form stability-romantic marriage value that seeks lifelong spouse and pursues emotional stability. It is believed that measures to overcome the differences in marriage values and will to childbirth between men and women and family nursing alternatives to maintain family strength will be needed.

Keywords: childbirth, family strength, marriage value

P-304

Associations between Smoking-free Policies and Secondhand Smoking Exposure among Community Stakeholders in Seoul

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Aim: We aimed to investigate whether the smoking-free school-policy would be significantly associated with SHS exposure and to examine its impacts on SHS exposure compared to a smoking-free home-policy among community stakeholders.

Methods: A cross-sectional study was conducted. Participants were 295 students, 141 school staffs, and 275 parents of the students recruited from five primary schools in Seoul, South Korea. We selected primary schools firstly by regional deprivation index and the degree of designation of smoking-free schools, and then recruited five primary schools who agreed to participate in the present study. SHS exposure was defined as any exposure from either in-school or out-school areas and assessed by using self-reported questionnaires.

Results: Of the participants, 48.1% of students, 29.8% of school staffs, and 43.7% of parents were exposed to SHS. Students with a smoking-free school-policy had significantly lower SHS exposure rates than those without a smoking-free school-policy (adjusted odds ratio [OR] = 0.22, 95% confidence interval [CI] = 0.070 – 0.681). Students with a smoking-free school-policy had significantly lower SHS exposure rates than those with a smoking-free home-policy (adjusted OR = 0.22, 95% CI = 0.063 – 0.794). Students with both smoking-free school and home-policies had significantly lower SHS exposure rates than those with a smoking-free home-policy only (adjusted OR = 0.17, 95% CI = 0.050 – 0.578). However, these associations were not apparent among other community stakeholders.

Conclusions: The smoking-free school-policy may be effective, and even stronger on the reduction of SHS exposures than a smoking-free home-policy among students in primary schools.

Keywords: Health Promotion; Schools, Public Health; Smoke-Free Policy; Tobacco Smoke Pollution

P-305

A phenomenological study on the burden of Korean mothers of disabled children with risk of aspiration

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Aim(s): This study was conducted to explore the burden of Korean mothers of disabled children with aspiration risks, and to understand the meaning and structure of the experience.

Method(s): Data were collected through in-depth interviews with a purposive sample of 5 mothers having disabled children with risk of aspiration at mealtime. The key question in this study was "What is the meaning and nature of the burden experienced by mothers of children with brain lesions who are at risk of aspiration at mealtimes?". The phenomenological analysis proposed by Colaizzi was applied.

Result(s): 8 theme clusters and 24 sub themes emerged in the interviews. The theme clusters derived were as follows: 'anxiety and uncertainty', 'holding out lonely and hard', 'struggling alone', 'feeling ambivalent towards the family', 'not easy to help', 'need practical help', 'a repeat of hope and despair', and 'a small but great consolation'. Participants expressed their gratitude for the request and the time to talk to me, although it was difficult to give an hour for the interview because they had to take care of the child.

Conclusion(s): It is necessary to develop a support program for mothers who take care of children with disabilities. Community nursing systems should promote normalization of family health by relieving the burden of a mother, who is the only support for her child, even though it is hard and lonely. In addition, Community nursing plans should be established so that mothers of children with disabilities who are at risk of aspiration can strengthen their energy on their own.

Keywords: Respiratory Aspiration, Caregiver Burden, Mealtimes

P-307

A Prediction Model for Patient Safety Outcome in Long-term Care Hospital : Using SEIPS Model

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Aim(s): Identify the relationship between fatigue, nursing information competency, job control, job demands, patient safety culture, patient safety management activities and Patient Safety Outcome of nurses in long-term care hospitals.

Method(s): 220 nurses who has been working for more than 6 months from 19 long-term care hospitals at 9 cities in C province distributed. 220 structured questionnaires from January 21 to February 19, 2021, and 217 copies were used for data analysis. Data analysis was performed using the SPSS 26.0 and AMOS 26.0 to test the fitness of the hypothetical Model and test the hypothesis. The factors affecting Patient Safety Outcome are analyzed and Structural Equation Model for predicting quality of patient safety nursing and job satisfaction for Long-term care Hospital nurses was constructed, and the suitability was tested.

Result(s): The results of testing the fit index of the modified model were x^2=801.36(p<.001), x^2/df=1.98, GFI .81, TLI .89, NFI .82 , CFI .90, RMR .03, RMSEA .07, and PNFI .72, so there was no significant difference in the change in the fit index. However, a modified model with improved fit compared to the hypothetical model was presented as x^2(p) and PNFI increased. Through the verification results of the revised Model, the factors that directly affect the job satisfaction and patient safety quality of Long-term care Hospital nurses were job demand and patient safety culture.

Conclusion(s): Patient Safety Outcome can be improved while developing and applying nursing interventions by devising measures to reduce the job demands of nurses working in nursing hospitals, improve the patient safety culture, and reduce fatigue. Therefore, it is suggested to use the results of this study to prepare nursing intervention development in consideration of direct and indirect factors that increase the quality of patient safety nursing and job satisfaction of Long-term care nurses.

Key words: Long-term care Nurses, SEIPS Model, Patient Safety Management Activities

P-308

Relationship between Oral Health and Social Activity among Community-dwelling Older Adults in Korea: Focusing on the Mediating Effect of Depressive symptoms

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Aim(s): The purpose of this study was 1) to examine the relationship between oral health and social activity and 2) explore the mediating effect of depressive symptoms on the relationship between oral health and social activity among community-dwelling older adults in Korea.

Method(s): A total of 5,033 Korean community-dwelling older adults aged 65 or older were analyzed from the 7th (2018) Korea Longitudinal Study of Ageing data. The data were analyzed using descriptive statistics, Pearson's correlation analysis, and path analysis for mediation analysis with SPSS 25 and Mplus 8.

Result(s): Path analysis showed that older adults with better oral health had more social activities (β=0.243, p<.001) and less depressive symptoms (β=−0.270, p<.001). In addition, depressive symptoms had a mediating role partially in the relationship between oral health and social activity (β=0.032, p<.001). Furthermore, the results of in-depth exploration using oral health sub-domains, physical oral function and oral pain or discomfort has directly related to social activity (β = 0.137, β = 0.149, respectively) and indirectly mediated by depressive symptoms (β = 0.017, β = 0.007, respectively). However, psychosocial oral function to social activity only had indirect effect mediated by depressive symptoms (β = 0.013, p<.001).

Conclusion(s): These findings indicate that better oral health had a significant association with higher levels of social activities, which was partially mediated by lowered depressive symptoms. It is necessary to pay more attention to oral health promotion for older adults to decrease depressive symptoms and more participate in social activities.

Keywords: Depression; Elderly; Oral health; Social activity

P-309

Development and Evaluation of an Infant Safety Education Program for Parents

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Aim(s): The aim of this study was to develop a safety education program for parents of infants and to evaluate the effectiveness of the program in terms of safety knowledge, safety belief, safety self-efficacy, and safety practice.

Method(s): The Health Belief Model was applied as a theoretical framework for the development of the program. This program was also developed according to the five steps of the ADDIE model. The developed program consisted of five different education strategies including two small education groups (90 minutes), two home safety environment evaluation & feedback, home safety kit, handouts, and educational information. A non-equivalent control group with a pre-post test study design was used, and 65 parents participated in the study. For the experimental group (n=35), the safety education program was implemented for 4 weeks, and the mothers allocated to the control group (n=31) were given written materials with contents on infant safety guidelines. To examine the effectiveness of the program, parents' safety knowledge, safety belief (susceptibility, severity, benefit, barrier), safety self-efficacy, safety practice, and safety accident occurrence were measured by questionnaire. All data were analyzed with SPSS/WIN 24.0 using the Generalized Equation Estimation analysis.

Result(s): The results of this study showed that the experimental group had significantly increased knowledge (p=.002), self-efficacy (p=.008), and practice (p<.001) compared to the control group and a decreased perceived barrier (p=.015). However, there was no significant difference between the two groups in the improvement of perceived susceptibility, severity, and benefit. In addition, the infant safety education program for parents had a score of 4.9 for program satisfaction out of 5.

Conclusion(s): This study confirmed the applicability of a safety accident prevention program implemented at any place nurses meet infants and parents. The results can be used as basic data for injury prevention studies on infants in Korea.

Keywords: Health Belief Model, Infant, Injury Prevention, Parent Training

P-310

Experiences of hospitalization in pregnant women with preterm labor: A phenomenological study

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Aim: The purpose of this study was to describe lived experiences of hospitalization of pregnant women during preterm labor.

Method: A qualitative method was adopted. Individual in-depth interviews were used with nine participants, over the age of 20, who have been hospitalized for more than one week after being diagnosed for preterm labor. All interviews were audio-taped and verbatim transcripts were made for the analysis. Data were analyzed following the Colaizzi's phenomenological method.

Results: Among the nine participants, the ages ranged from 26 to 36, all married. Days of hospitalization averaged 13.1 days. Five theme clusters emerged from the analysis. 'Withstanding hospitalization for fetus's well-being' describes the feeling of women during preterm labor and their endurance during a prolonged hospitalization because the fetus comes first. 'Continuous frustration in hospital' illustrates emotions while lying in bed and quietly thinking to yourself. 'Unsatisfying physiological needs' describes awareness of the conflicts with basic human physiological needs in situations where there is nothing that can be done arbitrarily. 'Gratitude for the people who support me' illustrates the feeling from family and medical staff. 'Perception change by accepting reality' describes accepting hospitalization and making efforts to spend the rest of their hospitalization in good health.

Conclusion: The findings in this study provide deep understanding and insights of experiences at hospitals with preterm labor women. This study requires development of interventions for women in hospitals during preterm labor.

Keywords: Experience; Hospitalization; Preterm labor; Socio-psychological

P-311

Effects of mobile health intervention on activities of stress self-management for workers: A randomized controlled trial

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Aims: This study aimed to evaluate the effects of mobile app-based Stress Management Intervention (mSMI) on highly stressed workers.

Methods: A sample of 68 white-collar workers with elevated symptoms of perceived stress (Perceived Stress Scale-10≥22) were randomly assigned to either an intervention group (n=34) or a control group (n=34). The mSMI consisted of three modules: self-management including a work diary, counseling based on cognitive behavioral therapy and interventions focused on music, meditation, relaxation and image healings. Self-report data were assessed at baseline and at 6 weeks. Outcomes were perceived stress, anxiety, depression and work engagement. Data were assessed using analysis of covariance with baseline score and age as covariates.

Results: There was significantly reduced a perceived stress from baseline to 6 weeks in mSMI (t=4.937, p<.001) and control group (t=2.334, p=.026). After adjusting for covariates, the perceived stress of mSMI was significantly different from that of the control group (F=4.048, p=.048). However, the effect size was small. There was no effect on anxiety, depression and work engagement between two groups. The process evaluation indicated that the majority of participants (85.3%) liked the mobile application and benefited from their mental health.

Conclusion: This study found that mobile health intervention helps highly stressed workers manage their own stress. Further research is needed to address job-related outcomes as well as mental health outcomes for workers. Also, studies should be conducted with more participants over longer period of time.

Keywords: Mental health, Mobile health, Occupational health, Workers

P-312

Actor Effects and Partner Effects of Factors Influencing Depression in Middle-Aged Couples: Focus on Marital Conflict Coping

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Aims: This research constructed a hypothetical model based on Lazarus and Folkman's stress-coping model to explain and speculate on depression in a middle-aged couple and verified the suitability of the collected data using Kenny's APIM analytical method.

Methods: The variables used in this study were life stress, self-esteem, social support, and coping with marital conflict. Data were collected from April 5, 2019 to July 10, 2019, and were conducted on 307 middle-aged couples in 6 regions across the country. Data were analyzed using SPSS 21.0 Program and AMOS 22.0 Program.

Results: When looking at the actor effect of the factors that influence depression in middle-aged couples, life stress, self-esteem, social support and rational marital conflict coping in the wife model were found to have direct actor effects. life stress, self-esteem, social support, evasive marital conflict coping, negative marital conflic coping in the husband model were found to have direct actor effects. Furthermore, the wife's rational marital conflict coping had direct partner effect on the husband's depression, and the wife's social support had indirect partner effect on the husband's depression with rational marital conflict coping as an intermediary. the husband's evasive marital conflict coping had direct partner effect on the wife's depression, and the husband's life stress and self-esteem had indirect partner effect on the with his own evasive marital conflict coping as an intermediary.

Conclusion: The model has proved itself to be a simple and appropriate one to explain depression that reflects the characteristics of middle-aged couples. This research may be used to implement programs that improve appropriate marital conflict coping behaviors in response to predisposing factors to spousal depression. The wife is imperative to apply a distinct program that not only reduces depression but also considers menopausal symptoms that allow for a stable life.

Keywords: Middle-aged, depression, marital conflict, coping

P-313

Bereavement experiences of middle-aged men who lost their spouses to suicide: application of photovoice method

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Aims: This study aims to understand the nature of bereavement experiences of middle-aged men who lost their spouses to suicide and explore the meaning of the experiences.

Methods: The study participants were five middle-aged men who had experienced spousal bereavement. Snowball sampling was used, and six in-depth interviews were conducted from April 1, 2019 to January 31, 2020. Each session lasted for 1.5 hours. The study comprised four research themes: (1) objects or places that reminded participants of their spouse; (2) changes following bereavement; (3) situations that triggered participants' longing to be with their spouse; and (4) people or objects that helped participants cope with their loss. Based on the hermeneutical phenomenological technique developed by Max van Manen, this study applied the photovoice method during the data collection process, to record participants' experiences and their internal thoughts. Photographs and their descriptions were utilized during interviews to collect data. In addition, researchers conducted a literature review to enhance their understanding of spousal bereavement. Photographs, poems, and drawings were also used during data analysis.

Results: The findings revealed 50 categories and 17 themes relating to the spousal bereavement experiences of middle-aged men, from which six key themes were finalized and discussed. These themes are: Life knotted like an entangled thread, feeling bleak or isolated, ambivalence toward the spouse, desperate treatment but pie in the sky, endurance, and a sliver of hope shining through the darkness.

Conclusion: The results of this study can be used to raise the social awareness of the bereaved families and in mental health nursing interventions.

Keywords: suicide, middle-aged, bereavement, spouse

P-314

A systematic review of the effects of school-based mental health education interventions on adolescents' mental health literacy and attitudes

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Aim(s): This review summarized the effectiveness of mental health education interventions on mental health literacy and stigmatizing attitudes among secondary school students.

Method(s): A systematic search of relevant Chinese and English language peer-reviewed journals was conducted in five databases (MEDLINE, PubMed, ERIC, CNKI) using keywords, such as "adoles*", "mental health education" and "mental health literacy or mental health stigma". Experimental studies published from 2011 to July 2021 were included. A narrative synthesis of findings was conducted.

Result(s): Nineteen studies with 11,572 participants were included in this review, including 1 RCT, 4 clustered RCTs, 7 non-randomized controlled trials and 7 single group pre-test post-test design. The school-based mental health interventions among adolescents took place in both Western and non-Western countries. All of them were conducted in face-to-face approach. A diversity of educational activities were adopted. They included sharing of the patients or people in recovery of mental illness, using case vignette or video to depict mental illness. Most of the studies found the education programs were effective in improving mental health literacy and reducing stigma.

Conclusion(s): While most of the studies found their outcomes are statistically significant, there are concerns over the effects of the study outcomes due to the heterogeneity among the included studies resulting from variability of measurements used with questioned reliability and validity. Future research might be suggested focusing on the measurements to appropriately evaluate the effectiveness of mental health literacy and stigmatizing attitude. Educators might consider the strengths and weaknesses of the programs to choose suitable content and mode of delivery for mental health education.

Keywords: adolescents, attitudes towards mental illness, mental health literacy, school-based mental health education

P-315

Perception and Current Status of Cold Therapy Application by Nurses at University Hospital

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Aim(s): This study was to confirm the clinical problems related to cold therapy by examining the actual condition of cold therapy application and perception related to cold therapy in a university hospital, and to redefine cold therapy nursing practice.

Method(s): This study was a descriptive research. After IRB approval, data were collected either face-to-face survey or by online survey. A total 235 nurses who had applied cold therapy at least once within the last month were participated in this study. This study used a set of questionnaires that examines perception and current status of cold therapy application. The collected data were analyzed as descriptive statistics, X2 test by using SPSS/WIN 26 program.

Result(s): As the current status of cold therapy application, fever subjects were the most applied patients. Most of the application sites were axillary. The use of evidence when applying cold therapy was in the order of institutional guidelines and advice from colleagues. Ice packs were used the most as a cold therapy application material. Even in many cases, it was confirmed that an infusion bag was used as an ice bag. The average cold therapy application time was 44.23±30.59 minutes, and the average cold therapy application time was 28.26±23.80 minutes. There was a significant difference in the application time and interval of cold therapy depending on the nurse's working ward. Although 172 nurses perceived cold therapy as an independent nursing intervention, their educational experience was only during their undergraduate years and when they were new nurses. 192 nurses answered that standardized practice guidelines were absolutely necessary.

Conclusion(s): There were differences between individuals and wards, even within a hospital. Cold therapy nursing practice guidelines should be prepared and specific training should be implemented to utilize it for cold therapy nursing based on accurate cold therapy standards.

Keywords: Cold therapy application, Evidence based nursing, Evidence based practice, Practice guideline

P-316

A Prediction Model for Ethical Decision-Making of Clinical Nurses in Korea

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Aim(s): This study aimed to construct a path model geared toward explaining the relationships of influential variables for the ethical decision-making of clinical nurses.

Method(s): In this study the exogenous variables were ethical leadership, ethical climate, nursing professionalism, and total clinical experience, and the endogenous variables consisted of moral distress and ethical decision-making of the hypothetical model. The participants were 220 nurses who worked for more than one year at two advanced general hospitals in Korea. The data were analyzed with SPSS 22.0 and AMOS 20.0 to verify the fit of the research model and the research hypothesis.

Result(s): The fitness index of the hypothetical model was found to be χ^2 = .011(p= .917, df=1), NFI=1.000, RFI= .999, TLI= .998, CFI=1.000, RMSEA= .000, SRMR= .001. The variables that had a significant influence on the ideal ethical decision-making of clinical nurses were ethical climate (β= .24, p= .002) and moral distress (β= .22, p<.001). The variables that had a significant influence on the realistic ethical decision-making of clinical nurses were nursing professional intuition (β= .20, p= .005) and ideal ethical decision-making (β= .39, p< .001).

Conclusion(s): The ethical climate and moral distress of clinical nurses affect ideal ethical decision-making. This ideal ethical decision-making and nursing professionalism influence realistic ethical decision-making. These findings contribute as evidence to facilitate an ethical environment for clinical nurses. To support nurses' ethical decision-making levels, continuous ethical decision-making training for solving moral distress and improve nursing professionalism are required.

Key words: ethics, decision-making, nurse

P-317

Factors Influencing Subjective Health Status of Patients with Insulin-treated Type 2 Diabetes Mellitus Using Quantile Regression Analysis

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Aims: To identify the factors influencing subjective health status of patients with type 2 Diabetes Mellitus (T2DM) receiving insulin treatments.

Methods: This study was a secondary analysis of a previous study, in which a hypothetical path model was examined approximating health status of patients with T2DM undergoing insulin treatments (Lee, Kim, & Jin, 2021). A total of 193 outpatients with insulin-treated T2DM took part in a questionnaire from July to November 2019, and results were analyzed by multiple linear and quantile regression to determine factors that influence subjective health status. The 10th, 25th, 50th, 75th, and 90th conditional quantiles were considered and revealed different factors that contribute to subjective health status.

Results: In ordinary least square, HbA1c, knowledge, self-care, family support, and psychological insulin resistance explained 56% of variance in subjective health status. In quantile regression analysis, diabetes knowledge was a significant predictor for all quantiles, psychological insulin resistance was a significant predictor for the 25th and 50th quantiles, family support for the 25th, 50th, and 90th quantiles, self-care for quantiles 10 through 75, and HbA1c was a significant predictor above the 50th quantile.

Conclusion: Factors influencing subjective health status of patients with T2DM receiving insulin treatments differ at different levels of subjective health status. Diabetes knowledge influences all levels of subjective health status, while factors such as self-care and psychological insulin resistance have influence on lower quantiles. This study highlights the importance of subjective health status of patients with insulin-treated T2DM, especially for healthcare professionals in implementing more effective interventions. Strategies that take into consideration various factors that explain an individual's subjective health status have the potential to improve patient health

Keywords: Diabetes Type 2, Nursing, Quantile regression

P-318

Determining Multidimensional Stressors Influencing Quality of Life of Patients with Stroke: A Quantile Regression Approach

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Aims: The purpose of this study is to explore the impact of intra-personal (stroke severity, and stroke fear of recurrence), inter-personal (loneliness), and extra-personal (economic status) stressors on quality of life among patients with stroke using quantile regression analysis.

Methods: This study was a secondary analysis of a previous study to identify factors affecting the quality of life of patients with stroke (Choi, Kim, Kim, & Nho, 2021). This study was designed based on the Betty Neuman's systems theory. Data were collected from 139 stroke patients between January and February 2020. Participants completed the Korean Short version of the Stroke-Specific Quality of Life Scale, National Institutes of Health Stroke Scale, Modified Rankin Scale, Stroke Fear of Recurrence Scale, University of California at Los Angeles Loneliness Scale, and monthly household income. Quantile and multiple linear regressions were used to analyze the factors contributing to quality of life.

Results: In multiple linear regression, stroke severity, stroke fear of recurrence, and loneliness were significant factors. These variables accounted for approximately 77% of the variance in QoL. In quantile regression, stroke severity (in 10%, 25%, 50%, 75%, and 90%), stroke fear of recurrence (in 10%, 25%, 50%, and 75%), loneliness (in 25%, 50%, 75%, and 90%), economic status (in 25%), marital status [married] (in 75%, and 90%), and occupation [yes] (in 75%, and 90%) were significant factors.

Conclusion: We confirm the dynamic influences of intra-personal, inter-personal, and extra-personal stressors according to the levels of quality of life. It proposes that the affecting stressors according to the levels of quality of life should be considered in designing effective programs to enhance quality of life among patients with stroke.

Keywords: stroke, stressors, systems theory, quality of life, quantile regression

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Effects of Mobile Apps for Mental Health in Korea: A systematic Review

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Aims: This study aimed to evaluate the contents and effects of Korean mobile apps for mental health management as reported in studies and to suggest directions for future research.

Methods: We conducted a systematic review according to PRISMA guidelines. Randomized controlled trials published up to May 2021 were searched in PubMed, Cochrane Library, EMBASE, CINAHL, PsycINFO, RISS, KISS and KoreaMed. Studies that used Korean mobile apps as an intervention to improve mental health and utilized mental health-related outcomes were selected. We used the version 2 of the Cochrane risk-of-bias tool for randomized trials to evaluate the selected studies.

Results: Out of 3,374 articles retrieved, 12 studies were selected. These studies included people with mental disorder (mood disorder, panic disorder, or obsessive-compulsive disorder), people with psychiatric symptoms (depression, anxiety, attention deficit, etc.), and people in specific groups (university students or nurses). The subjects were asked to use the apps daily in most of the studies, and the duration varied from 2 to 10 weeks. The apps were based on cognitive behavioral therapy, positive psychological intervention, cognitive training, or relaxation technique. Effects were evaluated by comparing various control group, such as waitlist group, face-to-face intervention group, or group with books. The apps were effective in reducing depression, anxiety, panic attacks, attention deficit, negative emotions, and dysfunctional attitudes, as well as in boosting memory and positive emotions. Most of the studies also reported app usability or satisfaction.

Conclusions: Mobile apps with well-established, theory-based content can serve as an effective intervention in managing several mental health symptoms, but the scope of research subjects and symptoms in Korea remains limited. Further studies with more varied populations and symptoms are required. Studies need to evaluate the contents, effects, usability, and satisfaction of the apps, as well as recommend efficient usage by tracking actual usage and comparing effects.

Keywords: Mental health, Apps, Mobile health

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Caring in Swanson's Perspective Theory from Nurse Manager Relates to The Resilience of Nurses in The Covid-19 Unit of A Government General Hospital in Jakarta, Indonesia

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Aim(s): The aim of this study was to identify the relationship between the caring ability performed by nurse managers and the resilience of COVID-19 nurses at the Government General Hospital in Jakarta using the perspective of Christian M. Swanson's Caring theory

Method(s): This research uses cross sectional method. The number of samples in this study amounted to 153 implementing nurses who served in the COVID-19 Unit.

Result(s): The results showed that the characteristics of nurses (age, gender, length of work in the COVID-19 Unit, education level, and marital status) did not show a significant relationship (p>0.05) with nurse resilience. Caring variable has a significant relationship with resilience (p= 0.025). Meanwhile, the dominant factor influencing resilience is the length of work in the hospital (p= 0.046) and the variable of caring ability of the head nurse (p= 0.038)

Conclusion(s): Nurses' resilience is very important to note in order to allow nurses to work in a comfortable, safe work environment and get social support from their leaders, and caring by the organization is very important too to support the resilience of nurses so that nurses are protected from their physical and mental health while on duty against the COVID-19 Unit.

Keywords: Caring, COVID-19, Nurse Resilience, Nurse Manager.

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The Increasing of Nurses' Self-Efficacy in Hospitals in Caring for Covid-19 Patients with Peer Support

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Aims: The purpose of this study was to identify the effect of nurse manager and peer support on nurses' self-efficacy in taking care Covid-19 patients in hospitals.

Methods: This study uses a quantitative descriptive method with a cross-sectional approach. The number of samples was 167 nurses who came from the Covid-19 referral hospital in Cirebon with the accidental sampling technique. Data were analyzed using Chi square test and multiple logistic regression tests.

Results: The results showed that there was no effect of nurse manager support (p = 0.229) and there was an effect of peer support (p <0.001) on nurses' self-efficacy. The most influential factors on nurses' self-efficacy were peer support (OR: 3.207) and gender (OR: 2.229).

Conclusions: Nurses who receive support from peers have a higher self-efficacy than nurses who did not obtain the support of peers as well. Peer support is part of the work environment. Support from the work environment can change the self-efficacy and performance of nurses professionally.

Keywords: Covid-19; nurse manager support; peer support; self-efficacy.

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Structural Equation Model of Career Preparation Behaviors in Nursing Students*

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Aim(s): This study aimed to establish a structural equation model of career preparation behaviors in nursing students by building a hypothetical model and verifying the fit of the model.

Method(s): The hypothetical model was constructed based on Lent and Brown's social recognition career self-management model. The exogenous variables were social support, conscientiousness, openness, and extraversion. The endogenous variables were career decision-making self-efficacy, career outcome expectation, career exploration intention, and career preparation behavior. The participants were 381 nursing students enrolled in four nursing colleges in Korea. The data which were collected using self-report questionnaires were analyzed with SPSS Statistics 23.0 program and AMOS 23.0 programs.

Result(s): The fit index of the modified model was $\chi2=884.421$(df=302, p <.001), $\chi2$/df=2.907, CFI=.901, TLI=.886, RMSEA=.071, SRMR=.068, which was acceptable. Ten of eighteen hypotheses selected for hypothetical model were statistically significant, and the explanatory power of the variables of career preparation behavior was 38.1%. The variables that have a statistically significant effect on career preparation behavior of nursing students were self-leadership (β=.449, p= <.001) and career search intentions (β=.173, p=.046). Social support had a statistically indirect effect on career preparation behavior (β=.421, p=.002) through self-leadership.

Conclusion(s): Based on the above results, it is necessary to develop and provide various educational programs for improving career preparation behaviors related to enhance self-leadership and career search intention with various social supports.

Keywords: career, behavior, nursing students, structural equation model

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The Effect of the Comprehensive Counseling Program Based on Goal Attainment Theory for Nurses in the Degree of Bachelor*

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Aim(s): This study aimed to develop the comprehensive counseling program based on King's Goal Attainment Theory for nurses enrolled in the bachelor of nursing program and evaluate the effect of the program on job stress, self-efficacy, and resilience of the participants.

Method(s): A non-equivalent control group pre-post design was used. The participants were 43 nurses enrolled in the bachelor of nursing program of C College of Nursing in Korea (21 in the experimental group and 22 in the control group). The experimental group received the comprehensive counseling program (100 minutes/session/week) for group transaction and telephone counseling for individual transaction including Social Networking Service (2 times/week), while the control group was received the general counseling program for 8 weeks. Data were analyzed by SPSS/Win 21.0 program.

Result(s): The analysis revealed that the scores of self-efficacy (t=2.89, p=.006) and resilience (t=3.62, p=.001) in the experimental group were significantly higher than those in the control group when comparing pretest to posttest changes.

Conclusion(s): According to the obtained results, the comprehensive counseling program based on King's Goal Attainment Theory is effective to enhance level of self-efficacy and resilience for nurses enrolled in the degree of bachelor. It is suggested that a comprehensive counseling program should be incorporated into the nursing education curriculum.

Keywords: Counseling, Self-Efficacy, Resilience, Nurses

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Structures of "experiences of living" in children undergoing home palliative care and their families based on narratives of mothers of the children

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Purpose: We report "experiences of living" of children undergoing home palliative care and their families based on narratives of mothers of the children.

Methods: We conducted semi-structured interviews lasting approximately 1 hour with 8 mothers of children undergoing pediatric palliative care for life-threatening illnesses, such as pediatric cancer and non-pediatric cancer, who had employed a home-visiting child development support service. The mothers were asked to share the moments that allowed them to experience the feeling that the child was "living," "child-like," "comfortable," and "joyful" while they were watching their children (= "experiences of living"). IBM® SPPS® Modeler Text Analytics was used to perform correspondence analysis and create a co-occurrence network diagram (frequency of occurrence: ≥5times and Jaccard index: 0.06). This study was conducted after obtaining approval from the ethical review committee of the affiliated institution of the principal investigator.

Results: Illnesses of children included trisomy 18, GPI deficiency, and Dravet syndrome, and their age ranged from 10 months to 10 years. Nouns used were "child," "mother," "family," "friend," "people," "teacher," and "nurse." The structure of the co-occurrence network included "children," "schools," "people," "families," and "mothers" that formed the central axis and served as nodes of links with others. The major links were "child-parents-together-go out," "school-normal-stimulation-receive," "people-come-play-medical care-fun," "family-difficult," "mother-know-community-system-understand," and "illness-nursing-anxiety-home-attack." The word "support" co-occurred strongly with "school," which co-occurred further with "stimulation-receive-time."

Discussion: Children receiving home palliative care and their families were found to have "anxiety" about "attacks" and feel "difficulties" while spending time at "home," but understood "community" and "systems" one by one and experienced "fun" times through "going out" and "playing." Mothers perceive children spending time with "friends" and "teachers" as an experience of living. These findings suggest the importance of support to guarantee "time" in which the child can go to "school" and "receive" "stimulation."

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Analysis of Characteristics of Thoracic Injury Patients and Nursing Interventions using Nursing Intervention Classification by Emergency Room Type.

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Aim(s): The purpose of this study is to retrospectively analyze the content of nursing interventions applied to patients with thoracic injury who visited trauma emergency room (TER) or emergency room (ER).

Method(s): Of the 3,938 trauma patients admitted to this hospital between January 1, 2019, and December 31, 2020, we enrolled 320 adult patients with thoracic injury (94 to TER, 226 to ER) who met the inclusion criteria. The patients' data acquired from electronic medical record were analyzed their general and clinical characteristics of the subjects, and nursing interventions

Result(s): While there was no statistical difference of injury mechanism between thoracic injury patients who visited TER and ER, there was difference in length of stay (p<.001), treatment outcome (p<.001), and level of consciousness (p<.001). Average thoracic AIS (Abbreviated Injury Scale) score and average ISS (Injury Severity Score) of thoracic injury patients who visited TER were 3.13 and 13.54, respectively, which were higher than that of the patients who visited ER with statistical difference (p<.001). Numbers of nursing actions applied on were 4,819 (TER) and 3,944 (ER), which were classified into 5 domains, 18 classes, 56 interventions. The most domains of interventions carried out in both emergency rooms were Physiological: basic, and Physiological: complex. Classes carried out more in TER included Elimination management, Drug management, and Skin/Wound management, while Crisis management and Thermoregulation were not carried out in ER. The most interventions carried out in both emergency rooms were vital signs, pain management, and teaching. On average, 16 more types of interventions were carried out in TER than ER.

Conclusion(s): This study demonstrated characteristics of thoracic injury patients and nursing interventions by emergency room type. Based on these results, standardized nursing interventions are expected to be applied to thoracic injury patients visiting TER and ER.

Keywords: Nursing intervention; Thoracic injury; Trauma center

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Effects of intervention for postural balance and mobility in age-related macular degeneration: A systematic review

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Aim(s): Age-related macular degeneration (AMD) leads to difficulty in mobility and risk of falls due to decreased balance and distance sensitivity through impaired central vision. This review aimed to examine the effectiveness of interventions to improve the direct acuity and adaptability of postural balance and mobility in AMD.

Method(s): We searched the literature published until May 20, 2021, in Medline, PubMed, EMBASE, CINAHL, and Cochrane databases for systematic reviews conducted using the Cochrane Handbook's guidelines (PROSPERO registration: CRD42021200271). Eligible articles included studies in adults with vision loss due to AMD and were designed for randomization or non-control trials to improve postural balance and mobility. Studies including children or evaluating the effects of pharmacological and surgical treatments were excluded. Two authors assessed the risk of bias and quality using the Risk Of Bias In Non-randomized Studies -of Intervention (ROBINS-I) tool and the revised Cochrane Risk -of -Bias (RoB2) tool for randomized trials.

Result(s): The extracted seven studies, published in 2007 or later, included 761 participants. The interventions applied in seven studies were as follows: multidisciplinary rehabilitation program (3), device application (2), training using the platform (1), and dancing program (1). Most studies (6/7) measured the outcomes as a subcategory of vision-related quality of life, and two studies directly used the balance data from the platform and Dynamic Gait Index. Although insufficient reporting of intervention content was observed, all studies showed significant improvements in outcomes.

Conclusion(s): Rehabilitation programs, including mobility training, improved postural balance and vision-related quality of life in AMD. Nurses should monitor the changes in balance and mobility due to vision loss and consider the methods for improving them to increase the quality of life and safety in older adults.

Keywords: Macular degeneration, Rehabilitation, Postural balance, Aging

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Experiences of providing care to newborn and mother in the workers of postpartum care center *(Sanhujoriwon)*

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Aim(s): The aim of this study was to explore the experience of workers to provide care to newborn and mother in the Sanhujoriwon.

Method(s): Study design is a qualitative study using the phenomenological to understand the lived experiences of providing care of workers and operators at Sanhujoriwon. Participants have been worked as operators and workers in Sanhujoriwon for more than one year, fully understood the purpose of the study, and voluntarily agreed to participate in the study. We collected data from 10 participants in December, 2020. After beginning with a basic question about the participant, the researchers asked using semi-structured questions. We conducted on-line interviews at a time and place that was suitable for each participant. Each interview lasted approximately 60 minutes. All interviews were digitally recorded and then transcribed. Collected data were analyzed by Colazzi's method.

Result(s): The ages were 3 in their 40s, 6 in their 50s, and 1 in their 60s. The working period of participants was from 3 to 15 years of experience. Participants were 8 nurses, 1 midwife, and 1 nursing assistant who provided maternal support activities such as breastfeeding or newborn care at postpartum care centers. Sanhujoriwon had 20-49 beds and 12-57 staff. The weekly fee was between 1,100,000 won and 2,800,000 won. The results of the analysis were presented in 5 categories and 20 subjects. Five categories were as follows: 1) Difficulty of unconditionally matching the beneficiary as it is a business, 2) Mother infant rooming-in like a hot potato, 3) Regret to see a couple who are anxious but lazy in childcare, 4) Difficulty in breastfeeding care for a variety of reasons, 5) Struggling for customer satisfaction.

Conclusion(s): In order to support successful breastfeeding in Sanhujoriwon, family centered care environment based on the rooming-in should be strongly adopted in the Sanhujoriwon. To improve the competency of works to support parent, it is necessary to develop and provide staff education programs including communication and coaching skills. Also, general value regarding family centered care practice in the Sanhujoriwon was emphasized in both of users (mothers and spouses) and workers and operators.

Keywords: Qualitative study, Sanhujoriwon, postpartum care, workers

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The Mediating Effect of Social Support on Major Satisfaction and College Adjustment among Nursing Students

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Aim: The study was conducted to identify the effect of social support in the relations between major satisfaction and college adjustment among nursing students.

Methods: The subjects of this study were 100 sophomore nursing students from two universities located in D and G cities. The research model was designed on the basis of PROCESS Macro Model 4 proposed by Hayes (2013). The collected data was analyzed using SPSS 24.0, PROCESS Macro ver. 3.5 program.

Results: The mean score for major satisfaction, college adjustment and social support perceived by nursing students were 3.98, 3.45, and 4.00 points out of 5, respectively. Major satisfaction, college adjustment and social support had strong correlations with each other ($p < .001$). Regarding the differences in college adjustment, major selector by myself ($t = 3.41$, $p = .001$), aptitude in major selection motive ($F=5.73$, $p = .004$), higher college life satisfaction ($F=14.01$, $p <.001$), result in higher college adjustment. To confirm the effects on social support, the covariate was adjusted for major selector, aptitude in major selection motive, and college life satisfaction. Major satisfaction had a direct effect on college adjustment ($B = .574$) and social support ($B = .625$). Social support had a direct effect on college adjustment ($B = .241$). There was a mediating effect of social support between major satisfaction and college adjustment ($B = .619$).

Conclusion: These results of this study showed that major satisfaction for nursing students is a major factor in increasing college adjustment through the mediating effect of social support. Therefore, it is necessary to operate effective nursing student supporting programs that can increase satisfaction in the nursing major for low grades nursing students.

Keywords: Mediation analysis, Nursing students, Satisfaction, Social support

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Effects of advance care planning training for advanced practice nurse students in South Korea

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Aim(s): Effective communication between health care providers and patients and their families is one of the most important components of quality end-of-life care. However, nurses in South Korea are likely to be uncomfortable communicating advance care planning (ACP) due to the cultural taboo against talking about dying. The purpose of this study was to assess how an ACP training program affects Korean advanced practice nurse (APN) students' ACP competencies.

Method(s): Data collected from 34 APN students who participated in ACP training program conducted as part of graduate clinical practice course was analyzed. A training program was provided to APN students to improve their competencies in ACP conversations with patients. The program comprised three sessions: online lectures, face-to-face simulation, and discussions on ACP and ethical issues. After completing the program, the APN students were asked to describe their experiences with the training. A Wilcoxon matched pairs signed rank test was used to examine the changes in ACP knowledge, confidence in supporting patients' advance directives, perceived nursing roles in end-of-life (EOL) treatment decisions, and perception of a good death before and after the training program.

Result(s): APN students reported that their experience was positive and helpful. There was a statistically significant increase in participants' ACP knowledge ($p < .001$), confidence in supporting patient' advance directives ($p < .018$), and perception of the active role of nurse in patient EOL treatment decisions ($p < .001$) after the training.

Conclusion(s): The results indicate the effects of training program on APN students' competencies for EOL care. They also provide evidence about what contents and methods can be helpful in developing an EOL care training for APN students.

Keywords: advance care planning, end-of-life care, simulation, training

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Comparison in Knowledge on Safe Sleep Practices and Cardiopulmonary Resuscitation and Practice-Confidence for Infants Between Pediatric Nurses and Daycare Staffs

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Aim(s): Child health professionals need to educate the SIDS related safe sleep practice (SSSP) and infant cardiopulmonary resuscitation (ICPR) to parents of infants as SIDS reduction strategies.

Method(s): A descriptive survey was conducted using a questionnaire on knowledge on SSSP (K-SSSP) (13 items, range of 0~13) and ICPR (K-ICPR) (5 items, range of 0~5), and practice-confidence of SSSP (C-SSSP) (range of 1~5) in 136 pediatric nurses and 437 daycare staffs of South Korea from March to May 2020. Data were analyzed using IBM SPSS 26.0.

Result(s): Pediatric nurses showed significantly higher scores than daycare staffs did in both mean K-SSSP (8.14 vs 7.34; t=4.21, p<.001) and the mean K-ICPR (3.13 vs 2.84; t=2.75, p=.006) regardless more staffs received in-service education on SSSP than nurses (74.4% vs 55.9%). However daycare staffs showed higher score in the mean C-SSSP than nurses (3.28 vs 2.61; t=-7.39, p<.001).

For nurses, positive effects were observed on high education for K-SSSP; marriage, having offspring and clinical years for K-ICPR; and higher education, marriage, having offspring, clinical years and previous education experience for C-SSSP. For daycare staffs, positive effects were observed on marriage for K-ICPR; and marriage, having offspring and previous education experience for C-SSSP.

Conclusion(s): Pediatric nurses tend to have more knowledge on SSSP and ICPR while daycare staffs showed more confident on SSSP practices. Nevertheless the score itself somehow shows a lower knowledge level in SSSP and ICPR for both groups, suggesting the need to reinforce the education on SSSP and ICPR with practices.

Keywords: daycare staffs, pediatric nurses, safe sleep practice, sudden infant death syndrome

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Retrospective Review on Sleep Circumstances in Sudden Infant Death Cases of Korea

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Aim(s): Sudden infant death syndrome (SIDS) is an exclusive phenomena occurring during sleep without any identifiable cause of death. Sleep circumstances could play a crucial role on understanding SIDS phenomena. Sleep practices have evolved along with geo-cultural regions, thereby need to be investigated with cultural sensitivity in case of SIDS.

Method(s): An explorative review was performed on sleep circumstances in of 191 SIDS and likely SIDS cases from 3 years DB of National Forensic Service from 2016 to 2018. Details in sleep circumstances such as location, bedding place, mattress softness, surrounding materials, sheets and cloths, room environment etc., were analyzed on the reported risk factors of SIDS using IBM SPSS 26.0.

Result(s): Among 191 cases, 129 cases (67.5%) revealed room-in with mean of 1.7 persons. The most place of sleep was floor (53.4%), adult bed (29.3%) and crib (12.0%). Sheet sharing (bed sharing) was observed in 82 cases (42.9%), showing difference with or without room-in ($x2 = 70.7$, $p < .001$), and by sleep places ($x2 = 25.77$, $p < .001$). However no significance was observed between sheet sharing (bed sharing) and infant sex, prematurity, breastmilk feeding, baseline diseases, or recent health concerns.

Conclusion(s): Review of Korean SIDS cases suggests the risk type from sleeping practices and its weight on SIDS could differ from those of the reported risks of Western cultures with different sleeping practices.

Keywords: forensic review, safe sleep practice, sudden infant death syndrome

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Trajectory and Influencing Factor on Subjective Health Status of Married Post-menopausal women: Longitudinal Analysis using a Latent Growth Model

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Aim: The purpose of this study is to identify the trajectory in s subjective health status of married post-menopausal women.

Methods:.Data were from the latest four waves (4-7 wave) of Korean Longitudinal Survey of Women & Families Longitudinal Study and the data of 2,258 respondents who married postmenopausal women were used for the final analysis. The study employed latent growth analysis using data from 2012 to 2018. Data collection was performed using a structured questionnaire as subjective health status and marital satisfaction. Data were analyzed using the SPSS 25.0 for windows and the latent growth model analysis was used by AMOS 23.0 program.

Results: The mean age of the participants was 58.73±5.84, the mean score of marital satisfaction was 2.78±0.50. In a longitudinal study on the subjective health status of married postmenopausal women, it was confirmed that there was a positive change as the level of individual subjective health status increased as time passed (initial b=2.923, slope b=.014). Through the conditional model of the latent growth model, specific factors affecting the trajectory of the subjective health status of married postmenopausal women were analyzed. Analysis, age and marital satisfaction were found to be factors affecting the initial values of the subjective health status of married postmenopausal women (age: initial b=.032, marital satisfaction: initial b=-.220). Marital satisfaction was found to be a factor influencing the trajectory of the subjective health status of married postmenopausal women (slope b=.030, p=.027). The fit of the model was appropriate because it was CFI .979, TLI .956, and RMSEA .044.

Conclusions: The results of this study suggest that the subjective health status of married-postmenopausal women is formed by the overall factors including individual and psychological factors.

Keywords: Longitudinal studies, Marital satisfaction, Married-Postmenopausal women, Subjective health status.

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Educational needs, knowledge, and awareness of nursing college professors and nurses for providing prevention and control of healthcare associated infection

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Method(s): A total of 126 respondents comprising 62 nursing college professor and 64 nurses were the subjects of this study. Nursing college professor from twelve universities in eight regions across the country took part in this survey, as did nurses from eight regions. Data from professors at the college of nursing were collected from December 1 2019, to March 31, 20020. However, due to the Covid-19 pandemic, the nurse survey was postponed and conducted form January 18 to June 4, 2021 instead. Using the SPSS/WIN 20.0 version and STATA 13.0 software, data were analyzed using an independent t-test, pearson's correlation coefficient, and an independent t-test.

Result(s): Regarding the prevention and control of healthcare-associated infections for nursing college professors and nurses, the mean score of knowledge was 24.77±1.87, 24.67±2.13, respectively, and that of awareness was 4.83±0.23, 4.20±0.82, respectively. There was a significant difference in awareness (t=5.833, p<.0001) between the two groups. In the case of nurses, the correlation between knowledge, awareness, and performance and prevention and control of healthcare-associated infections were further analyzed. Performance showed a significantly positive correlation between knowledge (r=0.33, p<.01) and awareness (r=0.54, p<.0001). Awareness also revealed a significant positive correlation with knowledge (r=0.77, p<.001). In the order of hand hygiene, aseptic technique, and standard precautions, both nurses and nursing college professors produced consistent results in terms of education priority.

Conclusion(s): The results of this study were meaningful in assessing nurses and nursing college professors knowledge and awareness of the prevention and control of healthcare-associated infections, as well as confirming the educational needs before creating a medical-related infection control education program.

Keywords: prevention and control of healthcare associated infection , educational needs

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Relating Factors on Depression in Pregnant Women

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Aims: This study is a secondary analysis study to identify and analyze relating factors on depression in pregnant women.

Methods: For the analysis data of this study, 2019 data from the Community Health Survey was used. A total of 229,099 subjects participated in the survey, and in this study, data from 1,096 women during pregnancy were used for the final analysis. Data collection was performed using a structured questionnaire as patient health questionnaire-9, health status and health behavior. Data were analyzed using the IBM SPSS 21.0 for complex descriptive statistics, independent t-test, chi-square test, and multiple regression analysis.

Results: The mean age of the participants was about 33.9. Multiple regression analysis revealed that income (β=-.69, p<.001), education level (β=-.71, p<.001), stress (β=1.91, p<.001), sleep duration (β=-.04, p=.001) and binge drinking (β=-.43, p<.001) were significantly increased depression scores. Subjective health status (β=-.59, p<.001), subjective oral health status (β=-.19, p=.001), breakfast 'more than 5 days' (β=.33, p=.001) were significantly decreased the depression score. The explanatory power was 24.5%, and the model was suitable (Wald F=101.70, p<.001).

Conclusion: This study identified factors related to depression in pregnant women, and as a result, it was confirmed that they were related to income, education level, stress, sleep time, drinking, subjective health status, subjective oral health status, and breakfast. Based on this, it will be usefully used for nursing intervention of pregnant women in the future.

Key words: Depression, Pregnant Women, Secondary analysis

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Effect of Vitamin C-Aptamer Complex on the Aβ aggregation and memory impairment in 5XFAD AD mouse model

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Background: Oxidative stress is associated with the pathogenesis of Alzheimer's disease (AD), the most common cause of senile dementia and age-related neurodegenerative disease. Amyloid-beta (Aβ) is hypothesized to be an amino acid peptide critically involved in AD. Vitamin C-Aptamer Complex (NXP031) was developed to delay the oxidation of vitamin C and maximize its antioxidant properties.

Aims: The purpose of this study is to investigate the effect of amyloid-β (Aβ) accumulation and memory impairment after administering NXP031 to the 5XFAD (AD transgenic mouse) model.

Methods: Groups were assigned a 10-month-old wild type (WT), 5XFAD (Tg), Tg + Vitamin C, and Tg + NXP031. For treatment, Vitamin C (L-ascorbic acid 200mg/kg) and NXP031 (ascorbic acid 200mg + aptamer 4mg/kg) were administered intraperitoneally for 8 weeks every other day, and WT and Tg groups were treated with the same amount of normal saline. After the intervention was completed, the brain tissue was obtained by sacrifice after the cognitive-behavioral experiment using the Y-maze test. And Aβ plaque, cholinergic neuron (ChAT), Iba1(microglia), neprilysin were assessed by immunohistochemistry in the cortex and hippocampus.

Result: In the Tg + NXP031 group, memory impairment was improved, and the accumulation of Aβ was decreased in the cortex, hippocampal CA1, and dentate gyrus region compared to Tg group. AND cholinergic neurons associated with memory impairment were rescued, microglial activation was significantly reduced in the Tg + NXP031 group.

Conclusion: These findings suggest that NXP031 has therapeutic potential to reduces the deposition of amyloid plaques and contributes to the recovery of memory deficits caused by Alzheimer's disease.

Key Words: Alzheimer's disease, Ascorbic acid, DNA Aptamer, Neurodegeneration disease

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Caring Experience for coronavirus disease-2019 Patients During Three Months of the First Pandemic in South Korea

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Aim(s): The coronavirus disease-2019 is an ongoing respiratory infectious disease declared a pandemic by World Health Organization. The city of Daegu, South Korea, had the first outbreak of large-scale cluster infection originating in a specific church starting from confirming case number 31 on January 18 in 2020. Therefore, this study was attempted to investigate the actual working hours and difficulties of nurses in an unprepared and unprecedented condition of the infectious disease.

Method(s): A total of 160 nurses responded to the survey in March 2021, of the 170 nurses who worked in D medical center during three months of the first pandemic in South Korea. The research questions were about the actual working hours during two- and three-shift and "What is the most difficult part of caring for a patient with a coronavirus infection?". Except for inappropriate data, 124 responses were finally analyzed with descriptive statics.

Result(s): Nurses worked two- and three-shift alternatively during the three months of the first pandemic in South Korea due to the shortage of nurses. The average actual working of nurses was 13.13 ± 1.05 hours during the two-shift and 9.04 ± 1.25 hours during the three-shift. When asked about the most challenging tasks, 66 (43.1%) reported excessive work and working hours, such as too many patients and a shortage of nurses, insufficient support, frequent change of work schedule, and ward movements. Secondly, 43 (28.1%) nurses complained of difficulties involving personal protective equipment such as pain, blurred vision, and breathing difficulty. Thirdly, 27 (17.7%) nurses responded that difficulties about non-cooperation of patients and caregivers included unreasonable demands, complaints, phone calls.

Conclusion(s): Nurses are still doing their best at the frontline in caring for infected patients with coronavirus. Therefore, it is necessary to understand the difficulties of nurses and strengthen the support system for nurses.

Keywords: COVID-19; Nurses; Pandemic; Work

P-337

Systematic Review on Cancer Care Teams in Adolescents and Young Adult Patients with Cancer: How Multidisciplinary Teams Influence the Quality of Care

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Aim(s): The use of multidisciplinary teamwork has been found to result in effective care for patients with cancer in general but there is a lack of research surrounding teamwork in adolescent and young adult patients with cancer. This integrative review examines the teamwork among health care providers determining the plan of care for this population.

Method(s): The preferred reporting items for systematic reviews and meta-analysis guidelines informed this review of studies that were conducted from 2000 to 2020. Eligible studies involved health care providers caring for a young patient diagnosed with cancer between 15-39 years of age, encompassed at least one phase of the cancer care continuum (cancer diagnosis to survivorship), and included multidisciplinary teamwork among health care providers.

Result(s): Ten articles met inclusion criteria. Four themes were identified: 1) unique features of multidisciplinary teams in adolescent and young adult cancer care; 2) components of the multidisciplinary team effort; 3) how multidisciplinary teams were implemented, and ; 4) the impact of the multidisciplinary teams. These populations have psychosocial and informational needs related to their developmental stages. Multidisciplinary team efforts varied and included education and care delivery foci. Medicine, nursing, and social work were the commonly included disciplines on multidisciplinary teams. Communication and team member cooperation were deemed important to multidisciplinary team processes.

Conclusion(s): Multidisciplinary team efforts demonstrated positive impacts on adolescent and young adult cancer care and improved outcomes. Emerging evidence indicates multidisciplinary teams have positive impacts on the experience and outcomes of this population. Further research focused on evaluating existing multidisciplinary team efforts for adolescent and young adult patients with cancer are needed. The development of comprehensive cancer care programs utilizing multidisciplinary teams should be considered.

Keywords: Patient Care Team; cancer survivors; young adults; multidisciplinary team

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The Effect of Table-Top Exercise for Disaster Response on the Emergency Medical Center Nurses' Disaster Preparedness.

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Aim(s): Considering the recent increase in the number of disasters, it is most important for ER nurses to have coping skills through prior education such as behavioral tips and coping training to reduce damage. The purpose of this study was to examine the effect of Table-Top exercise for disaster response on the Emergency Medical Center Nurses' disaster preparedness.

Method(s): This was a similar experimental study of pre and post-equivalence control of randomly selected nurses who verified disaster Preparedness effect by performing disaster response training. Table-Top Exercise refers to a virtual training conducted on the map without actually training, by marking the facility on the map and then moving it like an actual disaster situation using tools or symbols. After IRB approval, there were emergency Medical Center Nurses, who agreed to participate in this study, taken a self-report Questionnaire from April to September 2019. SPSS 23.0 version was used for descriptive analysis, frequency, percentage, mean, standard deviation, independent t-test, Repeat ANOVA.

Result(s): The major findings of this study were as follows. 1) There were no significant differences in gender, age, nurse experience, emergency room nursing experience, education level, and disaster education experience in the homogeneity test between experimental and control groups. 2) Disaster response knowledge (t=-. 777, p=.441), disaster awareness (t=-1.527, p=.134), disaster nursing competency (t=-. 904, p=.371), but there was a significant difference (t=-2.108, p=.046) between the two groups for disaster readiness. 3) As a result of the educational effect of the experimental group, there was no difference in the knowledge of disaster response (F=1.078, p=.352) and disaster awareness (F=2.622, p=.106). However, there were significant differences in disaster nursing competency (F=7.975, p=.002) and disaster readiness (F=4.780, p=.015).

Conclusion(s): The Table-Top exercise for disaster response effects the emergency medical center nurse's disaster preparedness significantly. It is necessary for Emergency Medical Center Nurses to prepare for disasters through Table-Top Exercise.

Keywords: Disaster, Emergency, Exercise, Nurse

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Exposure to Occupational Hazards and Health Status of Male Nurses : A Cross-Sectional Study

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Aim(s): Occupational hazards exist in health sectors include occupational infections with SARS-CoV-2, skin disorders from prolonged use of personal protective equipment, psychological stress, fatigue and workplace violence. Exposure to occupational hazards puts healthcare workers at risk of disease, injury and even death in the response of the COVID-19 pandemic. So this study aims to obtain the occupational hazards and health status in COVID-19 pandemic among male nurses.

Method(s): A cross-sectional study was conducted at Beijing, Tianjin and Hebei Province in Northern China. A total of 2,879 male nurses were included in the study. The tool of risk index of occupational hazard was administered to all nurses. The tool is a self-reported scale which consists of 29 items and is rated according to 5-point Likert scale (1 = very low / negligible to 5 = frequent / severe). A total individual and dimension index will be calculated ranging from 0 to 1 and the higher the index, the greater the risk of exposure to occupational hazard. The Cronbach's α was 0.95.

Result(s): A total of 2879 male nurses from Beijing (N=824), Tianjin (N=578) and Hebei Province (N=1477) participated in the study. Mean age of the male nurses was 28.96 years, while most of them were married (52.9%), bachelor' degree (51.0%), from tertiary hospitals (66.9%) and general hospital (77.3%). The prevalence of sleep disorders in male nurses was 54.0%, followed by anxiety (45.0%), gastritis (28.4%), lumbar disc herniation (27.1%), cervical spondylosis (24.9%), depression (18.80%), lower limb varicose veins (18.3%), hypertension (16.7%), coronary heart disease (3.2%), diabetes (3.2%), asthma (2.2%), and tumor (0.8%). Finally, there was regional differences in the prevalence of sleep disorders, anxiety, gastritis, lumbar disc herniation, cervical spondylosis, depression, lower limb varicose veins, hypertension, diabetes, coronary heart disease in Beijing, Tianjin and Hebei Province.
The risk-index of being exposed in psychosocial hazards was 0.28, followed by physical hazards (0.20), chemical hazards (0.18), biological hazards (0.17) and accidental hazards (0.12). From the first to tenth highest individual risk-index of occupational hazards, seven of them belong to the dimension of psychological hazards.

Conclusion(s): Male nurses are faced with various occupational hazards in the workplace, among which psychosocial hazards ranked first. Sleep disorder, anxiety and other psychological problems are common in male nurses. Male nurses also suffer from gastritis, lumbar disc herniation, cervical spondylosis and other health problems. Male nurses play a vital role in caring for patients, especially the severe patients. Therefore, the hospital should pay more attention to the occupational health of male nurses.

Keywords: Occupational Hazards; Health Status; Male Nurses

P-340

Undergraduate Nursing Students' Experiences in a Virtual Simulation Program as a Substitute for Clinical Practicum during the COVID-19 Pandemic

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Aim: The COVID-19 pandemic has been a considerable challenge for education and clinical practicum for nursing students, requiring them to transition to virtual education. The purpose of this study was to explore undergraduate nursing students' learning experiences in a web-based virtual simulation program that replaced clinical practicum during the COVID-19 pandemic.

Methods: This study used a qualitative approach with ten senior nursing students who completed a web-based virtual simulation program as a substitute for clinical practicum at a university in South Korea. Data were collected through in-depth interviews and analyzed using theme analysis by Braun and Clarke.

Results: Four main themes emerged from the interviews on nursing students' learning experiences with a web-based virtual simulation program: 1) lacking a sense of reality; 2) indirect experience with various nursing roles; 3) learner-led nursing practicum; and 4) safe and comfortable learning environment. The nursing students reported difficulty handling complex problems with limited information in web-based virtual simulations, which were different than their previous practicum experience in real clinical settings. They also perceived that the program helped them recognize the specialty of nursing professionals and improved their critical thinking based on diverse simulations, which is difficult to learn from an observation-focused clinical practicum. In addition, students recognized the benefits of web-based virtual simulations in promoting clinical competence based on scientific knowledge through self-directed learning and flexible use of time.

Conclusions: The findings suggest that a web-based virtual simulation program may be an effective educational strategy that could augment or replace clinical nursing practicum, but there are limitations and weaknesses. This study provides basic data for introducing a new paradigm of practical training.

Keywords: COVID-19, nursing student, qualitative research, simulation training

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The Influence on Depression of Daily Changes related to COVID-19

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Aims: The purpose of this study is to identify the influence on depression of daily life changes related to COVID-19.

Methods:.This study analyzed secondary data using raw data from the Community Health Survey conducted in 2020, and the subjects were 229,269 adults 19 years of age or older who were used for the final analysis. Data collection was performed using a structured questionnaire as daily changes related to COVID-19 and patient health questionnaire-9. Data were analyzed using the IBM SPSS 21.0 for complex descriptive statistics, independent t-test, ANOVA, Pearson correlation coefficient, and multiple regression analysis.

Results: The mean age of the participants was about 48.76, and 50.4% of the participants were female. Multiple regression analysis were identified that female (β=.46, p<.001), spouse (no) (β=.23, p=.002), education level below university (β=.14, p=.028), occupation (no) (β = .10, p=.004), monthly income (β=.26, p <.001), basic livelihood recipients (β =.92, p<.001), the stress (β =1.45, p<.001) were significantly increased the depression score. The age (β=−.01, p<.001), subjective health status (β=−.67, p<.001) were significantly decreased the depression score. In daily change, the physical activity (β=.41, p=.018), sleep duration (β=.59, p<.001), instant food intake (β=.25, p=.009), drinking (β=1.07, p<.001), smoking (β=.80, p<.001) were significantly increased the depression score. The explanatory power was 27.3%, and the model was suitable (Wald F=63.75, p<.001).

Conclusions: This study is meaningful by identifying the influence on depression of daily changes related to COVID-19, and the results of this study can be used for depression-related nursing interventions in the future.

Key words: COVID-19, Daily change, Depression, Secondary analysis

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Analysis of Factors Influencing Social Distancing Practices for Prevention of COVID-1

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Aims: This study is a secondary analysis study to identify and analyze relationship between demographic characteristics, psychological effects, and practice of quarantine rules related to the practice of social distancing for the prevention of COVID-19.

Methods: This study used raw data from the Community Health Survey (CHS) conducted in 2020. A total of 229,269 subjects participated in the survey were used for the final analysis. Data analysis was performed using IBM SPSS Statistics 21.0 program. The t-test and the Pearson Correlation Coefficient were used for the difference and correlation of social distancing practices for COVID-19 prevention according to the characteristics of subjects, and multiple regression analysis was performed to identify the factors affecting social distancing for the prevention of COVID-19.

Results: Multiple regression was conducted and analyzed to identify the factors affecting the practice of social distancing for COVID-19 prevention. As a result, the explanatory power was 35.6% and the model was found to be suitable (Wald F=111.07, p<.001). Also, in general characteristics, age (β=.01, p=.001), spouse presence (β=.08, p<.001), monthly income (β=−.01, p<.001), subjective health status (β =−.04, p<.001) was found to have statistically significant explanatory power.

Conclusions: This study identified factors related to the practice of social distancing for the prevention of COVID-19, and as a result, it was confirmed that they were related to age, spouse presence, income, subjective health status.

Keywords: COVID-19, Physical Distance, Prevention and control, Secondary analysis

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The roles of health literacy and self-efficacy in promoting adherence to physical activity among patients with coronary artery disease.

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Aim(s): This study aimed to identify the associations between health literacy, self-efficacy, and adherence to physical activity among patients with coronary artery disease.

Method(s): This study is a cross-sectional study design and a total of 178 patients with coronary artery disease were recruited from a tertiary care hospital in Jeonbuk from March to August 2021. The participants responded to a self-reporting and medical record reviews were used for data collection. Data were analyzed using descriptive statistics, independent t-tests, one-way analysis of variance, Pearson's correlation, and two steps of hierarchical regression analysis were employed to determine the adherence to physical activity.

Result(s): Health literacy ($r = .42$, $p < .001$) and self-efficacy ($r = .66$, $p < .001$) were significantly associated with physical activity. Additionally, health literacy and self-efficacy had a significant positive correlation ($r = .39$, $p < .001$). Health literacy ($\beta = 0.18$, $t = 2.70$, $p=.008$) and self-efficacy ($\beta = 0.54$, $t = 9.08$, $p < .001$) were both significant predictors of physical activity after confounding factors such as age, gender, educational level, angina grade. Self-efficacy was the strongest predictor of physical activity in patients with coronary artery disease.

Conclusion(s): Health literacy and self-efficacy were positively associated with physical activity adherence among patients with coronary artery disease. Our findings suggests that health literacy and self-efficacy can enhance the patients' physical activity adherence. Thus, developing intervention strategies to physical activity adherence for health literacy and self-efficacy could prompting physical activity adherence of patients with coronary artery disease.

Keywords: health literacy, self-efficacy, physical activity, coronary artery disease

P-345

The development of a mobile application for patient participation in patient safety activities

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Purpose: Patient participation in patient safety activities is a fundamental element of safe and high-quality health care. This study aimed to develop a mobile application for health consumers' participation in patient safety activities.

Methods: The Application for Patient Participation in Safety Enhancement (APPSE) for health consumers' participation in patient safety was developed according to the sequential steps of analysis, design, development, and evaluation. In analysis phase, a systemic review of the literature on patient and family participation in patient safety and a needs assessment through survey and a focus group interview were conducted. In design phase, the research team developed the APPSE framework to compile the educational content. The final content was developed after a validity review by an expert panel. In development phase, the system database and user interface were designed. The server configuration used XpressEngine and a MySQL database. The APPSE was designed with responsive web design for use on both the web and mobile devices. A heuristic evaluation was conducted by three experts based on Nielsen's guidelines.

Results: The educational contents of the APPSE consist of 12 patient safety topics with four competencies (SAFE: Speaking up, Asking questions, Finding health information, and Engaging in the healthcare process). The mobile system consists of the following 5 main components: 1) The SAFE educational materials, 2) Listing my medications, 3) Asking questions, 4) Engaging in patient safety activities, and 5) Bulletin board. Based on the heuristic evaluation, the APPSE app was revised to increase letter size and spacing in consideration of readability, and the final version was developed.

Conclusions: W developed a mobile application to encourage health consumers' engagement in patient safety by providing information on patient participation and tools for participation in their care process. Mobile applications may enable more active engagement of health consumers in patient safety activities.

Keywords: patient safety, patient engagement, mobile application

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Development and Evaluation of Health Literacy Scale for Patients with Cardiovascular Disease in Korea

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Aim: In Korea, cardiovascular diseases such as coronary artery disease and heart failure are rapidly increasing due to aging and westernization of lifestyle habits. Health literacy is a concept that has been identified as an influencing factor in determining the health behavior of cardiovascular patients and is drawing attention, but there is currently no health literacy scale for cardiovascular patients. The purpose of this study is to develop a scale to measure the health literacy of cardiovascular patients, and to verify its reliability and validity of the developed tool.

Methods: This study was conducted with 391 cardiovascular patients at two medical institutions located in Seoul and Gyeonggi-do according to the tool development procedure was based on DeVellis.

Results: 29 initial questions were derived based on the results of a conceptual analysis of the health literacy of patients with cardiovascular disease. To the next step, content validity was conducted twice with 10 experts, and then 24 questions were selected by revising and supplementing the initial question. As a last step, an exploratory factor analysis was performed after the item analysis to confirm the construct validity. Of a total of 391 subjects, 190 subjects were analyzed using the case random sampling method. Four factors were determined and 22 items were derived through the screen test and the cumulative variance ratio. The cumulative variance ratio of the four sub-factors was 62.86%. As a result of verifying convergence validity and discriminatory validity in the confirmation factor analysis, the convergence validity was confirmed with a factor load of .50 or higher, a significance (C.R) of 1.965 or more, and a concept reliability of 70 or more. In the stability reliability and homogeneity reliability test, the test-retest correlation coefficient was .86 and the intra-class correlation coefficient (ICC) was .84, ensuring reliability of stability. An internal consistency reliability Cronbach's alpha was .89 was found, confirming the high reliability of the scale.

Conclusion: If the tool with reliability and validity developed in this study is used, it will contribute to quickly and easily assessing the level of health literacy of patients with cardiovascular disease in the medical field, and early assessment and identification of patients with cardiovascular disease with low health literacy. In addition, it will be possible to organize intervention plans necessary for cardiovascular disease patients, such as the production of health information materials for cardiovascular disease patients with low health literacy. The research results using this tool will provide the basis for the development of programs for improving communication quality and self-management ability of health care providers and health promotion.

Keywords: Cardiovascular disease, Health literacy, Validity and reliability

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The Uncertainty in Illness of Malignant Brain Tumor Patients: A Systematic Review

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Aim(s): Malignant brain tumor is known with high recurrence and low survival rate despite active therapy, such as surgery, radiation therapy, and chemotherapy; brain tumor patients experience high uncertainty since they have been diagnosed. The purpose of this study was to investigate the uncertainty in illness of malignant brain tumor patients.

Method(s): A systematic review was performed according to the Joanna Briggs Institute methodological guidelines updated in 2021. Analyzing the components of uncertainty in illness of malignant brain tumor patients was conducted based on the Mishel's uncertainty in illness theory.

Result(s): Of the 2,523 studies identified from six databases (PubMed, CINAHL, Embase, PsycINFO, Scopus, and Cochrane), six studies were included in this study. There were qualitative study (n=1), experimental study (n=1), methodological study (n=1), and quantitative studies (n=3). Most studies (n=4, 66.7%) used the Mishel's Uncertainty in Illness Scale-Brain Tumor (MUIS-BT) to measure the uncertainty in illness. Uncertainty in illness of brain tumor patients had unpredictable characteristics in complex and ambiguous symptoms and disease processes. These attributes of uncertainty in illness made it difficult for patients to decide on care planning. Antecedents factors of uncertainty in illness identified as (a) biological factors, such as treatment, symptom, brain tumor grade, and functional impairment; (b) psychological factors, such as fear and resilience; and (c) social factors, such as education, caregiver or healthcare professional's support, and loneliness. The outcomes of uncertainty in illness were future re-evaluation, coping, and adaptation of malignant brain tumor disease process.

Conclusion(s): Complex factors, including disease, physical and psychosocial variables, affect the uncertainty in illness for brain tumor patients. This study provided evidence for interventions to reduce uncertainty in illness and to adapt physical and psychosocial challenges for malignant brain tumor patients. A person-centered and comprehensive understanding is needed to manage the uncertainty in illness for brain tumor patients.

Keywords: Brain Neoplasms; Uncertainty; Systematic Review

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Post Intensive Care Syndrome in Parents of Critically Ill Pediatric Patients

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Aim(s): Family members can suffer from psychological symptoms and social problems when their loved one is in the intensive care unit. The symptoms experienced by families of critically ill patients are called 'post-intensive care syndrome-family.' The purpose of this study was to describe the symptoms of post intensive care syndrome-family in parents of critically ill pediatric patients. This study examined (1) psychological and social problems, (2) changes in symptoms over 1 month, and (3) the differences in symptoms by the participants' characteristics.

Method(s): A longitudinal descriptive study design was used for a pediatric intensive care unit in a tertiary care hospital in Korea. Parents of children admitted to the pediatric intensive care unit for at least 48hours were questioned on the day of the child's discharge from the pediatric intensive care unit and 1 month after discharge. Anxiety, depression, post-traumatic stress symptoms and social impacts were measured as symptoms of post intensive care syndrome-family.

Result(s): Among 41 participants, 36 completed the follow-up survey. Most of the parents reported all three psychological problems, anxiety, depression, and post-traumatic stress symptoms, on the day of the child's discharge from the pediatric intensive care unit (77.8%) and more than a half (58.3%) on 1 month after discharge. Social problems significantly increased over time (p=.04). Factors associated with symptoms of post intensive care syndrome-family were emotional support from the staff of the pediatric intensive care unit. Emotional support showed a significant negative correlation with post-traumatic stress symptom(p=.003) and social problems(p=.02).

Conclusion(s): This study revealed a high prevalence of psychological symptoms and increased social problems among parents of critically ill pediatric patients after discharge from the pediatric intensive care unit. Emotional support from health care professionals can help reduce symptoms of post intensive care syndrome in parents of children in pediatric intensive care units.

Keywords: Parents, Pediatric intensive care unit, Post intensive care syndrome-Family

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Social Capital and Depressive Symptoms of Multicultural Adolescents in Korea : A Latent Profile Analysis

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Aim(s): Social capital has been reported to be associated with depression in adolescents. In general, adolescents with migration backgrounds are known to lack social capital. By employing a latent profile analysis (LPA) for the specification of social capital among multicultural adolescents, depression interventions can be explored through the framework of social capital. The purpose of this study was to identify distinct latent profile of social capital in multicultural adolescents, and to explore the depressive symptoms of multicultural adolescents in those profiles.

Method(s): A total of 1,244 samples were used as data from the Multicultural Youth Panel Survey (MAPS) which was conducted for 3rd grade middle school students in 2016. A latent profile analysis was used to identify profiles by different social capital classes, and a one-way analysis of variance was used to evaluate the differences in depression between profiles.

Result(s): A latent profile analysis indicated four profiles: 1) high overall social capital (19.5%), 2) high interpersonal-intraschool social capital (6.7%), 3) high extraschool social capital (6.1%), and 4) low overall social capital (67.7%). As a result of analyzing the differences in depression among multicultural adolescents by social capital sub-profile, there were differences in the level of depressive symptoms (F=42.65, p<.001). The high overall social capital group had the lowest level of depressive symptoms (13.91±4.43), and the depressive symptoms scores of the high interpersonal-intraschool social capital and high extraschool social capital groups were 16.49±5.27 and 16.74±4.95, respectively. The low overall social capital group had the highest level of depressive symptoms (18.07±5.25).

Conclusion(s): These findings provide insight to explain the interplay between social capital and depressive symptoms among multicultural adolescents. Nursing interventions considering social capital are needed to reduce depression in multicultural adolescents.

Keywords: Depressive symptom; Latent profile analysis; Multicultural adolescents; Social capital.

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Social activities associated with fewer insomnia symptoms and the mediating role of loneliness in older adults

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Aim(s): A positive association is known to exist between engagement in social activity and fewer insomnia symptoms in later life. However, little is known about which social activities are associated with insomnia symptoms. Investigating mediating factors in this relationship may contribute to the development of effective strategies for the reduction of sleep complaints in older adults. The purpose of this study was to examine the mediating effect of loneliness on the relationship between engagement in different types of social activity and insomnia symptoms.

Method(s): We used secondary data from the 2018 Health and Retirement Study. The sample for this study included 3,236 older adults who responded to a survey on social activity engagement, insomnia symptoms, and loneliness. After adjustment of covariates, simple mediation analyses were conducted with bootstrapping to identify the mediating effect of loneliness on the relationship between the type of social activity engagement and insomnia symptoms in older adults.

Result(s): Among several types of social activities, higher levels of engagement in educational courses and community arts group in older adults had a significant and direct relationship with fewer insomnia symptoms. Mediation analyses confirmed the mediating role of loneliness in the relationship between this specific type of social activity engagement and insomnia symptoms.

Conclusion(s): These findings provide new evidence for associations among social activity, loneliness, and insomnia symptoms. Using a path model, they also provide insight into the mechanism by which psychosocial factors influence the relationship between intellectual social activity engagements and sleep complaints in older adults.

Keywords: Aged; Loneliness; Mediation Analysis; Sleep; Social Participation.

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Influencing Factors on COVID-19 Preventive Behavior in College students : An Ecological Perspective

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Aim(s): The purpose of this study is to identify the factors affecting to the COVID-19 preventive behavior in college students based on ecological perspectives, and provide basic data for the development of preventive programs to improve COVID-19 preventive behavior.

Method(s): The study recruited a total of 221 college students, through an online survey through three online communities which are mostly used by college students. The data were collected from July 24 to August 9, 2021. The collected data were analyzed using the descriptive statistics, independent t-test, one-way ANOVA, Pearson's correlation coefficient, and hierarchical multiple regression using SPSS 25.0 version program.

Result(s): There was a statistically significant difference in COVID-19 preventive behavior depending on their age(t=3.06, p=.003) and their experience in self quarantined(t=3.53, p=.028) among the general characteristics of the subjects. COVID-19 preventive behavior showed a statistically significant positive correlation with perceived susceptibility(r=.525, p<.001), perceived severity(r=.481, p<.001), perceived benefits(r=.526, p<.001), subjective norms(r=.608, p<.001), and sense of community(r=.302, p<.001). In addition, perceived barriers was found to have a statistically significant negative correlation with COVID-19 preventive behavior(r=−.172, p=0.010). In hierarchical multiple regression, all of 3 models were examined by intrapersonal, interpersonal, and organizational factors in ecological model. As a result, perceived susceptibility(β=.208, p=.003), perceived benefits(β=.178, p=.007), subjective norms(β=.309, p<.001) were found to have a significant association with the COVID-19 preventive behaviors of college students. These variables explained the 44.6% variance in COVID-19 preventive behavior of college students(F=23.18, p<.001).

Conclusion(s): COVID-19 preventive behavior of college students were associated with perceived susceptibility, perceived benefits, and subjective norms. Based on the results of this study, it is expected to develop a COVID-19 preventive program to improve the COVID-19 preventive behavior of college students.

Keywords: COVID-19, Preventive behavior, Ecological perspective

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A Qualitative Study of Unmet Needs for Person Centered - Palliative Care (PC-PC) in Intensive Care Units (ICUs)

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Aim: Critical patients receive invasive procedures and high-risk treatments to maintain vital functions. Clinical indicators tend to be emphasized, while respect for human beings tend to be downplayed. However, we can no longer ignore pain relief and human respect in critically ill patients. Therefore, it is necessary to explore unmet needs regarding person centered - palliative care (PC-PC) for critically ill patients in ICUs. The purpose of this study is to explore the PC-PC needed for critically ill patients in the ICUs.

Methods: This study was designed with a qualitative descriptive study for PC-PC in the ICUs. After approval by the institutional review board (No. 4-2020-0606), 10 stakeholders including 5 caregivers of patients and 5 ICU staff members were interviewed until saturation. Content analysis was performed according to the methodology of Elo and Kyngs (2008).

Results: Eight of the unmet needs regarding PC-PC were retrieved. The characteristics of person centered care were retrieved, including "frequent visits to patients," "empathetic explanations," and "reflecting the requests of patients and caregivers." Regarding palliative care, participants reported that the following characteristics were necessary: "physical care," "emotional support," "spiritual nursing," "financial support," and "systematic palliative care programs." Participants commonly emphasized providing opportunities to meet patients through visits, voice messages, and phone calls, explanations of patient conditions, and explanations of palliative care in the ICUs.

Conclusion: There were eight unmet needs for PC-PC in the ICU. Among these, visits, explanations of the patient's condition, and explanations of palliative care in the ICU were found to be the most important. Despite an infectious disease crisis such as the COVID-19 pandemic, PC-PC intervention is required for the positive experience of critically ill patients and their caregivers.

Keywords: intensive care unit, palliative care, person-centered care

P-354

A mother's experiences on treatment discontinuation of a child with schizophrenia: A Phenomenological Case Study

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Aim(s): The continuous treatment of Schizophrenia is based on antipsychotic drugs. Despite the importance of medication, treatment discontinuation of schizophrenia is leading to the disappearance of patients in the mental health settings and a common problem yet discovered. This study aimed to explore the mother's experience of a child with schizophrenia in treatment discontinuation and the challenges she faced in caring her child.

Methods: Using semi-structured questions, a mother was interviewed on her experiences. Data were analyzed using a phenomenological approach of coding the transcripts, clustering the meanings and categorizing the clusters at progressively higher levels of abstraction.

Results: The emergent themes derived from the mother's experiences were (1) identifying the reasons of illness, (2) accepting the present illness, and (3) conflict between family members toward treatment. Identifying the reasons of illness identified the theme of 'gathering the reasons as possible' and 'collecting the surmountable reasons.' Accepting the present illness identified the theme of 'enduring the fate' and 'suspending the renewed status.' Conflict between family members toward treatment identified the theme of 'critics toward parents' and 'gaps of coping on a patient.'

Conclusions: This is the first study of the treatment discontinuation experiences that has asked a mother of a child with schizophrenia. The current findings provide insights into progress and factors of acceptance and conflicts of parents in treatments of children with schizophrenia by enhancing knowledge about helping and supporting parents.

Keywords: Schizophrenia, Treatment, Phenomenology, Qualitative Research

P-355

Impact of COVID-19 on Hong Kong Women's Health and Quality of Life

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Aim(s): The COVID-19 pandemic has caused a dreadful health crisis globally. The adverse impacts on Asian women, including those in Hong Kong, are considerable. Hong Kong community women's pressure is immense due to traditional, cultural, social, familial, and personal responsibilities. We aimed to illustrate the impact of COVID-19 on Hong Kong women's health and quality of life.

Method(s): An interpretive phenomenological approach was used in this study. Chinese females over 18, living in Hong Kong, who could understand Cantonese, were invited for semi-structured face-to-face, in-depth interviews. Data were collected from August 2020 onwards after the 'third wave' of COVID-19 in Hong Kong, one of the most severe waves. The audio-taped individual interviews were transcribed. Data analysis was concurrent with data collection until data saturation. The thematic analysis was adopted to understand and interpret the participants' experiences through interviews accurately.

Result(s): Twenty-five women participated in the study, with ages ranging from 25-69. Three were single, 15 were married, six were separated/divorced, and one was widowed. Individual interviews with an average duration of 48 minutes. Three major themes identified were deterioration of personal health, unfavorable to human relationships, adaptation to external challenges. Eight subthemes have emerged: emotional and psychological distress, caregiver role fatigue and exhaustion, social activities avoidance, regrets of unfullled lial responsibilities, unhealthy marital relationship, tension among parent-child relationship, environmental and household hygiene practices changes, financial loss due to underemployment/ unemployment/ resignation. Impacts were intensified among those women with a family caregiver role, low family monthly income, or low educational levels.

Conclusion(s): The study demonstrated significant health impacts and quality of life challenges on Hong Kong women's requiring extra attention and support from the local government, non-governmental organizations, and healthcare professionals. Promotion of strategies or activities that could enhance the women's physical, psychological, emotional, social, financial, self-confidence, and quality of life are recommended.

Keywords: COVID-19, impact, quality of life, women's health

P-356

Nurses' Experiences at the Screening Clinic for COVID-19 in General Hospitals in Korea

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Aim(s): This study aims to explore the meaning of the lived experiences nurses, who have been working at screening clinics for COVID-19 in general hospitals during the COVID-19 pandemic in Korea.

Method(s): This study used a phenomenological research method with individual in-depth interviews. The data were collected from 14 nurses in screening clinics for COVID-19 from May 11th to July 13th, 2021, and analyzed with the Colaizzi's phenomenological method.

Result(s): As result of this study, the subjects were classified into 4 categories: 1) 'A ferry boat on wild waves of COVID-19 (a voyage without coordinates, a lonely person who is worth a hundred people)', 2) 'The woes of COVID-19 warriors (an inconvenient truth of 'Level D', bullet targets for complaints from patients and caregivers, defending the firewall, a imprint of 'COVID-19 related people')', 3) 'The repeated COVID-19 situation like Mobius strip (endless sea fog, a surge of work like tidal waves)', and 4) 'A beam lightening to long tunnel of COVID-19 (the power of Nightingale, a thousand troops supporting me)'.

Conclusion(s): The participants have taken charge of screening treatments on the front line of COVID-19 pandemic under fear of infection, and have endured the poor working conditions and consecutively confused work guidelines. It is turned out that they have been getting over difficult time by the sense of duty and pride as a nurse, supports from their family and encouragements from people around them even though they are getting tired of endless COVID-19 situations. It is also expected that the results would be used as basic data for improving the infectious diseases control systems and building response strategies that can be applied to nursing practices under another pandemic situation in the future.

Keywords: Qualitative research; COVID-19, Pandemic, Screening, Nurses

P-357

A Study on Self-Reflection, Meaning in Life and End-of-life nursing Attitude in Clinical Nurses

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Aim: The purpose of this study is to examine the correlation between self-reflection, meaning in life and end-of-life nursing attitude of clinical nurses who have experienced the end of life, and to identify the factors affecting the end-of-life nursing attitude.

Methods: Cross-sectional and descriptive surveys were conducted in 113 nurses who are working in Y University Hospital. Data were collected using by three structured self-report questionnaires: Self-Reflection Scale, Meaning in Life Scale, and end-of-life nursing attitude of the Dying Scale. The data were analyzed using descriptive analysis, t-test, ANOVA, Scheffe's test, Pearson's correlation coefficients, and stepwise multiple regression analysis.

Results: The self-reflection mean score was 3.86 ± 0.45 out of 5, the meaning in life was 5.08 ± 0.84 out of 7, and the end-of-life nursing attitude was 2.99 ± 0.24 out of 4. End-of-life nursing attitude was a significant positive correlation with self-reflection ($r=.249$, $p=.008$) and meaning in life ($r=.333$, $p<.001$). As a result of the stepwise multiple regression analysis, the variables affecting end-of-life nursing attitude were meaning in life ($\beta=0.31$, $p=.004$) and career as a nurse ($\beta=0.50$, $p<.001$), and these variables explained the 23% of variance in end-of-life nursing attitude ($F=6.34$, $p<.001$).

Conclusion: In order to improve the positive end-of-life nursing attitude of clinical nurses, it is necessary to provide strategies for self-reflection and finding meaning in life for nurses.

Keywords: self-reflection, meaning in life, end-of-life nursing attitude, nurse

P-358

Depression, Anxiety, Posttraumatic Stress Disorder of the Frontline Nurses during Covid-19 Pandemic in South Korea

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Aim(s): Frontline nurses' mental health needs to be assessed and managed to defeat Covid-19. This study aimed to investigate the status of depression, anxiety, and posttraumatic stress disorder of frontline nurses in the Covid-19 pandemic in South Korea.

Method(s): This was a cross-sectional online survey using by Patient Health Questionnaire, Generalized Anxiety Disorder, and Impact of Event Scale-Revised from November 2020 to February 2021. The subjects were 249 nurses with direct contact working experience of more than one month at the frontline field related to Covid-19. The collected data were analyzed by descriptive statistics, t-test, ANOVA using SPSS 25.0 program.

Result(s): 39.4% were over the moderate levels($\geq$10) of depression, 49.8% were over the mild level($\geq$5) of anxiety. 40.1% of participants were over the partial PTSD($\geq$18). The Mean scores of depression, anxiety, and PTSD was 8.61±6.14, 6.08±5.44, 17.66±15.98, respectively. Also, among depression, anxiety, and PTSD of participants showed significant positive correlations.

Conclusion(s): Depression, anxiety, and PTSD symptom of frontline nurses in clinical fields of COVID-19 were prevalent. Therefore, we should develop programs for their mental health, and policies for implementation need to be legally guaranteed.

Keywords: Depression, Anxiety, PTSD, Covid-19

P-360

The Influence of Workplace Bullying and Resilience on Turnover Intention of General Hospital Nurses

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Purpose: This study is a descriptive research study to understand the aspects of workplace bullying for general hospital nurses, and the effect of workplace bullying and resilience on turnover intention.

Methods: The participants of this study were 140 nurses working in 3 general hospitals with 300 beds or more in B Metropolitan City, and the data collection period was from May 1 to May 15, 2021. Data were analyzed using descriptive statistics, t-test, one-way ANOVA, pearson correlation coefficients, and multiple regression with SPSS/WIN 25.0 program.

Results: The turnover intention had a statistically significant differences according to age ($F=3.252$, $p<.05$), work department ($F=3.637$, $p<.01$), and expected duration of nursing job ($F=13.972$, $p<.001$). The mean scores for nurses' workplace bullying, resilience and turnover intention were 1.90 ± 0.56, 3.40 ± 0.46, and 3.02 ± 0.63 respectively. It was found that workplace bullying of nurses had a statistically significant positive correlation with turnover intention ($r=.576$, $p<.001$). The explanatory power of the attribution equation was 39.6%, and the regression equation was found to be statistically significant ($F=29.957$, $p<.001$).

Conclusion: Nurse turnover continues to occur in clinical practice, and in order to prevent it, continuous research is needed to identify the cause of workplace bullying. It is suggested that preventive education and intervention programs should be developed to reduce workplace bullying.

Key Words: Bullying, Resilience. Turnover Intention, Nurse

P-361

Nnursing students experience of action learning in clinical practice of nursing management

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Aim(s): The purpose of this study was to describe the nursing students' experience of action learning in clinical practice of nursing management.

Method(s): A total of 40 participants in this study were 4th grade nursing students located in C city and had experience in nursing management practice. Nursing management practice was operated by the action learning method. In order to solve nursing management problems, it consists of four steps: problem identification, cause analysis, solution development, implementation and review. Data were collected through conceptual maps, fishbone maps, interviews and reflection journals. Data analysis was done by inductive content analysis by Elo and Kyngs (2008).

Result(s): As a result of the study, the experience of nursing students by applying the action learning method to nursing management practice education was 'expanding the perspective of management practice', 'approaching the nursing field through practical application', 'solving management problems from a flexible perspective' and ' Approaching creative problem -solving'.

Conclusion(s): The significance of this study by applying the action learning method to the nursing management practice course is as follows. First, their perspective of understanding nursing management has changed. Second, they were solving problems in nursing management that occur in clinical settings from a flexible perspective. Finally, it was confirmed that their ability to connect the problems of nursing management practice with management theory was improved.

Keywords: nursing, students, qualitative research, action Learning, nursing management.,

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Stress and Coping of Self-quarantined People: Focusing on Negative Cases of Coronavirus Disease

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Aims: In Korea, the number of people in self-quarantine due to close contact with a confirmed case is sharply increasing with the spread of the coronavirus disease (hereinafter, COVID-19). This study aimed to explore stress, coping, and post-quarantine change among people who are self-quarantined due to close contact but who tested negative for COVID-19.

Methods: To perform qualitative research, focus group interviews were conducted with a total of four focus groups, each consisting of five people. All interviews were recorded and transcribed. Data were analyzed using the content analysis method.

Results: Specific findings on the three categories of stress and coping during self-quarantine and post-quarantine change as well as subcategories derived for each category were as follows. First, the category for the content related to stress was labeled "problems that are difficult to handle alone." The subcategories were "painful body and mind," "the experience of being in a jail without bars," and "repeated internal and external conflicts." Second, the category for the various stress-coping methods was labeled "struggling my way," and the subcategories were "coping methods that helped me overcome" and "coping methods that added difficulty." Lastly, the category for changes after self-quarantine was labeled "more mature me." This category included the subcategories of "thorough observation of infection prevention measures in daily life," "living together," and "a new realization of life."

Conclusions: In this study, unique experiences of stress, coping, and post-quarantine change in self-quarantined people who tested negative were explored in depth. The study findings can provide specific and meaningful information for the development of nursing programs to help those who self-quarantined but tested negative for COVID-19 in feeling confident that they can spend the self-quarantine period in good health and coping effectively with stress.

Keywords: Coping , COVID-19, Self-quarantine, Stress

P-364

Workplace sexual harassment toward male nurses in South Korea

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Aim(s): Many studies have focused on sexual harassment of female nurses perpetrated by patients and coworkers. However, the position of male nurses in a female-dominated occupation presents a high possibility of being exposed to sexual harassment. The aim of this study is to examine the prevalence and factors related to male nurses' workplace sexual harassment in South Korea.

Method(s): Two hundred and forty-six participants with more than 6 months of clinical experience enrolled in an online survey, and 156 male nurses were included in the final analysis. Data were collected from May 31, 2019, to July 26, 2020. Questionnaires comprised sexual harassment experiences, nursing work environment, and general characteristics. Descriptive statistics were used to analyze the general characteristics of male nurses, an independent t-test was used to analyze the differences in sexual harassment according to each factor, and Pearson correlation (r) was used to analyze the relationship between sexual harassment and the nursing work environment.

Result(s): The mean score of sexual harassment was 3.5 ± 6.4, and that of the nursing work environment was 2.64 ± 0.44. Male nurses with at least one experience of sexual harassment accounted for 65.4% of the total sample. Sexual harassment was significantly higher in the group of those with a master's or PhD degree than among those with a bachelor's degree. The association between sexual harassment and nursing work environment was not statistically significant (r = −.113, p = .161).

Conclusion(s): Nursing administrators and health care institutions must recognize that men in a female-dominated occupation may experience sexual harassment in the workplace. Specific and realistic managerial policies and educational programs should be implemented to prevent workplace sexual harassment toward male nurses.

Keywords: sexual harassment, male nurses, occupational health, nursing environment

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Multiple metabolic comorbidities and their consequences among older adults with peripheral artery disease

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Aims: Older adults with peripheral artery disease (PAD) increased risks of major cardiovascular events or hospitalization. Metabolic comorbidities such as hypertension, diabetes mellitus, or dyslipidemia are risk factors for adverse outcomes. This study aims how the multiple metabolic comorbidities affect the risk for adverse health outcomes among PAD older adults.

Methods: This study adopted a retrospective cohort study design using administrative claim data at Health Insurance Review and Assessment agency. Study sample included 3,122 older adults (65+): having at least one PAD diagnosis in inpatient settings (2011 – 2013); having at least one follow-up visit after hospitalization by 2018. Hypertension, diabetes, and dyslipidemia were defined as having at least 2 diagnostic claims, or one prescription per year of anti-hypertensive, anti-diabetic, or anti-dyslipidemia medications under each diagnosis. Outcome variables included major cardiovascular events (myocardial infarction, unstable/ stable angina, and ischemic stroke [MACE]) and major adverse limb events (major/minor amputation, revascularization, or open surgery [MALE]). Kaplan-Meier survival curves were used to compare MACE or MALE free period by number of metabolic comorbidities. Cox proportional hazards models were applied to examine associations between number of metabolic comorbidities and time to outcome events.

Results: Kaplan-Meier survival curves presented having more metabolic comorbidities showed shorter MACE or MALE free period. Adjusted Cox proportional hazards analyses suggested additive effects of multiple metabolic comorbidities; PAD older adults with one metabolic comorbidity (HR: 1.69/1.47); two metabolic comorbidities (HR: 2.30/1.98); three metabolic comorbidities (HR: 3.06/3.22) were greater risk of having either MACE or MALE respectively than older adults with no metabolic comorbidity.

Conclusions: Findings of this study suggest providing comprehensive nursing care of metabolic comorbidities for older adults with PAD. Also, the healthcare utilization pattern should be considered as well to design the preventive care for PAD older adults with metabolic comorbidities to manage PAD in the early stage.

Keywords: Peripheral artery disease, older adults, metabolic comorbidity

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Prototype Development of Nursing Simulation Contents Using Virtual Reality Technology

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Aim(s): This study was aimed to develop a prototype for nursing simulation contents based on Virtual reality (VR) technology.

Method(s): This methodological study was conducted through literature review on previous studies, composition of prototype development participants (nursing expert, technical expert, and 3D modeler), expert advice, examination of content validity, prototype design and development. The research period was from October 2020 to April 2021. The final prototype was implemented based on Unreal Engine 4.

Result(s): The overall operation stage of simulation was designed into four stages: orientation, pre-practice, simulation practice, and follow-up activities. The prototype contents were designed according to the Han's principles of virtual reality simulation design and guideline (2019): 1) principle of matching authentic problems in reality, 2) principle of judgement that is suitable for VR technology, 3) principle of similarity to real environment, 4) principle of structural planning, 5) principle of implementing the professional approach, 6) principle of conceptualizing deployment of simulation activity, 7) principle of simple to complex process, 8) principle of virtual recognition, 9) principle of the same operation and selection as reality, 10) principle of providing information, 11) principle of promoting critical thinking, 12) principle of reflection on the whole simulation. By referring to Jeffries's simulation design, six scenarios of hospitalized children with pneumonia were constructed and content validity was evaluated (CVI=0.99).

Conclusion(s): To maximize the effect of virtual reality-based simulation in nursing education, VR contents should be developed through virtual reality-based simulation design that incorporates the characteristics of VR education and learning components of traditional simulation, rather than simply using VR devices as a training method for existing simulation scenarios. Follow-up study should be conducted to analyze the learner's reaction and confirm the dynamics of the virtual reality contents in real setting.

Keywords: Nursing Education, Simulation, Virtual Reality, Virtual Reality Contents

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Development of Instruments Regarding Knowledge, Practice, and Perceived Barriers for End-of-Life Care among Health Care Professionals caring for Terminal Cancer Patients

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Aim(s): For the quality of care for cancer patients at the end of their lives, the healthcare professional's competency regarding the end of life care is crucial. By measuring the competency of healthcare providers, an education program relating to a quality end-of-life care should be established. The purpose of this study was to develop instruments for identifying the knowledge, practice, and perceived barriers to end-of-life care among healthcare professionals caring for terminal cancer patients.

Method(s): This study was designed to use methodological research. To measure the knowledge and practice of medical staff in end-of-life care, the first draft of the instrument was developed based on three national and international clinical practice guidelines, including "The end-of-life care clinical practice guidelines" (2020) by the Korean Society of Hospice and Palliative Medicine, the National Cancer Center, and the Ministry of Health and Welfare; "Care of dying adults in the last days of life" (2016) by the National Institute for Excellence in Health and Care; and "Palliative care Version II" (2021) by the National Comprehensive Cancer Network. The first draft of the instrument consists of core items that were suggested for at least two of the guidelines. There were 20 initial items of knowledge, 16 items of practice, and 8 items of perceived barriers to end-of-life Care. To validate the developed instrument, 2 oncologists and 4 nurses with master's degrees or higher and caring for cancer patients were evaluated for validity of content. In addition, the items related to perceived barriers were corrected and supplemented after receiving comments from them.

Result(s): After expert validation, all items met the criteria except 1 with a CVI of less than 0.8. That item was deleted. Finally, 19 items of knowledge, 16 items of practice, and 12 items of perceived barriers regarding end-of-life care were established. The items consist of questions about imminent death, interventions in physical and psychological symptoms, and communication.

Conclusion(s): This survey instrument was reported as applicable to both doctors and nurses, and as relevant to measuring health care providers' knowledge, practice, and perceived barriers to end-of-life care. This instrument would be helpful in identifying and reducing the gap between the two groups in team nursing that require cooperation for end-of-life care. Ultimately, it provides basic data for research to provide high-quality end-of-life care to terminal cancer patients.

Keywords: end-of-life care, knowledge, practice, perceived barriers, instrument development

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Performance Confidence and Clinical Practice Satisfaction according to the Core Basic Nursing Skills Experiences

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Aim(s): A descriptive study was carried out to determine the correlation between the performance confidence and clinical practice satisfaction according to the core basic nursing skills experiences of nursing students in clinical nursing practice education.

Method(s): The subjects of this study were 288, 4th year students that experienced at least 2 semesters of clinical nursing practice education in 3 nursing colleges located in **city. Data was collected from June 11, 2019, to August 23, 2019. Data analysis was conducted using SPSS WIN 25.0 employing t-tests, ANOVA, Pearson's correlation coefficient, and hierarchical multiple regression.

Result(s): The effects of the core basic nursing skills experience and performance confidence of the core basic nursing practitioner on clinical practice satisfaction were examined. The regression equation of the step 1 model was statistically significant(F=5.93, p<.001), and the 13.4% clinical practice satisfaction was obtained. In step 2 where the general characteristics were restricted and the core basic nursing skills experience and performance confidence were inputted as independent variables, the validity of the model increased to 19.3% and the step 2 model was also statistically significant(F=7.25, p<.001).

Conclusion(s): The experience of directly performing or observing core basic nursing skills affects the performance confidence. Therefore, it is necessary to create a clinical practice education environment that can be performed or observed in teaching method of core basic nursing skills, and to prepare the education plan that the nursing students can directly experience.

Keywords: Performance confidence, Clinical practice, Nursing Skills

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A Path Model from Stress Perception to Suicidal Ideations of Male University Students: The Role of Early Psychosis

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Aim(s): The purpose of this study was to establish the path of male university students' suicidal ideations and to verify them empirically.

Method(s): Data were collected from male students (N=221) of a university in G city between April 1st and June 30th, 2018. Subjects filled out questionnaires about suicidal ideations, depression, early psychosis, somatic symptoms, stress perception, dysfunctional impulsivity, and problem focused coping style. Research model was tested using path modeling to determine the factors that influence male students' suicidal ideations.

Result(s): The key findings demonstrated that suicidal ideations of male university students was directly influenced by early psychosis (β=.28, p=.001), stress perception (β=.22, p=.003), problem focused coping style (β=.16, p=.006) and depression (β=.15, p=.032). The path model also showed that suicidal ideations were indirectly affected by somatic symptoms (β=.14, p=.001) and stress perceptions (β=.14, p=.001), depression (β=.09, p=.001) and problem focused coping style (β=−.07, p=.002).

Conclusion(s): In this study, suicidal ideations were increased by early psychosis, stress perception, and depression. In addition, depression was positively related to somatic symptoms and stress perception, but negatively related to problem focused coping style. Based on the results of this study, we will expect to develop and apply suicide prevention programs.

Keywords: Suicidal Ideation; Stress; Psychosis

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Effects of a Group Counseling Program using MBTI on Self-acceptance, Acceptance of others, and Friendships of Nursing Student

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Aim(s): The purpose of this study was to investigate effects of a group counseling program using MBTI (Myers-Briggs Type Indicator) on self-acceptance, acceptance of others, and friendships of nursing students.

Method(s): The participants were 42 nursing students in G City, including an experimental group (n=21) and a control group (n=21). The research was carried out from April to June, 2021. The intervention was provided to the experimental group once a week over 8 weeks, for 90 minutes per session. Date were analyzed using χ2-test and independent t-test with the SPSS/WIN 12.0 program.

Result(s): Experimental group who took part in the group counseling program using MBTI had higher self-acceptance scores (t=3.37, p=.002), acceptance of others (t=2.14, p=.038), and positive friendships (t=2.78, p=.008) than the control group that did not participate.

Conclusion(s): The results indicate that a group counseling program using MBTI enhanced self-acceptance, acceptance of others, and positive friendships of nursing students. Therefore, it is suggested to use the group counseling program using MBTI as one of effective programs to improve self-acceptance, acceptance of others, and positive friendships of nursing students.

Keywords: Acceptance; Friendship; Nursing; Student

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The Use of Cold Compress and Early Mobilization to Reduce Pain in Post Vacuum Extraction's Care : Evidence Besed Nursing Practice

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Aim(s): The study aimed to examine the intervention of cold compress and early mobilization in reducing perineal pain and increasing comfort in postpartum mothers after vacuum extraction.

Method(s): The evidence-Based Nursing Practice (EBNP) was performed in four stages: 1) determining the feasibility of the study protocol, 2) recruiting clients as respondents through the convenience sampling technique, 3) providing intervention and measurement, and 4) processing, analyzing, and evaluating data. Case report were collected from five cases, between Pebruary and June, 2021.

Result(s): The five cases managed had an episiotomy with second-degree wounds, perineal pain due to stitches, and different pain scales, which ranged from five to eight. Moreover, the majority of respondents were able to visit the bathroom 24 hours after vacuum extraction in the mobilization stage.The pain scale after the cold compress were decrease which ranged from two to three. There was a 28% decrease in pain intensity before and after the cold compress intervention and early mobilization in postpartum mothers after vacuum extraction. Also, increased comfort was felt by the participants when a cold compress was applied. Four of the five participants stated that the pain was reduced after administration of the cold compress and that early mobilization increased their comfort.

Conclusion(s): The application of cold compress as a non-pharmacological therapy reduce pain by decreasing edema and muscle spasms in the perineum. This method causes paresthesias by reducing the inflammatory response to perineal tissue damage, skin temperature and underlying tissues. Therefore, pain is lessened due to vasoconstriction from decreased blood circulation to the area. Early mobilization can reduce swelling at the suture wound and improve comfort, as well as treat episiotomy suture wounds. Furthermore, cold compress and early mobilization are proven to be effective in reducing the pain scale by 28%.

Keywords: cold compresses, perineal pain, postpartum mothers, vacuum extraction.

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Suicidal Ideation and Depression of Nursing Students in COVID-19 Situation

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Aim(s): As COVID-19 spreads around the world, people become afraid of virus infection and death. The purpose of this study is to investigate the degree of suicidal ideation and depression of nursing students under the COVID-19 situation.

Method(s): This paper was a descriptive research. The subjects who agree to participate to participate in this study consisted of 220 nursing students in Jeollanam-do, Korea. Data were collected though self-reported Google questionnaires form April to May 2021. The instruments were suicidal ideation (5 Likert scale) and Depression (4 Likert scale). The collected data were analyzed the descriptive statistics, independent t-test, ANOVA, and Pearson correlation coefficient.

Result(s): The average score of the subjects' suicidal ideation was 1.60(1~4.22) and the average for depression was 12.92(a score of less than 16: normal). But students with strong suicidal intentions accounted for 5% of the subjects. The suicidal ideation and depression showed a statistically significant positive correlation.

Conclusion(s): Despite the COVID-19 situation, according to the results of this study, the degree of suicidal ideation was not very high, and the level of depression of the subjects was normal range. However, for students with severe depression and high suicidal ideation, who belong to 5% of the subjects, a guidance program is recommended in order to reduce suicidal ideation and depression. Future repeated studies are suggested to students from other regions or subjects of various age groups.

Keywords: depression, suicidal ideation, COVID-19, nursing student

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Nurse Staffing Level and Alternative Policy in the INCS

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Aim(s): The aim of this study is to evaluate the adequacy of the nurse and nurse aid staffing level in an integrated nursing care service through calculating the actual nurse staffing level using the National Health Insurance Service (NHIS) data in South Korea.

Method(s): This study is a retrospective study to evaluate the adequacy of the nurse staffing level. The NHIS data on integrated nursing care service staffing statistics and yearly claimed data were used to identify actual nursing personnel staffing. The ratio of actual staffing level to designated staffing level of each type of hospitals was calculated using the gathered data.

Result(s): A total of 196 hospitals were selected for analyzing the ratio of actual nursing personnel to designated nursing personnel. Approximately 40 % of the hospitals' employed nurses and nursing assistants are close to the threshold of the designated staffing level. In case of nurses, the tendency was more prominent in general hospital (43.5%) than semi & medium hospital (38.3%). Current distribution status of the ratio of actual nurse staffing level to designated nurse staffing level implies that it is difficult to cope with the fluctuations in the demand and supply of nursing personnel, leave and resignation of the nursing personnel and changes in bed occupancy rate.

Conclusion(s): In order to minimize the expenditure on nursing personnel employment, approximately 40% of hospitals tightly manage their nursing personnel staffing level. This distribution tendency is difficult to cope with nursing needs and flexibility on the changes in workforce. As consequence, it may cause inefficiencies and difficulties in the management of nursing personnel in hospitals. Therefore, the development of new staffing standards to compensate for these limitations is necessary.

Keywords: Integrated Nursing Care Service, Nurse management, Nurse staffing

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Effectiveness of SBAR-based simulation programs in nursing students: a systematic review

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Aims: SBAR (Situation, Background, Assessment, and Recommendation) has been extensively used in clinical and educational settings. A structured communication program increases effective communication, education satisfaction, and positivity during interprofessional collaboration among students. This systematic review aims to identify and synthesize evidence on the effectiveness of SBAR-based simulation programs in nursing students.

Methods: A research protocol was developed according to the PRISMA-P guidelines. The protocol of this study was registered on the PROSPERO (CRD42021234068). Eight bibliographical databases were searched for studies published between 2001 and 2021, using relevant search terms. Searches were conducted in PubMed, Embase, CINAHL, and Cochrane Library for literature in English, DBpia, KISS, RISS, and Kisti for literature in Korean. After screening titles, abstracts, and full-text papers, pertinent data were extracted and critical appraisal of the retrieved studies was undertaken. Data were analyzed using the framework approach and findings presented in a narrative summary. We used the Effective Public Health Practice Project (EPHPP) 'Quality Assessment Tool for Quantitative Studies' to assess the quality of included studies.

Results: Twelve studies were included: 3 randomized controlled trials and 9 quasi-experimental studies. Two overarching themes were noted: communication clarity and critical thinking. The results of 6 out of 12 studies produced significant results in favor of SBAR-based simulation in terms of communication clarity. Divergent results were obtained with regard to communication ability, critical thinking, confidence, learning self-efficacy, and attitude on patient safety. The results of these studies highlighted the communication clarity ultimately leads to positive results in terms of patient safety of nursing students.

Conclusion: This review provides a comprehensive update of the literature on the effectiveness of SBAR-based nursing simulation programs in nursing students. These programs were found to have positive learning outcomes as a result of clear, concise communication. Further studies on the effectiveness of various learning outcomes derived from the SBAR-based program are needed.

Keywords: SBAR; Simulation training; Students; Systematic review.

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Relationship between nurses and physicians staffing in intensive care unit and pneumonia and hospital mortality in post- operative patients with ventilators: Cross-sectional analysis

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Aim(s): This study examines the distribution of nurse staffing level and the proportion of dedicated doctors in ICU of tertiary hospitals, and analyzes the effects of these on pneumonia and hospital mortality in people with ventilators after surgery.

Method(s): National Health Insurance (NHI) claim data and death statistics were used. The nurse staffing level and the presence or absence of a dedicated resident and specialist in the ICU were investigated. Generalized estimating equations logistic regression was used to evaluate the relationship between the dependent variable, pneumonia, hospital mortality, and the level of nurse staffing and doctor staffing, adjusting for the covariates.

Result(s): Of the total 11,693 subjects, 307 (2.6%) experienced pneumonia, and 1280 (10.9%) died in hospital during hospitalization. Pneumonia incidence and hospital mortality tended to be lower as the level of nurse staffing improved. Compared to hospitals with Grade3 or higher in nurse staffing, people admitted to hospitals with Grade1 had a statistically significantly lower risk of pneumonia by 72% (OR: 0.28, 95% CI: 0.09 – 0.89) and hospital mortality by 57% (OR: 0.43, 95% CI: 0.19 – 0.99). Dedicated residents in ICU did not statistically significantly affect pneumonia and hospital mortality. The ICU specialist was not associated with the pneumonia, but hospital mortality was statistically significantly associated.

Conclusion(s): Our findings suggest that the optimal level of nursing staff in the ICU is essential for the prevention of pneumonia and hospital death. The legal standards of nurse staffing and dedicated specialists in the ICU should be strengthened in order to improve the quality of care and patient safety.

Keywords: Hospital Mortality; Intensive Care Units; Personnel Staffing and scheduling; Pneumonia

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Retention rates and the associated risk factors of turnover among newly hired nurses at Korean hospitals: a retrospective cohort study

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Aim(s): This retrospective cohort study was conducted for analyzing the turnover rate and the risk factors of turnover among newly hired nurses at tertiary and general hospitals in South Korea.

Method(s): Using National Health Insurance Service data, this study created a cohort of 21,050 newly hired nurses across 304 tertiary and general hospitals in 2018 with a follow-up period of 18 months. Retention and turnover risk factors were analyzed at 6-month intervals. Differences in retention period according to hospitals' characteristics and nurses' characteristics were analyzed using the chi-square test. Survival rates were analyzed using Kaplan–Meier survival curves with the log-rank test, and the hazard ratios of turnover at each retention period were analyzed using multilevel Cox proportional hazards analysis.

Result(s): The turnover rate of newly hired nurses within 1 year of employment was 27.4%, with 20.1% resigning within 6 months and 6.3% resigning between 7 and 12 months. For all retention periods, turnover risk was associated with a higher nurse-to-bed ratio and older age. Higher standardized monthly income was associated with lower turnover between 13 and 18 months.

Conclusion(s): A bundled approach that ensures adequate staffing at medical institutions, raises the salaries of nurses, and improves the work culture at medical institutions will likely be the most effective approach for encouraging newly hired nurses to remain at their jobs for 1 year or more.

Keywords: (less than 4) hazard ratio; newly hired nurse; ; turnover; working period

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Analysis of the Factors and Treatment Status of the pressure ulcer severe patients

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Aim(s): The purpose of this study is to identify general characteristics, mortality rates, average CCI, variables that affect pressure ulcer patients, and the treatment status of pressure ulcer patients using data from the Korean Health Insurance Review and Assessment Service (HIRA). . For the purpose of this study, we focused on the study period between 2017 and 2019.

Method(s): This study is a descriptive study. pressure injuries (PIs) patients were defined according to the AHRQ classification of PIs that occurred during hospitalization. Inpatients with PI were defined using the diagnosis code grade 3 or higher pressure sores (AL892, AL893, AL894) according to the International Classification of Diseases-10th (ICD-10th) revision.

Result(s): The bedsore group had higher mortality and mean CCI values every year than the non-bedsore group. The pressure sore group had a higher average age, longer hospitalization days, and higher treatment costs than the non-bed sore group. In terms of the total number of surgeries, wound closure including marginal resection was the most common with 20,592, with an average of 1.17 per person, up to a maximum of 40. Among the total 544,643 patients with pressure sores, 145,445 (26.7%) received the most inflammatory dressing. The probability of developing bedsores increased by 2.691 (95% CI: 2.666-2.66) times for patients admitted to the intensive care unit and 3.455 (95% CI: 3.392-3.520) times for patients admitted to the isolation room. 6.886 (95% CI: 6.538-7.252) fold with necrotizing fasciitis, 5.680 (95% CI: 5.631-5.730) with sepsis, 3.229 (95% CI: 3.139-3.322) fold with osteomyelitis, 3.229 (95% CI: 3.139-3.322) in the presence of cellulitis increased the risk of pressure sores.

Conclusion(s): It was confirmed that the pressure ulcer patient group had a higher mortality rate and higher cost than the non-bedsore group. Since it has been confirmed that infection increases the risk of pressure sores, infection prevention should be as important as positional change to prevent bedsores.

Keywords: (less than 4)pressure injury; trend; prevalence;

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A Study on the Need for and Expectations of an Asthma Education AR Program for School-age Children in South Korea: Perspective of Children, Parents, Teachers

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Aim(s): This study aims to investigate the needs for school-age asthma education programs for school-age children, parents, and teachers and understand parents' and teachers' expectations for applying augmented reality to asthma education.

Method(s): The participants were 339, 135 school-age children, 132 parents, and 82 teachers. Data were collected from children, parents, teachers of needs for asthma education, the requirement of asthma education, and parents and teachers of expectations for applying augmented reality to asthma education. Data were analyzed using the descriptive statistics, t-test, ANOVA, and Scheffe's test.

Result(s): Asthmatic children, peer groups, parents, and teachers all showed a high need for education for each other. And the education requirements for 'how to deal with asthma attack' was the highest. The application of augmented reality programs to asthma education showed positive expectations from both parents and teachers.

Conclusion(s): It is necessary to develop an augmented reality program for children's asthma education in which asthmatic children, peer groups, parents, and teachers can participate together.

Keywords: Children, Asthma, Education, Augmented Reality

P-382

Reliability and Validity of the Korean Version of Gerry's Assertiveness Scale for Nurses

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Aim: Assertiveness, the ability to express one's rights, thoughts, and feelings while respecting the rights of others, is an essential skill for a nurse to maintain professional boundaries and provide appropriate nursing care in healthcare settings. This study evaluated the validity and reliability of the Korean version of Gerry's Assertiveness Scale (K-GAS) for nurses.

Methods: The K-GAS was developed using a committee translation method: 1) translation by two bilingual translators, 2) back-translation by two bilingual translators, and 3) review of the accuracy and consistency of the K-GAS in the Korean cultural context by six nursing experts and two linguists. Data were collected from 252 nurses from secondary and tertiary hospitals in South Korea. Descriptive statistics, Pearson's correlation coefficient, and Cronbach's alpha were used to evaluate the psychometric properties of the K-GAS. Criterion validity was evaluated using Rathus' Assertiveness Schedule. Correlations with nurses' general characteristics and empathy competency were also examined.

Results: In the item analyses, all items were retained in the final scale. For the total of 30 items, item-total correlation ranged from 0.257-0.626. Skewness (0.000-0.726) and kurtosis (0.009-0.756) for each item were acceptable and met the assumption of normal distribution. Internal consistency of the K-GAS was reliable and Cronbach's alpha was .847. Criterion validity was identified with a high correlation with Rathus' Assertiveness Schedule (r=.743, p<0.01). The level of assertiveness was positively associated with age (r=.167, p<0.01), professional experiences (r=.185, p<0.01), and education level (r=.128, p<0.05). Meanwhile, it was negatively associated with previous communication education (r= -.163, p<0.05) and empathy competence (r = -199, p<0.01).

Conclusion: The Korean version of Gerry's Assertiveness Scale is a valid and reliable tool for measuring the assertiveness of nurses working in hospitals. The scale could be widely used to assess assertiveness among nurses.

Keywords: Nurse, Assertiveness, Empathy, Instrument development

P-383

Symptoms and Management of Post-COVID-19 Conditions: A Scoping Review

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Aim(s): The purpose of this scoping review is to describe published work on symptoms and management of post-COVID-19 conditions

Method(s): A scoping review is suitable for providing a broader perspective on current research on the topic and to "map" relevant literature of persistent symptoms and management in patients after COVID-19. Adopting the framework of Arksey and O'Malley for this review, it was carried out according to the following five steps: 1) identifying the research question; 2) identifying relevant literature; 3) selecting literature; 4) charting the data; and 5) collating, summarizing, and reporting the results. A literature search was conducted to retrieve articles published between May 2020 and March 2021 in CINHAL, Cochrane library, Embase, PubMed, and Web of science, including backward and forward citation tracking from the included articles. Among 1,880 articles retrieved, 34 articles met our criteria for review: 21 were related to symptom presentation and 13 were related to the management of post-COVID-19.

Result(s): Post-COVID-19 symptoms were described in 21 articles. In most articles, the follow-up period after COVID-19 treatment ranged between 30 days and 90 days. After getting treated from COVID-19, hospitalized patients most frequently reported dyspnea followed by anosmia/ageusia, fatigue, and cough, while non-hospitalized patients most frequently reported cough, followed by fever, and myalgia/arthralgia. Fourteen articles reported the presence of persistent symptoms which ranged between 49.6% and 100% of the participants in 13 articles and 20% of the participants in one article. Management for post-COVID-19 was described in 13 articles. The focus of the reported management for post-COVID-19 was a multidisciplinary approach in seven articles, pulmonary rehabilitation in three articles, fatigue management in two articles, and psychological management in one article.

Conclusion(s): A proportion of people continue to experience diverse symptoms from COVID-19 after the treatment. However, protocols or guidelines for evidence-based multidisciplinary management for post-COVID-19 conditions were limited in the literature. As the COVID-19 pandemic is expected to extend due to the mutation of the virus, evidence-based multidisciplinary management guidelines need to be developed and disseminated.

Keywords: management; post-COVID-19; scoping review; symptoms

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Reconstructing hope with the breast: A meta-synthesis of the meaning of breast reconstruction in women breast cancer survivors

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Aim(s): Breast cancer is the most frequent cancer in women worldwide. Nowadays breast reconstruction is broadly recommended to increase the quality of life and to reduce psychological distress by improving body image. However, little is known about what breast reconstruction ultimately means for women with breast cancer. This study aimed to examine the meaning of breast reconstruction in women breast cancer survivors by synthesizing qualitative research on the lived experience of the women who had undergone breast reconstruction.

Method(s): A literature search using a combination of the keywords 'breast reconstruction' and 'qualitative research' was conducted in PubMed, CINAHL, EMbase, PsycInfo, ProQuest, and SCOPUS. Peer-reviewed journal articles, published in the last two decades from 2001 to 2020, were included in this research. A total of 22 qualitative studies were yielded and subjected to critical appraisal to ensure the integrity of findings. Meta-synthesis process developed by Sandelowski and Barroso was used to integrate findings across the studies.

Result(s): Four core themes were identified: (1) restoring the disfigured body, (2) rebuilding the feminine self, (3) reconnecting the self to significant others, and (4) recovering from the psychological trauma due to breast cancer. Women with breast cancer regarded breast reconstruction as a healing process to returning the normal life as well as a surgical procedure to reshape the damaged body. Breast reconstruction enabled breast cancer survivors to regain the societal image of women, to reunion intimate relationships, and as a result, overcome stigma from breast cancer.

Conclusion(s): This meta-synthesis develops an integrated interpretation and explanation of the meaning of breast reconstruction in women breast cancer survivors. This study provides insights and improves understanding of the holistic view on breast reconstruction for women with breast cancer. This may allow health professionals to provide appropriate and supportive counseling intervention for breast cancer patients.

Keywords: Breast Neoplasms, Breast Reconstruction, Women, Meta-synthesis

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The Relationship between Sarcopenic Obesity and Lower Limb Function after Total Knee Arthroplasty in the Elderly with Osteoarthritis

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Aim: This study aimed to investigate the relationship between obesity, sarcopenia, sarcopenic obesity and lower limb function after total knee arthroplasty (TKA) in the elderly with osteoarthritis

Methods: This study analyzed the data obtained from the medical records of 260 patients who underwent TKA and rehabilitation treatment for knee osteoarthritis in a university hospital between June 2014 and December 2019. Analysis of covariance was used to examine the relationship between obesity, sarcopenia, sarcopenic obesity, and lower limb function after TKA.

Results: The mean age of the patients was 72.7 years, and 225 patients (86.5%) were female. The prevalence of obesity, sarcopenia, and sarcopenic obesity was 51.2%, 15.4% and 6.2% respectively. Among the lower limb functions after TKA, knee joint range of motion (ROM) extension angle (F=4.50, p=.004), stair-climbing test (SCT) ascent (F=2.73, p=.045), and SCT descent (F=2.74, p=.044), six-minute walk test (F=5.02, p=.002) were significantly different according to the degree of obesity. Knee joint ROM flexion angle (F=5.14, p=.024), isometric knee extensor strength (F=4.52, p=.034), and SCT descent (F=6.09, p=.014) were significantly different between patients with and without sarcopenia. Isometric knee flexor strength (F=3.97, p=.047), timed up and go test (F=5.83, p=.016), SCT ascent (F=6.98, p=.009), and SCT descent (F=8.96, p=.003) were significantly different between patients with and without sarcopenic obesity.

Conclusion: In conclusion, obesity, sarcopenia, and sarcopenic obesity were all identified as variables that negatively affect the lower limb function of elderly patients with osteoarthritis who had undergone TKA. Thus, comprehensive assessment and management, including evaluation of risk factors for obesity, sarcopenia, and sarcopenic obesity, should be considered in elderly patients with osteoarthritis.

Keywords: Obesity, Osteoarthritis, Sarcopenia

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Ethical Issues Experiences and Professionalism of Intensive Care Unit Nurses

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Aim(s): The purpose of this descriptive correlational study was to provide foundational materials for re-establishing measures to resolve ethical conflicts and re-establish the role and attitude of nurses by examining the experience of ethical issues and professionalism among the nurses working in ICU.

Method(s): A total of 141 ICU nurses working in a general hospital located in city D and S participated in this study. The data were collected from September 1 to October 21, 2020, using a structured questionnaire based on a measurement tool for ethical issues, problem-solving methods for ethical issues (Fry and Damrosch, 1994), and professionalism (Hall, 1968). The collected data were analyzed with t-test, ANOVA, and Pearson's correlation coefficients using SPSS version 26.

Result(s): The most frequently experienced ethical issue ICU nurses was "Conflicts in the nurse-physician relationship." The most difficult ethical dilemma experienced by the nurses was "Providing care with a possible risk to your health." The average score of professionalism of participants was 3.39±0.45. The average score for the item stating that "Nurses must be in society" was the highest. There was no statistically significant correlation between ethical issues and professionalism of the participants. However, there was a significant positive correlation between ethical issues and autonomy which is a subcategory of professionalism. The patient care issue, which is a subcategory of ethical issues, had a significant positive correlation with autonomy and public service motivation which are subcategories of professionalism.

Conclusion(s): It can be inferred that participants with a higher level of autonomy or public service which is a subcategory of professionalism, were more likely to experience ethical issues. The significance of this study is that it provided basic materials for establishing measures to resolve ethical issues experienced by ICU nurses, promoting institutional support, and developing an educational program for re-establishing the role and attitude of nurses.

Keywords: ethical issues, intensive care unit, nurse, professionalism

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The Effects of Interprofessional education program for Nursing and Medical students

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Aim: To evaluate interprofessional education (IPE) program for collaborative communication and teamwork enhancement in undergraduate nursing and medical college students.

Methods: This study was a one-group pretest-posttest design to evaluate readiness for interprofessional learning and understanding each other's professional roles for 4th-grade nursing students and 6th-grade medical students who received three interprofessional education sessions together. This IPE program was developed for enhancing collaborative communication, role and responsibility, and critical thinking. The education sessions lasted for eight hours with three sessions, and constituted of active learning methods with games, team-based learning using short movies, and simulation with low-fidelity simulators. We used RIPLS (Readiness for Interprofessional Learning Scale) and word cloud analysis to evaluate the effectiveness of the program.

Results: Seventy-eight nursing students and 78 medical students (n=156) participated in the program. The RIPLS was analyzed by paired t-test. The total RIPLS scores increased after the IPE program (80.8, t=9.34, p<.005). All the four subcategories of RIPLS (teamwork and collaboration (t=8.13, p<.005), negative professionalism (t=2.26, p=.03), positive professionalism (t=6.61, p<.005), and role and responsibility (t=3.13, p=.002)) were significantly increased after the IPE. Most of the students reported huge changes in their thought of each other professional and realized that communication, collaboration, respect, trust, and teamwork are very critical in clinical works.

Conclusions: These findings showed that IPE program is effective in enhancing teamwork and communication. The program can help healthcare professionals to achieve quality of care and patient safety through effective collaborations.

Keywords: Interprofessional education, communication, teamwork,

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Evaluating nurse burnout factors in the post-COVID-19 era:
A cross-sectional study in South Korea

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Aim(s): The purpose of this study was to investigate factors that influenced burnout among nurses in South Korea in the post-COVID-19 era.

Method(s): For this cross-sectional study, we recruited a convenient sample of 300 nurses to investigate the influence of sociodemographic characteristics, work environment factors, psychological factors, and coping behavior on burnout. Data collection was conducted online in June 2021. Multiple linear regression was used to identify factors that influenced the burnout of nurses.

Result(s): Our regression models explained 55.8%, 45.8%, and 34.3% of the variances for three sub-concepts of burnout, emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion was influenced by work experiences, experiences in the current department, working overtime, shift type, emotional labor, job stress, and depression. Depersonalization was influenced by gender, hospital size, working department, working overtime, emotional labor, depression, and choice of coping strategies. Personal accomplishment was influenced by work experience, shift type, perceived threat to COVID-19, and resilience.

Conclusion(s): Each concept of burnout had different influential factors. Health care institutes need to provide systemic support that is tailored for each emotional exhaustion, depersonalization, and personal accomplishment. Especially for personal accomplishment, the level of the perceived threat to COVID-19 should be evaluated and managed.

Keywords: burnout; nurses; post-COVID-19

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The relationship between nurse managers' leadership and patient safety and quality of care: A systematic review

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Aim(s): To examine the relationship between nurse managers' leadership and patient safety and quality of care in hospital settings.

Method(s): Online literature search was conducted, following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines, besides manual searching. On four databases, the search terms used were: "nurse leadership," "nurse manager," "nurse administrator," "patient safety," "patient outcome," "quality of care," "care quality," and "hospital*." The inclusion criteria for this review were studies that examined nurse managers' leadership, investigated patient safety or quality of care as outcome variables, comprised samples of nurses working in hospital settings, employed quantitative study designs, and were published in the English language between 2011 and 2021.

Result(s): This review included 12 studies. Two studies were conducted in Canada, two in Iran, two in the United States, and one each in Brazil, Ghana, Jordan, Pakistan, the Philippines, and South Korea. Three studies used a theoretical framework. Transformational leadership was positively related to quality of care, and negatively to frequency of adverse patient outcomes. Ethical leadership was negatively associated with frequency of nursing errors and positively with frequency of error reporting. Authentic leadership was positively related to quality of care but was insignificant to frequency of adverse patient outcomes. Transactional leadership and toxic leadership had negative association with quality of care. Toxic leadership was also associated with an increased frequency of adverse patient outcomes. Studies measuring non-specific leadership—such as nursing managers' ability and support—and team leadership reported inconsistent results.

Conclusion(s): The use of transactional and toxic leadership should be avoided while reinforcing transformational and ethical leadership of nurse managers that positively affect patient safety and quality of care. Future research is needed to elucidate the systematic mechanism between leadership and patient safety and quality of care based on theoretical frameworks.

Keywords: Nursing leadership, patient safety outcome, quality of care

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Development of the Content of Prenatal Education Programs using Virtual-Reality for Pregnant Women with Preterm Labor

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Aim(s): The study aimed to develop the content of prenatal education programs for reducing anxiety and stress levels using virtual-reality for women with preterm labor.

Method(s): The design of this study was an experimental study, and the theoretical framework was based on the Interaction Model of Client Health Behavior (IMCHB) of Cox (2003). To develop virtual-reality prenatal education programs, we applied the ADDIE model which was conducted in five stages: analysis, design, development, implementation, and evaluation. The participants were 5 experts and 6 pregnant women with preterm labor.

Result(s): As a result, the contents of education were knowledge of preterm labor, relaxation, examination and treatment, symptoms and health management, and home care education, which consisted of six categories and 19 items. The virtual-reality education programs were conducted according to the planning, filming, editing, and completion. The scenarios, flowcharts, and scene configurations were made based on the education content. The prenatal education programs using virtual-reality were developed to enable training using Head Mounted Display (HMD). After receiving prenatal education programs using virtual- reality, the anxiety and stress decreased statistically significantly in 6 pregnant women with preterm labor. ($p < .001$). It was verified that the prenatal education programs using virtual-reality are effective education program for pregnant women with preterm labor' anxiety and stress levels.

Conclusion(s): The study was meaningful in that it developed a nursing intervention using virtual-reality through based on theories and scientific procedures. In the future, it should be conducted to verify the effectiveness of the program developed in this study.

Keywords: preterm labor, nursing education, women, virtual-reality

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A Study on the Educational Needs of People with T1DM and Their Parents

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Aim: Type 1 diabetes is a generally unknown disease that requires lifelong disease management and affects not only the patients but also their parents. Therefore, the importance of educating both is emphasized. This study aims to investigate the educational needs of type 1 diabetes patients and their parents.

Method: This was a cross-sectional study. Participants comprised type 1 diabetes patients (100) and their parents (93). Data were collected via an online survey and analyzed by descriptive statistics and independent t-test. Statistical analyses were performed using IBM SPSS version 25.0.

Results: Complications management, disease characteristics, and exercise were found to be the highest educational needs of type 1 diabetes patients and their parents. The following educational needs differed between patients and parents: complication management ($t = -2.33$. $p = .021$), exercise ($t = -2.13$, $p = .034$), continuous management ($t = -2.87$, $p = .005$), diet ($t = -2.13$, $p = .035$), psychosocial needs ($t = -3.45$, $p = .001$), and risk factors ($t = -2.22$, $p = .028$). Regarding psychosocial needs, social life was the most needed (3.40 ± 0.82) in terms of disease management and how to have a social life with the disease.

Conclusions: There is a difference in education needs between type 1 diabetes patients and their parents. Therefore, based on the results of this study, developing an education program tailored to their needs is necessary.

Keywords: Diabetes, T1DM, parents, needs, education

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The level of Shared Medical Information and Health Outcomes for Elderly patients Referred to Emergency Medical Centers

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Aim: This study was conducted to examine the relationship between information sharing and health outcomes (length of stay in emergency department, length of stay at the hospital, and unexpected revisit to emergency department) for elderly patients transferred from long-term care hospitals (LTCHs) or facilities (LTCFs) to the emergency department (ED).

Methods: This study analyzed the medical records for 452 cases of 362 elderly patients aged 65 years or older who were transferred from July 1, 2017 to June 30, 2018 from LTCHs or LCTFs to the ED in a university hospital in Korea.

Result(s): The total number of cases where the participants were referred was 452; women accounted for 302 (66.8%), and the mean age was 82.6 years. In the type of health institution from which the participants were referred, LTCFs accounted for the most with 275 cases (60.8%). Regarding consciousness status in referrals, the "alert" accounted for 269 cases (59.5%). In the Charlson comorbidity index, those with "3 points or higher" accounted for the most with 142 cases (48.9%). The number of shared information items was 1.33 on average out of 19, ranging from 0 to 9. In terms of the number of shared information items depending on the type of health institution that transferred the patients, LTCHs showed 3.35±2.92, which was significantly higher than 0.04±0.25 from LTCFs (t=15.01, p<.001). In the relationship between the level of shared information and health outcomes, the length of stay in ED had a significantly negative correlation with the level of shared information (r=−.10, p=.032).

Conclusion(s): The time required to assess elderly patients can be reduced and the patient status can be identified more effectively when more information is shared between institutions during referral, and subsequently, it influences the reduction in the length of stay in ED.

Keywords: Aged, Emergency department, Long-term care

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Factors Affecting Depression in Parents of Type 1 Diabetes Patients

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Aim: This study investigated the factors affecting depression (CES-D) in parents of patients with type-1 diabetes mellitus (DM), a chronic disease that requires constant management. The complex set of factors influencing depression in parents of type-1 diabetes patients requires further research.

Method: This is a cross-sectional descriptive study in which a survey on the related variables (resilience and sleep quality) was administered to 217 parents of type-1 diabetes patients. In addition, demographic characteristics of participants (age, gender, occupation, religion, number of children, ranking of children with type 1 diabetes, diabetes education, source of information) and disease-related characteristics of children with type 1 diabetes (age, gender, disease duration, complications, HbA1c) were investigated. The collected data were analyzed using the PASW Statistics program, and the factors influencing participants' depression were identified through stepwise multiple linear regression.

Results: Among the subjects, 57 were good sleepers and 160 were poor sleepers. The results showed that three variables of source of information (B = 3.28), resilience-personal competence ((B = 0.20), sleep quality (B = 1.50) exerted a significant effect on depression, and the three variables together explained 44.1% of the variance in depression (F =57.32, p<.001). Parents of type 1 diabetic patients were less depressed when the source of information was personal, when their resilience-personal competence was high, and when their PSQI score was low.

Conclusions: Interventions targeting parents of type-1 diabetes patients should provide positive information to help them manage diabetes in their children, increase their resilience-personal competence, and lower their PSQI scores.

Keywords: depression; sleep quality; resilience; type 1 DM, parents

P-400

Effect of Self-management Nursing Intervention for Controlling Glucose among Patients with Diabetes: A Systematic Review and Meta-analysis

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Aim: This study aims to identify the overall effects of self-management nursing interventions on primary (HbA1c) and secondary (self-care, self-efficacy, FBS, BP, lipid, BMI, waist circumference, distress, anxiety, depression, QOL) outcomes in diabetes. Because self-management is important in diabetes with chronic characteristics, various intervention methods have been tried in this area.

Method: Systematic review and meta-analysis were used. Searching 12 databases yielded 23 articles published until May 31, 2021. Keywords were selected according to the Population Intervention Comparison Outcome format using MeSH terms and text words. The meta-analysis involved the synthesis of effect size, tests of homogeneity and heterogeneity, trim and fill plot, Egger's regression test, and Begg's test for assessing publication bias. This study was performed based on the Guidelines of the Systematic Reporting of Examination presented in the PRISMA checklist. The search protocol is registered at the PROSPERO International Prospective Register of Systematic Reviews.

Results: The overall effect on HbA1c was -0.55, suggesting a moderate effect size. After nursing interventions, the HbA1c decreased significantly. In terms of type of nursing interventions, the overall effects on HbA1c of the nurse management program, home visiting, and customized programs were -0.25, -0.61, and -0.65, respectively, indicating small to medium effect sizes; all were statistically significant.

Conclusions: Based on the results of this study, healthcare professionals may encourage patients with diabetes to engage in the self-management of their glucose control, such as a patient-centered customized intervention. Interventions that reflect an individual's characteristics and circumstances are effective in enabling self-management.

Keywords: Diabetes, T1DM, T2DM, Self-care, Self-management, HbA1c, Meta-analysis, Systematic review

P-401

Prediction of Symptom Deterioration using Deep Learning for Acute Stroke Patients

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Background and Aim(s): Symptom deterioration in acute stroke patients is most likely early in the outbreak, and nursing for early predictions of symptom deterioration can help demonstrate the effectiveness of nursing as well as patients. This study was to verify the prediction rate of deterioration of symptoms in acute stroke patients using artificial intelligence.

Design/methodology/approach: This study performed using TensorFlow, an open source software library for numerical computation and machine learning developed by Google. The multiple neural network were composed with two input layers, one output layer and 5 hidden layers.

Findings: Data of 791 patient who undergone with acute stroke between 2020 and 2021 in a hospital were collected. The TensorFlow algorithm correctly predicted for 81.3% of symptom deterioration of acute stroke patients.

Conclusion: The TensorFlow such as a Deep Learning algorithm provides a promising approach for nursing for prediction of symptom deterioration in patients with acute stroke. It will be necessary to build a dense neural network to increase the prediction rate of deterioration.

Keywords: Artificial intelligence, Tensorflow, Acute Stroke

P-402

Development of SNS-based bone health promotion program for college students with osteopenia

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Aims: Recent studies show that the frequency of osteopenia increases as a result of the bone density test in college students. In order to improve this problem, it is necessary to educate college students on the importance of bone health through education on bone health problems. This study aims to contribute to strengthening and maintaining continuous bone health promotion by developing an SNS-based bone health promotion program for college students with osteopenia

Methods: This study is to develop a bone health promotion program for college students with osteopenia. The theoretical framework for program development is based on the IMB model, and ADDIE 5 steps are applied. The program content was constructed by analyzing the needs through literature review and focus group interviews. Education content, operation method, goal setting, and self-monitoring were designed as 8 sessions for 4 weeks. Contents on bone health education, exercise, and eating habits were developed using SNS. The developed program was subjected to a pilot test twice a week for focus groups, and received user evaluation and expert evaluation.

Results: The program developed in this study was constructed in consideration of the IMB model-based promotion strategy based on the results of literature review and demand survey. This program consists of SNS contents on 'Definition of Bone Density Reduction', 'Exercise for Bone Health Promotion', 'Nutrition' and 'Lifestyle'. There are self-monitoring, expert advice and positive feedback. The effectiveness of this research program was confirmed through the first PILOT test that the user's satisfaction with the program's progress was high.

Conclusion(s): This study has significance in that it developed a nursing education program using the SNS method most used by college students. A variety of interventions accessible to the subjects should be developed. And the programs developed in the future should be more generalized through effectiveness verification.

Keywords: osteopenia, bone density, nursing

P-404

Interprofessional Educational Interventions in Undergraduate Nursing Programs: A systematic review

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Aim(s): To systematically synthesize evidence on interprofessional educational interventions developed in undergraduate nursing programs.

Method(s): Literature search was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis guidelines on four electronic databases, using the search terms "nursing student*," "interprofessional education," "interprofessional relations," "interprofession*," "IPE," "motivation," "attitude," "self-concept," "perception," "satisfaction," and "skills." Manual literature search helped identify other potentially eligible articles. The inclusion criteria were studies that provided interventions in undergraduate nursing programs for more than two days; reported assessment outcomes of students' knowledge, skills, or attitudes; employed quantitative research designs; and were published in the English language between 2011 and 2021. The mixed-method appraisal tool evaluated the quality of shortlisted studies.

Result(s): Seven studies published between 2013 and 2020 were included in this review. Four studies were conducted in the US, and one each in the UK, Hong Kong, and Mexico. Only one study applied a theoretical framework. The number of participating nursing students in these studies ranged from 32–140. There was participation of undergraduate students from at least one other health care profession such as medicine or pharmacy. While in-class sessions with group discussions and case scenario simulations were key educational strategies, two interventions offered virtual and computer-mediated blended learning modules. The interprofessional group sizes ranged from 3–25 students and intervention durations ranged from 10 days to 12 months. The interventions' contents were varied: interprofessional communication, teamwork, perceptions and attitudes of students, and interprofessional collaborative work skills. While all interventions improved the interprofessional competencies of nursing students, differences were observed between nursing and medical students in three studies that examined collaborative work skills or stereotypical views of each profession.

Conclusion(s): Interprofessional educational interventions in undergraduate nursing programs were effective in improving the interprofessional competency of nursing students. Differences among professional groups should be explored further.

Keywords: Interprofessional competency, Interprofessional education, Nursing curriculum, Nursing education

P-405

The Effect of Combined Body Mass Index and Waist Circumference on Mortality: Korean National Health Insurance Service Medical Checkup Cohort Study

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Aim(s): The objective of this study was to investigate the effect of combined Body Mass Index (BMI) and Waist Circumference (WC) on mortality.

Method(s): We included 139,252 participants who conducted the Korean National Health Insurance Service medical checkup from baseline (2009-2010) and follow-up (2015). WC was divided into five categories by 5cm and group 2 (86-90cm in men and 81-85cm in women) was referenced. BMI was divided into four categories; underweight (<18.5 kg/m²), normal weight (<23kg/m2), overweight (<25kg/m²), Obese (≥ 25kg/m²). We performed a survival analysis using a Cox proportional hazard models to examine the risk of mortality associated with BMI and WC.

Result(s): In both men and women, 1cm increment in WC increased all-cause mortality by 2% after adjusting for all covariates including BMI. Especially in men, group 4 and group 5 of WC showed higher all-cause mortality than group 2. On the other hand, 1kg/m² increment in BMI reduced all-cause mortality by 10% for men and 8% for women. Compared with the normal weight group, mortality of underweight group showed 1.51 times higher in men, and 1.7 times higher in women. Both men and women tended to increase all-cause mortality as WC increment by 5 cm in the same weight group; normal weight and overweight, and obese group.

Conclusion(s): BMI and mortality were negatively correlated, while WC and mortality were positively correlated. As underweight group had high mortality rate in both men and women, it is important to maintain a proper weight rather than to lose weight unconditionally. Also, it is necessary to control the WC because increased WC tends to increase mortality in the same weight group, even in the normal weight group. Therefore, we should measure not only their height and weight, but also their waist circumference to maintain proper health.

Keywords: Body Mass Index, Mortality, Obesity, Waist Circumference

P-407

Structural Equation Modeling of Student Adaptation to College in Chinese International Students: The Application of Broaden-and-Build Theory of Positive Emotions

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Aim(s):The purpose of this study was to establish a structural equation model of student adaptation to college in Chineses international students by building a hypothetical model and verifying the fit of the model. The hypothetical model was constructed based on Fredrickson and Cohn's broaden-and-build theory. The exogenous variable was positive emotion and the endogenous variables were positive thought, physical symtoms, interpersonal relationshion, self-efficacy, and student adaptation to college.

Method(s):The data were collected with a structured self-reporting questionnaire from July 2nd to 20th, 2020, for Chinese international students attending an University in Gwangju, South Korean, who agreed to participate in the research. Participants were 339 undergraduate students who are over 19 ages. The collected data were analyzed the characteristics of the participants, descriptive statistics, and normality of measurement variables, reliability of measurement instruments, correlation and multi-collinearity of measurement variables using SPSS Statistics 23.0 program, while has verified the validity of measurement variables and model, model fit, and hypothesis using AMOS 23.0 program.

Result(s):1. The hypothetical model didn't meet the criteria of model fit, especially TLI value. Therefore, the hypothetical model was corrected by setting the covariance between the error variances of student adaptation to college. The fit index of the modified model was Q(χ2/df)=3.747, RMSEA=.090, SRMR=.046, CFI=.915, TLI=.903, which was acceptable.
2. All of sixteen hypotheses selected for the model were statistically significant, and the explanatory power of the variables of student adaptation to college was 56.0%.
3. The variables that have a statistically significant direct effect on student adaptation to college of Chinese international students were physical symptoms(β=-.465, p<.001), interpersonal relationship (β=.201, p<.001), and self-efficacy (β=.427 p<.001). The variables that have a statistically significant indirect effect on student adaptation to college were positive emotion and positive thought.
4. Bootstrapping method was performed using phantom variables for testing specific indirect effects. The positive thoughts and personal resources (physical symptoms, interpersonal relationship, self-efficacy) were significantly mediated between positive emotions and student adaptation to college.

Conclusion(s): According to these results, it is proposed to provide strategies and education to promote self-efficacy and to reduce physical symptoms in Chinese international students. Also, in order to improve the student adaptation to college of Chinese international students, universities that receive foreign students should make efforts to improve their positive emotions.

Keywords: Chinese international students, Adaptation, Self-efficacy, Positive emotion, Positive thought

P-408

Development and Evaluation of Autonomy Support Program using Mobile for Prevention of Metabolic Syndrome in Middle-Aged Women

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Aim(s): This study was to examine effects of the autonomy support program using mobile on basic psychological needs, autonomous motivation, health behavior, and metabolic syndrome indicator in middle-aged women.

Method(s): A quasi-experimental pretest and posttest design was used. A total of 47 participants (experimental 24, control 23) were middle age women who had one or two symptoms of 5 risk factors of metabolic syndrome, which are waist circumference, blood pressure, triglyceride, high density cholesterol, and fasting blood glucose. Autonomy support program using mobile was main strategies of the program being self-selection, proper goal settings and motivation, improving sense of ability, providing information for clear evidence presentation, perceiving internal conflict, providing positive feedback and emotional recognition of subjects. The program effects were measured by basic psychological needs (autonomy, competence, and relatedness), autonomous motivation, health behavior, and metabolic syndrome indicator. The collected data were analyzed using descriptive statistics, chi-square test, t-test, and paired t-test.

Result(s): There were significant differences in autonomy, competence, autonomous motivation, health behavior, circumference, and systolic blood pressure between the experimental and control groups. Relatedness, diastolic blood pressure, triglyceride, high density cholesterol, and fasting blood glucose improved in the experimental group compared to the control group, but the differences were not significant.

Conclusion(s): The autonomy support program provides the health care system for middle-aged women with accessibility to the local community and cost effective strategy. Therefore, we expect that the program will be utilized as the nursing intervention in all aspects of nursing practice.

Keywords: Health Behavior, Metabolic Syndrome, Mobile Application, Personal Autonomy

P-410

Predicting Home- and Community-based Service Utilization in the Republic of Korea from 2014 to 2019

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Aim(s): This study aimed to describe general characteristics and utilization patterns of patients and health institutions that provide home- and community-based services and attempted to predict patients' utilization amounts with the characteristics in the Republic of Korea from January 2014 to October 2019 using national health insurance administrative data collected to reimburse healthcare services.

Method(s): The study performed a secondary data analysis with a descriptive design. Data were retrieved from the Health Insurance Review and Assessment Services and analyzed with SAS 9.4. Frequencies of visits, total health expenditures, percentages, means, and standard deviations were presented by 17 geographical regions, type of insurance, different age groups, and gender. Primary/secondary medical diagnoses and univariate and multivariate regression models were utilized with the visit frequencies among patients who received hospital-based home care and community-based public health services.

Result(s): Patients between 80–89 years old comprised 33.55% of the sample population, which was the largest patient group from 2014 to 2019. Age groups 70–79 and 60–69 years old followed with 31.3% and 12.42% of the population, respectively. Health utilizations covered by health insurance totaled 84.72% and the insurance of medical care services for the vulnerable was 15.28%. Of 17 geographic regions, health utilization patterns in Seoul and Kyeonggi-do provinces were the highest with 31.8% and 28.6%, respectively. Although we compared hospital-based home care to community-based health care, there were large variations between two groups depending on the general characteristics presented. In the prediction model, only 2.4% of 1-year visit frequencies and 2.3% of 6-year visit frequencies were explained by the final set of variables addressed.

Conclusion(s): The results described current utilization patterns with a nationwide administrative data set. This study showed there was significant focus on hospital-centered health utilization in Korea. This evidence recommends that policymaking should support more effective community-based medical resources utilization.

Keywords: Hospital-based home care, community-based public health service, health-care utilization

P-411

Development and effect of need-based multicultural education program

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Aim(s): As Korea has been accelerating its progress towards a multicultural society, it is no longer unusual to meet multicultural members in the health care field. However, there still are limitations in understanding cultural diversity and using cultural competence. Although many universities currently provide education on multiculturalism in the form of lectures, there is a need for more various approaches and styles to multicultural education. In this context, this study aims to develop need-based multicultural education program and test its effect.

Method(s): This study used a one group pretest and posttest design. Educational needs of 16 nursing students were identified through focus group interview and personal descriptive memos. Need-based multicultural education program was developed based on the demands and was applied to 88 nursing students from September 16 to 27, 2019. The effect of developed program was measured with the Cultural Perception, Cultural Sensitivity, and Cultural Competency Scale. Descriptive statistics and paired t-test were applied to analysis using MedCalc 20.0 program.

Result(s): Approximately 26% of the subjects responded to having multicultural members around them such as friends, relatives, and neighbors. The percentage of subjects with experiences joining the activities of multi-culture related institutions was only 9%, and 66% had educational experiences related to multiculturalism. After the subjects participated in need-based multicultural education program, the scores for cultural perception (<.001), cultural sensitivity (<.001), and cultural competency (<.001) showed statistically significant increase.

Conclusion(s): This study shows that even with few opportunities of direct interactions with multicultural members and not many chances of multicultural education, cultural perception, sensitivity, and competency can be improved through exposure to various multicultural information and experiences. Therefore, it is necessary to provide frequent and diverse education about cultural diversity in step with the expanding multicultural society.

Keywords: cultural diversity, perception, sensitivity, cultural competency

P-412

Factors Affecting Problem Drinking in College Students

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Purpose: This study was attempted to systematically analyze the factors affecting the problem drinking of college students and to provide basic data for establishing a healthy drinking culture and seeking interventions for college students' drinking problems based on this.

Methods: The subjects of this study were convenience sampling of 147 college students attending two four-year universities located in metropolitan city B, and the data collection period was from May 01 to May 15, 2021. Data were analyzed using descriptive statistics, t-test, one-way ANOVA, pearson correlation coefficients, and multiple regression with SPSS/WIN 25.0 program.

Results: The mean scores for drinking culture, drinking motives, and problem drinking were 2.42±.53, 2.32±.67, and .95±.67 respectively. Drinking culture had significant positive correlations with drinking motives (r=.65, p<.001) and problem drinking (r=.69, p<.001), drinking motives had significant positive correlations with problem drinking (r=.60, p<.001). In this study, factors affecting problem drinking were drinking culture (β=.505, p<.001), drinking motives (β=.225, p=.002), and sex (β=−.121, p=.032). The factors explained 52% problem drinking, and the regression equation was found to be statistically significant (F=31.95, p<.001).

Conclusion: Developing and fostering various drinking reduction programs to form a positive drinking culture for college students will greatly contribute to solving problem drinking problems.

Key Words: Problem drinking, Drinking motives, Drinking culture, College students

P-413

Association between visual impairment and nutritional risk among older adults with diabetes

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Background: Restrictive eating habits due to diabetes management and aging characteristics put older adults with diabetes at nutritional risk. Although older adults with diabetes have a high prevalence of visual impairment (VI), evidence regarding the association between VI and nutritional risk in this population are limited.

Aims: The current study aimed to identify the impact of VI on nutritional risk among older adults with diabetes. Methods: The sample comprised 2,376 older adults with diabetes among 10,097 participants of the 2020 National Survey of Older Koreans, and a complex sampling logistic regression analysis was conducted.

Results: Among the 2,376 older adults with diabetes, 61.4% have no VI (n=1,460), 35.6% have moderate VI (n=846), and 3.0% have severe VI (n=70). Older adults with diabetes, who are also suffering from severe VI are more likely to have moderate or high nutritional risk status than those with no VI (Odds ratio [OR] = 2.43, 95% confidence interval [CI] [1.16, 5.07], p=0.018). Among the covariate, depression (OR = 3.54, 95% CI [2.56, 4.88], p<0.01), dependent ADL status (OR = 2.80, 95% CI [1.60, 4.91], p<0.01), and experience of hospitalization during the past year (OR = 2.57, 95% CI [1.60, 4.13], p<0.01) were strongly associated with nutritional risk.

Conclusions: Severe visual impairment increases nutritional risk among older adults with diabetes. Therefore, it is essential to prevent visual impairment as the result of diabetes exacerbation through appropriate management. Additionally, tailored nutritional interventions for visually impaired older adults with diabetes considering visual characteristics are needed.

Keywords: Diabetes mellitus; Nutritional status; Older adults; Vision, Low

P-414

Does the type of practice affect performance confidence in core basic nursing skills?

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Aim(s): In the subject of acquiring core basic nursing skills, practical practice is important. Due to the COVIRD-19, classroom practice has been replaced by online training. This study compared the difference between students' performance confidence in core skills after classroom practice before Corona situation and the performance confidence in core skills after online class in Corona.

Method(s): The subjects of this study were 134, all of whom were senior nursing students. 67 students(gruop A) practiced 10 core basic nursing skills in the practice room in 2020 and the rest(group B) online in 2021, and self-reported their performance confidence measured on a 5-point scale after class. The two groups' confidence in performing 10 core basic nursing skills were analyzed by t-test with SPSS 21.0ver.

Result(s): Students studied with a total of 10 nursing skills, 1 on the high level, 7 on the middle level, and 2 on the low level. Group A had high confidence in oral medication and administration management(5.000 ± 0.000). Group B had the highest confidence in oral medication(4.627 ± 0.569), CPR(4.537 ± 0.698), and administration management (4.507 ± 0.677) in that order. In group A, the lowest self-confidence was wearing protective equipment(4.299 ± 0.489), and in group B, simple catheterization(4.149 ± 0.851).

Conclusion(s): Although the students showed confidence in performing core basic nursing skills even with online practice, there was a huge difference in confidence in simple catheterization, which had a high degree of difficulty. It is suggested that the type of practice be selected in consideration of the difficulty of the core basic nursing skills.

Keywords: online training, core basic nursing skills, confidence

P-415

Relationship among smartphone use, sleep quality, and daytime sleepiness in college students

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Aim(s): Electronic devices such as computers and smartphones are being used for classes, team activities, and meetings to reduce contact between people due to COVID-19. The portability of smartphones enables people to access it continuously throughout the day, which affects sleep. The purpose of this study is to identify the relationship among smartphone use, sleep quality, and daytime sleepiness in college students.

Method(s): This study used a descriptive research design. The convenience sample consisted of 159 college students in D city of South Korea. The data were measured with the Smartphone Overuse Scale, Pittsburgh Sleep Quality Index, and Epworth Sleepiness Scale through an online survey in May 2021. Descriptive statistics, t-test, ANOVA, and Pearson correlation coefficients were applied to analysis using MedCalc 20.0 program.

Result(s): About 76% of the subjects were using their smartphones before going to bed. The subjects mainly used smartphones from 8 pm to 4 am next morning (65%), and 88% of them used it in bed. There was no significant difference between smartphone use pattern and sleep quality. However, the group that used the smartphone before going to bed had a significantly higher daytime sleepiness score than the group that did not use it ($p<.002$). There was a statistically significant correlation among smartphone overuse, sleep quality ($p<.001$), and daytime sleepiness ($p<.001$).

Conclusion(s): Daytime sleepiness symptoms were found in the group who mainly used smartphones in bed during the night and early morning. There were correlations among smartphone overuse, quality of sleep, and daytime sleepiness. As the non-face-to-face situation continues, excessive use of smartphones at night may change into pathological daytime sleepiness in college students. The study findings suggested that continuous guidance on the correct use of smartphone should be provided.

Keywords: smartphone, sleepiness, sleep hygiene, students

P-416

Effects of Physical Activity and Depression on Learning Flow in Nursing Students

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Purpose: The purpose of this study is to understand the relationship between physical activity, depression, and learning flow in nursing students, and to understand the effect of physical activity and depression on learning flow.

Methods: The participants of this study were 135 students enrolled in the department of nursing at a university located in B city, and data collection for this study was from July 10 to July 20, 2021. Data were analyzed using descriptive statistics, t-test, one-way ANOVA, pearson correlation coefficients, and multiple regression with SPSS/WIN 25.0 program.

Results: The mean scores for physical activity, depression, and learning flow were 1845.05±2133.0, 6.16±5.86, and 3.19±.59 respectively. There was a statistically significant negative correlation between physical activity and depression(r=−.201, p=.020), depression and learning flow (r=−.328, p<.001). There was a statistically significant positive correlation between physical activity and learning flow (r=.213, p=.013). The factor affecting learning flow was depression, and the explanatory power was 12%.

Conclusion: In order to increase the learning flow of nursing students, it is necessary to develop various programs such as reducing depression.

Key Words: Physical Activity, Depression, Learning Flow, Nursing Students

P-418

The Professional Quality of Life on Nursing Behavior and Difficulties in End-of-Life Care : Focused on the intensive care nurses

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Aim(s): The purpose of this study is to identify the nursing behavior and difficulties in end-of-life care to the quality of professions' life, and to analyze factors that affect caring behavior of end-of-life patient by intensive care nurses.

Method(s): For this study a descriptive design with survey method was utilized. This study recruited 193 nurses who worked at 6 kinds of intensive care unit where have 500 sickbeds located in D city, C province, for more than 6 months as the research subjects. Data were analyzed using descriptive statistics, independent t-test, one-way ANOVA, Pearson's correlation coefficient and Multiple regression analysis.

Result(s): It is found that nursing behavior showed significantly positive correlation with empathy satisfaction (r=.524, p<.001) and negative correlation with burnout (r=−. 388, p<.001). Difficulties in end-of-life care showed positive correlation with burnout (r=.461, p<.001), secondary traumatic stress (r=.488, p<.001), and negative correlation with nursing behavior (r=−. 149, p=.039). Factors affecting nursing behavior were empathy satisfaction (β= .467, p<.001), which is a sub-field of the quality of professions' life, confidence in difficulties of end-of-life care (β=−. 168, p =.004) and nursing experience in general (β= .246, p<.001). The variables explained about nursing behavior for 36.0%. Factors affecting the difficulties of end-of-life care included burnout (β=.420, p<.001), secondary traumatic stress (β= .318, p<.001), and empathy satisfaction (β = .189, p= .049), respect as a sub-field of nursing behavior (β=−. 363, p<.001), expert knowledge and skills (β= .242, p= .002) and intensive care in general (β= .148, p= .019). The variables explained about the difficulties of end-of-life care for 42.4%.

Conclusion(s): It is found that the higher the difficulty of end-of-life care in the intensive care unit, the lower the frequency of nursing care. They experience empathy fatigue, which is difficult to end-of-life care and mandatory care that they have to keep caring. Empathy Fatigue increases the difficulties of end-of-life care and empathy satisfaction can be said as an important factor in increasing nursing care. Therefore, it can be said that intervention and education programs have to be developed and applied to reduce burnout, secondary traumatic stress in order to reduce the difficulties of end-of-life care in intensive care unit. In addition, empathy satisfaction has to be improved. Then we can expect an efficient nursing care for a end-of-life patient in the intensive care unit.

keywords: Caring behavior, End of life, Intensive care unit, Professional Quality of Life

P-419

Role of social support on the association between psychological symptoms and health-promoting behaviors among Korean Coast Guards

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Aims: The purpose of the study was to examine whether the link between psychological symptoms and health-promoting behaviors would be mediated by social support among Korean Coast Guards who are exposed to a frequent exposure to work-related various traumatic events.

Methods: A cross-sectional study was conducted with 308 Korean Coast Guards in Gangwon-do, South Korea. The data was collected in October 2020. Post-traumatic stress symptoms were assessed by the Korean version of Impact of Event Scale-Revised. Depressive symptoms were assessed by the Korean version of Center for Epidemiologic Studies Depressive Scale-Revised. Health-promoting behaviors were assessed by the Health Promoting Lifestyle Profile-II. Social support was assessed by the Korean version of the Personal Resource Questionnaire 85-part 2. A multiple regression analysis and Sobel`s test were performed.

Results: Of all the Korean Coast Guards, 31.5% represents the risk of clinical post-traumatic stress disorder, and 16.9% represents the risk of clinical depression. The average score of health-promoting behaviors were 2.4 (1-4 scores). Higher levels of post-traumatic stress symptoms and lower levels of social support were significantly associated with higher levels of depressive symptoms, after adjusted regression models. The association between post-traumatic stress and depressive symptoms showed significantly partial mediating effects by social support in the Sobel`s test (z=3.14, p=.002). Also, lower levels of post-traumatic stress symptoms and higher levels of social support were significantly associated with higher levels of health-promoting behaviors, after adjusted regression models. The association between post-traumatic stress and health-promoting behaviors showed significantly full mediating effects by social support in the Sobel`s test (z=-3.40, p<.001).

Conclusions: Social support has a mediating role of the association between psychological symptoms and health-promoting behaviors. Therefore, enhancing social support may be considered important as a nursing strategy for improving health-promoting behaviors in Korean Coast Guards at potential risk of psychological health.

Keywords: Depression, Health promotion, Social support, PTSD

P-420

Associations between self-esteem, depression, and anxiety about clinical practicum among senior nursing students

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Aims: Nursing students' learning outcomes can be negatively affected by a high level of anxiety about clinical practicum. Accordingly, to provide an effective learning environment, it is necessary for nursing educators to understand students' anxiety about clinical practicum. However, little is known about the factors affecting anxiety about clinical practicum in nursing students. This study aimed to investigate the relationship between self-esteem, depression, anxiety about clinical practicum among senior nursing students in Korea and identify the significant factors affecting it.

Methods: This was a cross-sectional study. The convenient sample consisted of 812 senior nursing students attending an undergraduate nursing program in Korea. Self-report data were collected on general characteristics of the participants, self-esteem, depression, and anxiety about clinical practicum, which were then analyzed using the SPSS version 26.0 program. The online survey was conducted from November 16 to December 21, 2020.

Results: The results showed that anxiety about clinical practicum (mean score 2.84 ± 0.70) frequently occurred among senior nursing students. Among the associated factors, self-esteem had a negative correlation with anxiety about clinical practicum ($r=-.37$, $p<.001$), whereas depression was positively correlated ($r=.28$, $p<.001$). The result of multiple regression analysis indicated that the two predictors, self-esteem and depression, and the general characteristics such as gender, location of the university, and college type, explained 20.2% of the variance in anxiety about clinical practicum among senior nursing students ($F=42.04$, $p<.001$).

Conclusions: The findings suggest that interventions to reduce anxiety about clinical practicum should be developed considering strategies related to mental health programs, including screening depression levels and improving the self-esteem of senior nursing students.

Keywords: anxiety about clinical practicum, depression, self-esteem, senior nursing students

P-421

Cardiovascular disease risk factors among Asian Migrant Workers employed in South Korea

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Aim(s): Non-communicable diseases account for >70% of deaths worldwide. In recent days, there has been an increase in sudden deaths reported among young Asian migrant workers working in South Korea. This study aimed to assess the prevalence of cardiovascular risk factors among Asian migrant workers in South Korea.

Method(s): Cross-sectional survey, anthropometric measurements, and clinical blood tests were carried out among 141 Asian migrant workers working in major cities of South Korea.

Result(s): The mean age of the participants was 31.3 (5.6) years. Of the participants, 14.8% were current smokers, and 47.5% consumed alcohol. The prevalence of overweight/obesity was 32.4%, and the prevalence of hypertension and dyslipidemia were > 40% and 64.6%, respectively. Clustering of two or more risk factors was seen in 45% of the participants. Factors associated with a high risk of cardiovascular diseases (clustering of two or more risk factors) were age (odds ratio 1.16, $p < 0.01$) and smoking (4.98, $p < 0.05$).

Conclusion(s): The study provides epidemiological evidence on the clustering of cardiovascular risk factors in South and Southeast Asian migrant workers in South Korea. Efforts to mitigate and eliminate these risk factors are urgently needed.

Keywords: Asian migrant workers, cardiovascular diseases, risk factors, South Korea

P-422

Improving Glucose Control in Refugees with the Healthy SPARK Diabetes SelfManagement Education Program

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Aim(s): Our purpose was to design, implement, and evaluate a culturally congruent, online diabetes self-management education (DSME) program to improve glucose control, selfefficacy (SE), and self-care in refugees.

Method(s): A seven-week online DSME program with text message outreach was developed and implemented by a multidisciplinary team. The curriculum was in three languages. Glucose control biomarkers (glycosylated hemoglobin, blood pressure, body mass index, and weight in kilograms), Self-Efficacy for Diabetes (SED), and Summary of Diabetes Self-Care Activities Measure (SDSCA) Pre- and post- measures were collected.

Result(s): Out of 71 multinational participants, 10 completed SED and SDSCA pretest and posttests. Glucose control biomarkers were obtained from 37 participants There were statistically significant increases on the SED and SDSCA. ANOVA revealed a statistically significant decrease in weight for 'somewhat', 'virtually,' and 'somewhat virtually' engaged groups and BMI between 'somewhat' and 'somewhat virtually' engaged groups. With increased contact with the program, there were significant decreases in systolic and diastolic blood pressure. Higher initial SE was associated with lower diastolic blood pressure and increased initial and post-exercise and general healthy dietary habits on the SDSCA measure.

Conclusion(s): Upon completion of the 7-week online DSME program, multicultural refugee participants decreased HbA1c and significantly improved BP, BMI, weight, self-efficacy, and self-management behaviors. Results indicated the application of DSME is a cost-effective solution to improve self-efficacy, self-management behaviors, and overall health in refugee patients with diabetes.

Keywords: diabetes, refugees, self-management education

P-423

The Domain of Qualitative Nursing Research in Journal of *Korean Academy of Nursing**

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Aim(s): Qualitative nursing researchers make unique and substantive contributions to the development of knowledge required by health disciplines. The nature of qualitative nursing research means that qualitative researchers benefit from qualitative nursing research courses, specialized texts, journals, conferences and workshops where they can share the findings of their work. The study aimed to define the domain of qualitative nursing research in Journal of Korean Academy of Nursing (JKAN).

Method(s): The subjects of this study were articles using qualitative methods published in JKAN. JKAN is the official journal of the Korean Society of Nursing Science. JKAN was launched in 1970, and now the 51st volume is being published. I selected qualitative researches from the total articles in JKAN within the latest 5 years. I conducted a content analysis of 33 articles published in JKAN.

Result(s): The domains of qualitative nursing researches in JKAN were concepts, pertaining to health and illness, health care needs, health, the illness trajectory, caregiving, symptoms, and the evaluation of services.

Conclusion(s): These categories covered the overview of nursing research, and provide a firm descriptive and interpretative foundation for other quantitative nursing research. They provide important insights into nursing from microanalytic processes to the development of theories.

Keywords: Qualitative research, Nursing, Domain, Knowledge

P-424

The Effects of ICT-based Interventions on Physical Mobility of Older Adults in the Community: A Systematic Literature Review and Meta-Analysis

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Aim(s): This systematic literature review and meta-analysis was conducted to integrate and analyze intervention studies dealing with the effects of information and communication technology (ICT)-based interventions on the physical mobility of older adults in the community.

Method(s): The CENTRAL, MEDLINE, CINAHL, and EMBASE databases were searched for studies published from January 2000 to August 2020. The risk of bias in randomized studies was assessed using the RoB 2 tool for randomized studies. To estimate the effect size, a meta-analysis of the studies was performed using R version 4.0.4. Three researchers independently analyzed the selected literature to identify important themes and findings.

Result(s): Seventeen randomized controlled trials were included (1,578 participants), of which 7 were included in the meta-analysis. ICT interventions significantly improved timed up-and-go (TUG) as a physical mobility variable in older adults (effect size: -0.266; 95% CI: -0.474 to -0.058). A sensitivity analysis was performed on 5 studies using exergame interventions, which were also found to be effective in improving TUG (effect size: -0.30, 95% CI: -0.53 to -0.07). The findings of this study confirmed that exergames, telecommunication, e-health, information applications, and robots were used as ICT-based interventions that were effective for improving the physical mobility and in improving cognitive function of older adults.

Conclusion(s): It is necessary to develop and apply more diverse ICT-based interventions that will prevent impairments of mobility and encourage older adults to live more independently, with a higher quality of life, based on extensive research on ICT-based interventions.

Keywords: Aged, Mobility Limitation, Technology

P-425

Acceptance of Technology Related to Healthcare Among Older Korean Adults in Rural Areas: A Mixed-Method Study

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Aim(s): Despite the various benefits of information and communication technology (ICT), such as convenience and efficiency, many older adults have trouble accepting new technologies. It is necessary to identify the reasons for low ICT use among older people despite their positive attitudes toward ICT to help older adults cope with social changes and bridge the digital divide. This study explored technology acceptance and related factors among older adults who live in rural areas by proposing a new conceptual framework for the level of technology acceptance based on the existing model (Senior Technology Acceptance Model, STAM) and tested the new framework using pathway analysis.

Method(s): A semi-structured open-ended interview was conducted among three focus groups (n=15) and a survey questionnaire were collected from older Korean adults living in the rural area (n=233). Qualitative data were analyzed using directed content analysis, and quantitative data were analyzed using pathway analysis.

Result(s): Four themes, 11 subthemes, and 18 codes were identified, and new conceptual framework was proposed based on the qualitative findings. The results of the model revealed significant positive direct paths from external controls ($\beta=0.44$, $p<0.01$), attitudinal belief ($\beta=0.34$, $p<0.01$), and cognitive health ($\beta=0.10$, $p=0.03$) to the internal abilities.

Conclusion(s): It is necessary to develop and apply a targeted and tailored ICT education program to improve self-efficacy and reduce anxiety in using technology for older adults living in rural areas.

Keywords: Aged, Technology, Rural Population

P-426

Preliminary results of factors associated with high expressed emotion in families of people with Dementia

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Aim(s): To examine the factors related to high expressed emotion in family members of people with dementia.

Method(s): A cross-sectional research design was used. Interviews and questionnaires were employed, and the key family members of people with dementia were the participants. The first survey was administered to 24 individuals. Data collected include demographic details, the Family Attitude Scale (FAS), which assesses expressed emotion, and measures of caregiving burden and depression in family members. This study was approved by the Institutional Review Board of the institution we are affiliated with. And it was also supported by Nissei Foundation.

Result(s): We show the preliminary results in this abstract although the number of participants is still increasing. Currently, 24 family members (8 male, 17 female) have participated in this study. The preliminary results indicate that nine had FAS scores above 40, which is the threshold for high Expressed Emotion (EE) in family members caring for persons with dementia, of potentially demented individuals. The nine participants with high EE were female, 66.7% were children of patient with dementia, 55.6% had depressive tendencies, 22.2% were identified as depressed, and 77.8% had a moderate to severe sense of burden.

Conclusion(s): Factors influencing the high EE of family members of people with dementia could be related to their role in the family and their mental state. Early identification of risk factors might help in identifying and developing relevant interventions to prevent high EE in caregivers. The validity of this hypothesis will be further tested.

Keywords: Caregiving burden, Dementia patients, Expressed emotion, Family caregivers

P-427

Applying Apprenticeship Learning in the Development and Testing of Easy Medication Withdrawal Safety Syringe

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Aim(s): Nursing innovation can simplify work process, establish creative nursing methods, promote innovative assistive device development, and further enhance the quality of care. Innovative attitudes and development energy are new trends in nursing education and talent cultivation, but relevant studies are still lacking. In this study, an apprenticeship system was applied to successfully guide a team of nursing students to research and develop the Easy Medication Withdrawal Safety Syringe, and complete pilot test, providing a demonstration for innovative education in nursing care.

Method(s): The researcher formulated the "Questionnaire survey for emotions concerning the Easy Medication Withdrawal Safety Syringe", which was divided into aspects including operation convenience, operation safety, as well as practicability and promotion. Thirty nursing students with registered nurse licenses were invited to fill in the questionnaire after an explanation and demonstration of the safety syringe was given. The score differences between the syringe developed in this study and traditional syringes in three aspects were collected; further analysis was carried out using descriptive and inferential statistics.

Result(s): The pilot test results indicated that apart from the question concerning "operation feasibility after reading the operation manual or watching the introduction video clip" in the operation convenience section showing no differences between the developed syringe and traditional syringes, the other 12 questions all exhibited significant differences (P<.05). The reason for the lack of significant differences in this question was analyzed; it is suggested that the examinees should operate the syringes physically in order to strengthen their perceptions.

Conclusion(s): In this study, the results of prototype development and pilot tests performed employing an apprenticeship system have been presented, providing an operating system and a direction for innovative development in education and research.

Keywords: apprenticeship, nursing innovation, medical device, research and developmen

P-501

Risk factors for postoperative delirium in the elderly who underwent spine surgery postoperative cognitive decline and identifying associated biomarkers using exosomes

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Background: Since there is a high incidence of delirium after spinal surgery and the prognosis is poor, it is important to predict and detect delirium early by identifying risk factors for delirium before surgery. In addition, since delirium symptoms are episodic and are common in the elderly, the rate of diagnosis by the medical staff is low. Therefore, it is necessary to search for biomarkers that are helpful in the prediction and diagnosis of delirium. Based on Jeffrey and Stacie's (2013) model of the potential relationships among anesthesia, surgery, and the ultimate development of long-term cognitive impairment, this study aimed to investigate the risk factors affecting postoperative delirium in older adults who have undergone spine surgery, identify the association between postoperative delirium and cognitive decline, and discover the biological markers.

Methods: Data collection was carried out from October 23, 2019 to May 20, 2020 on 100 patients over 70 years of age who underwent spinal surgery at S city Y hospital. Urine exosomes were analyzed for tau, UCH-L1, NFL, and GFAP using a single molecule array (Simoa). The collected data were analyzed using the R program (Version 4.0.0).

Results: There were differences between delirious and non-delirious participants with regard to their past history of psychiatric illness and use of benzodiazepines (p=.005 and p=.026, respectively). There was a difference in the ratios of preoperative WBC and total protein between delirious and non-delirious participants (p=.013, p=.013, respectively). There was a difference in the ratios of CRP and eosinophil count on the day of operation between delirious and non-delirious participants (p=.05 and p=.013, respectively). Tau and UCH-L1 concentrations were found to be high in the severely delirious participants (p=.002 and p=.001, respectively). The MMSE scores upon discharge (p<.012) and the differences between the preoperative and postoperative MMSE scores (p<.009) were significantly different between delirious and non-delirious participants.

Conclusion: Based on these results, medical staff will be able to accurately investigate risk factors before surgery, classify high-risk patients, and predict and detect delirium early. In addition, since delirious participants are at risk for cognitive decline, follow-up and preventive interventions for cognitive dysfunction will be required, depending on the patient. In addition, exosome analysis of the urine of patients showed that there was a high degree of brain injury in delirious patients after surgery.

P-502

Qualitative content analysis of text consultations for international patients during COVID-19 in a tertiary hospital.

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Aim(s): With the expansion of the global healthcare industry, the number of international patients entering Korea to receive treatment has increased. As such, Korean hospitals were asked various questions related to medical and non-medical services. The purpose of this study was to organize and elicit meaning from these inquiries and understand the diverse needs of international patients.

Method(s): From January 1, 2020 to July 31, 2021, 1,063 text data inquiries from the hospital's homepage and webmail were gathered and examined through qualitative content analysis.

Result(s): Theme 1 was "Acquire information about the disease." This referred to the process of inquiring about patients living in other countries regarding their own or their family members' diseases.
Theme 2 was "Require understanding and empathy of the home country's healthcare system." Some patients and their families described the treatment from hospitals in their own country during COVID-19 as disappointing. Thus, they asked to consider the circumstance and remain empathetic.
Theme 3 was "The concern of cost burden." International patients whom the government does not pay for asked for detailed information about their expected medical expenses.
Theme 4 was "Hope for curability." If treatment is not possible or the cause is not found in their own country and an advanced test is not feasible due to lack of facilities and equipment, they trusted Korea's advanced medical qualities and equipment.
Theme 5 was "COVID-19 policies: complicated, confusing, and overwhelming." They felt stressed due to unclear information and the number of rules upon Korean entry during the COVID-19 pandemic.
Theme 6 was "Pursue stability during this chaotic situation." In this complex situation, they sought stability by searching for information about their language interpreters and their food.

Conclusion(s): It is hoped that study results will contribute to the understanding of international patients who seek medical service in Korea.

Keywords: international patients, text consultations, qualitative content analysis

P-503

Experience of inpatient caregivers in long-term care hospitals in COVID-19 pandemic situations

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Aim(s): Long-term care hospitals are mainly elderly patients by nature, and partnerships with caregivers are very important because there are many patients who are at the end of life or are undergoing long-term care. The purpose of this qualitative study was to describe the essence and the meaning of inpatient caregivers who are limited to meeting with their families due to the changed visitee guidelines of long-term care hospitals during COVID-19 pandemic situations and to deepen the understanding of the nature of the experience.

Method(s): This study used a phenomenological research method with individual in-depth interviews. Participants in this study were caregivers of families in long-term care hospitals during COVID-19 pandemic situations. The data were collected from nine inpatient caregivers in long-term care hospitals from April to July 2021, and one-on-one interviews and the data were analyzed by Colaizzi's phenomenological method.

Result(s): Experience of participants were classified into four categories: 1) The greatest filial piety at the end of a family's life; (2) Reunion of separated families at the 38th parallel; (3) Everyday life has disappeared; and (4) A daily life of being strengthened.

Conclusion(s): Participants were feeling the difficulty of communicating with their family who were living in quarantined conditions in the COVID-19 pandemic situations due to non-face-to-face situations. However, in the midst of the long-term COVID-19 situations, it was confirmed that the participants were overcoming a difficult time through efforts to find a breakthrough for communication. It is also expected that the results would be used as basic data for seamless communication between inpatients and caregivers in long-term care hospitals in the event of infectious diseases in the future. We hope to improve the infectious diseases control systems under other pandemic situations for building response strategies that can be applied to long-term care hospitals.

Keywords: Caregiver; COVID-19; Long-term care hospitals; Pandemic; Qualitative research

P-504

A Study on the Care Provided by Families of Patients with Rheumatoid Arthritis

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Aim(s): We investigated the present condition of everyday care for a family with articular rheumatism, what kind of care the family provided when a patient had Rheumatoid arthritis (RA), and obtained suggestion for nursing care.

Method(s): Data were obtained through semi-structured interviews with three RA patient's families from The Japan Rheumatism Friendship Association. We analyzed the data qualitatively. The case study was approved by the University's Ethical Review Board.

Result(s): We extracted 32 codes from the contents of the interviews and classified them into nine subcategories and four categories. The contents of the categories were "the intervention for the physical change," "the intervention for the mental change," "we take disease," and "we think about the future."

Conclusion(s): Since a family member had RA, the families provided him or her with physical and mental care. Additionally, there was a notion that the care and support provided was considered normal as it was for a family member. Furthermore, we were able to think about their future as it was understood and having taken disease. In addition, we considered the patients as a family, and it was regarded natural to support the patients. We listened to the family to provide better nursing care not only for the patients with RA but also for other patients. It is necessary to think about the contents of acceptance and care of the disease that were complementary.

Keywords: Articular rheumatism, family, care

P-505

Mental Health Condition and Psychological Well-being of Filipino Older People

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Aim(s): This study determined the mental health condition and psychological well-being of older people in the Province of Iloilo, Philippines.

Method(s): A total of two-hundred sixty four older people served as respondents of the study, which constituted 20 percent of the 1,308 total populations of older people in 8 identified areas. They were classified as young- old (60-70), middle-old (71-80), and old-old (81 and above). To meas-ure the mental health condition of the older people, the 28-item Scaled General Health Question-naire was used, divided into four sub-scales, namely: somatic symptoms, anxiety and insomnia, social dysfunction, and depression. The Scales of Psychological Well-being, six 9-item scales were used to measure their psychological well-being. Descriptive statistics and inferential statistics such as t-test, Analysis of variance (ANOVA), and Gamma were used in determining the differences and relationships between mental health condition and psychological well-being.

Result(s): The results show that older people have good mental condition and were rated fair in psychological well-being and is significantly correlated to psychological well-being (Gamma = 0.267, p=0.030).

Conclusion(s): A good mental health implies that the older people have the ability to make good life choices, maintain physical health and well-being, and having healthy relationships. Thus, the mental health of the older people is fundamental to good health, better well-being, and improved quality of life.

Keywords: aging, mental health, well-being, older people

P-506

Frailty in Cancer Patients with Surgery: A Scoping Review

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Aim(s): Due to the cancer itself and the side effects of the cancer treatments, cancer patients are exposed to the risk of frailty regardless of age. Surgery is only treatment option for the solid cancer and the outcome of the treatment is highly associated with the degree of frailty compared to other treatment options. According to recent research, the suitability of surgery is still decided by surgeon's subjective judgements. Therefore, this study aims to: (1) identify the factors that can impact frailty in operating cancer patients, (2) identify outcome of frailty postoperatively for cancer patient (3) tools measuring frailty.

Method(s): We conducted according to the scoping review framework of Arksey and O'Malley (2005). Articles were searched from CINAHL, MEDLINE, PsycINFO, and EMBASE for past 10 years (January 2011– April 2021) that included key search terms related to "cancer", "frailty", and "measurement". While 728 records were initially identified, 24 articles met the inclusion criteria.

Result(s): Frailty was found to be related to age, gender, BMI and physical function. And frailty can result in postoperative complication and mortality. 34 tools for measuring the frailty were identified. Frailty measurement tools subcategories are including age, body mass index, weight loss, burnout, physical activity, malnutrition, activities of daily living, prevalence or medication status, social support, and geriatric syndrome.

Conclusion(s): Despite a number of frailty screening tools were developed, research for the suitability of the tool is still lacking. Further research for the suitable screening tool in each clinical field and research for identifying obstacles of assessing frailty are needed. Frailty screening needs to be performed for the cancer patient before surgery as a consideration of most appropriate treatment option for the optimal outcome.

Keywords: Cancer, Frailty, Surgery, Scoping review

P-507

Gambling Prevention Program Using Animation for College Students

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Background: Gambling shows spectra ranging from leisure activities of mere joy or interests to pathological gambling. The size of the gambling industry market in Korea expanded to 20.5 trillion won by 2015 after the government legalized the gambling industry in the early 2000s. Animations are the most popular form of educational medium. Education through animations is a creative and innovative strategy for learning.
Purpose: This study aimed to develop and examine the effects of a gambling prevention program using animation among Korean college students.

Methods: This study used one group pretest-posttest design. The data were collected from July 5 to August 6, 2021. In this study, 70 college students showed an intention to participate, but 61 people were ultimately used for the analysis. The participants were college students ranged from 17 to 22 years old. Irrational gambling belief scale is composed of 10 items and each item is evaluated with the 5 points Likert scale. The risk-taking scale refers to the general willingness or motivation to enjoy risk indulging situations. The Gambling prevention program consists of the following four sessions. Session 1 is focused on understanding gambling and gambling addiction. Session2 explains the features, causes, and results of gambling addiction. Session 3 provides effective gambling addiction therapy. Session 4 describes various gambling addiction cases using animation. The non-face-to-face education program was conducted for an hour every week for four weeks.

Results: Of the 61 students, 90.2% were female students. Thirty students (49.2%) had experience of previous gambling experience and 31 students (50.8%) had no gambling experience. The students' risk-taking behavior was significantly decreased from 2.30±.49 to 2.11±.42 points after the gambling prevention education (t=2.130, p=.037). Students' irrational gambling belief was also significantly decreased from 2.34±.60 to 2.08±.56 points after the education (t=2.399, p=.020).

Conclusion: Adolescent problem gambling can bring severe negative consequences both in the physical and psychological aspects. This study showed that students significantly improved risk-taking behavior and irrational gambling beliefs after watching animation. It's easy to get into gambling but getting out is challenging. Therefore, primary prevention education is very important for gambling as well as other addictions. It's more efficient to prevent problems from occurring in advance than to solve them afterwards. The medium of non-face-to-face education such as animations, movies and different types of videos are very useful information tools.

Keywords: Gambling, Prevention, Animation, College students, Korea

P-508

Symptom Experience, Burnout, Quality of Life of Caregivers of Patients with Hematologic Malignancy

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Aim: This study aimed to examine the correlation between symptom experiences, burnout, quality of life of primary caregivers of patients with hematologic malignancies during the diagnosis and inpatient treatment, which is the initial stage of treatment as classified into three phases, acute, treatment and stable.

Methods:120 informal caregivers of patients with hematologic malignancies were enrolled in the study. Physical, psychological and social health status was measured by PROMIS (Patient-Reported Outcomes Measurement Information System). Caregivers' burnout and quality of life were also analyzed.

Results: Caregivers experienced mild, but different levels of physical, social, and psychological symptoms at each phase of treatment. Despite of no statistical significance between phases, the levels of physical and psychological symptoms, burnout and quality of life were the worst at treatment phase. The levels of sleep disturbance and social activities worsen over time. Psychological symptoms showed strong negative correlation with quality of life at the acute phase (r = −.71, p < .01), treatment phase (r = −.76, p < .01), and stable phase (r = −.75, p < .01).

Conclusion: These results suggest that a multidimensional approach is necessary to assess the symptoms of caregivers. Tailored symptom management, according to the situation of the caregivers can improve the symptoms of caregivers, and consequently improve the quality of life of caregivers of cancer patients.

Keywords: Caregivers, Hematologic malignancy, Quality of life, Symptoms

P-509

A Qualitative Case Study on the Change Experience through Web-Based Cognitive Behavioral Therapy of Depressed Pregnant Women

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Aim(s): Cognitive behavioral therapy (CBT) is recommended in guidelines for people with depression. This study aimed to explore pregnant women's experience of their Web-based CBT treatment for depression with a focus on the change of cognition process. It may help pregnant-specific needs of depressed women to understand and increase effectiveness of Web-based CBT during pregnancy.

Method(s): This collected data were analyzed by using the analysis procedure of the qualitative case study proposed by Stake (1995). 7 participants were recruited from a quasi-experimental trial on web-based group CBT for pregnant women with mild depression (EPDS scores 13 ≥). Semi-structured interviews were conducted through a video conferencing platform like Zoom at one month post baseline.

Result(s): Five categories and twelve themes were identified; The first category entitled 'facing me hidden' revealed 'emotional lability' and 'complex of inferiority', The Second category entitled 'finding me isolating myself' revealed 'obsession with protecting me' and 'I am the cause of conflict', The third category entitled 'efforts to be freed from the emotions that torment me' revealed 'breaking free from negative thinking patterns', 'releasing of repressed emotions', and 'solving in putting myself in someone's shoes', The fourth category entitled 'expecting a life centered on me' revealed 'respecting my values' and 'belief in myself to overcome conflict', The fifth category entitled 'confidence in pregnancy and parenting' revealed 'keeping me from happy parenting', 'escaping from parenting conflict', and 'acknowledge the meaning of pregnancy'.

Conclusion(s): This study is meaningful in that the first research conducted in Korea on Web-based CBT of depressed pregnant women and the change process of participating in CBT were empirically summarized by qualitative case study. This finds suggest that web-based CBT enables depressed pregnant women to correct cognitive errors, overcome conflicts, and gain confidence in pregnancy and parentings.

Keywords: Cognitive Behavior Therapy, Pregnancy, Qualitative Research

P-510

Job burnout situation in nurses in psychiatric wards: a cross-sectional study

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Introduction: Nursing is one of the occupations that are particularly prone to burnout due to a stressful environment. The aim of this study was to determine burnout in nurses in psychiatric wards.

Methods: The present study was a cross-sectional descriptive study in which 123 nurses working in the psychiatric wards of Mehr Hospital in Khorramabad participated by census method. The data collection tool was the Maslach Standard Demographic and Burnout Questionnaire, which was completed by the participants using a porsline. Data analysis was performed using SPSS-V-24 and descriptive statistics and Pearson correlation coefficient. Significance level was considered 0.05.

Results: The Mean± SD of burnout was 56.83 ±16.83. 30.9% of the nurses studied had moderate to high emotional fatigue, 68.3% had moderate to high metamorphosis and 100% of them had low success. There was a statistically significant relationship between gender and dimension of lack of success ($P < 0.05$) so that the severity of lack of success was higher in women than men.

Conclusion: burnout was low in psychiatric nurses, but they were not in a good situation in the dimension of depersonalization. It is recommended to take measures to improve this dimension. The results of the present study provide the possibility of making a preliminary judgment about the burnout situation of psychiatric nurses.

 Keywords: Job burnout, Stress, Nurses, Hospital