

About

Nursing Research and Knowledge Enterprise was established to enhance the rigour of nursing research, promote evidence-based nursing practice and encourage scholarly inquiry among nurses in SGH.

Current Focus Areas for Nursing Research

- ▶ Nursing Care Quality and Outcomes
nursing sensitive indicators such as pressure ulcers, falls, phlebitis and use of physical restraints
- ▶ Nursing Workforce well-being and impact of nurses
- ▶ Care Environment
physical caregiving environment and nursing care processes
- ▶ Caregiver Wellbeing
education and support for caregivers of patients
- ▶ Evidence Based Nursing
informing clinical inquiries with evidence from different sources

Nursing Care Quality and Outcomes

Key Project: The Who, What, When, Where and Why of Falls in the Acute Hospital - A Comprehensive Analysis of Patients' Perspectives, Patient-specific, Staff-related and Environment Factors Associated with Falls

The study identified that most falls tend to occur between 2100 - 0700 hours, in the patients' room and during transferring without supervision; patients who fell on wet floor and aged above 75 were 3.9 times more likely to suffer an injury. Interviews conducted showed that patients downplayed the risks associated with falls. Many did not remember the fall prevention education given. Patients were reluctant to call for help, citing "nurses being busy" or "unapproachable" as reasons. Results from this study has helped to inform further studies including - Effectiveness of an Integrated Protocol in reducing falls among high risk elderly inpatients and it's impact on fall efficacy. The Relative Pervasiveness of Gain Framed versus Loss Framed Messages on Adherence to Fall Prevention Advice and Intention to Call for Assistance in the Inpatient Setting.

Poster Presentation: Lim ML, Ang SGM, Teo KY, Wee YHC, Yee SP, Lim SH, Ang SY. Patients' Experience of Falling while in an Acute Care Hospital. SingHealth Duke-NUS Scientific Congress 2016. 23 & 24 September 2016.

Nursing Workforce

Key Project : Identifying and Building Resilience in Nurses

This study is part of our work with the International Collaboration on Workforce Resilience. The large-scale survey among nurses in Singapore found that nurses with low resilience tend to report lower positive mood, higher negative mood, lower mindfulness and lower self efficacy to cope. A significant positive relationship was observed between resilience and compassion satisfaction, while significant negative relationships were observed between burnout, traumatic stress and resilience.

Oral Presentation: Ang SY. A study of intrapersonal characteristics influencing resilience among working nurses in Singapore. SingHealth Duke-NUS Scientific Congress 2016. 23 & 24 September 2016.

Care Environment

Key Project : Applied Discourse Analysis and Participatory Action Research to Enhance Nursing Handover

The aim of the project was to observe, analyze, evaluate and improve on the clinical handover by nurses. The project consisted of four phases, namely, baseline evaluation, ethnographics, discourse analysis and participatory action research; and post evaluation. The study is now in phase 3 whereby improvements are being made to the handover process. The effectiveness of



the improvement efforts will be evaluated in phase 4 in early 2017.

Caregiver Wellbeing

Key Project : Resiliency in Caregiving: Older Spouses' Experience in Singapore

This study aimed to explore the experience of older spousal caregivers in Singapore. Most caregivers were female, with an average age of 69 and an average of 10 hours of caregiving a day. 13% of them had a foreign domestic helper. A significant positive relationship was observed between caregiver's age and their esteem, i.e., the caregiver's "feeling good" about caregiving. Care-recipients had an average age of 72. Frail care-recipients with chronic medical conditions affect caregiver's satisfaction with life. Caregivers reported increased experience of pain/discomfort, disturbed schedules, poor health and finances.

Evidence Based Nursing

A Randomised Controlled Trial to Evaluate the Incremental Effectiveness of Prophylactic Dressing and Fatty Acids Oil in the Prevention of Pressure Ulcers

This study aimed to evaluate the effectiveness of sacral foam dressing and fatty acids oil spray in preventing sacral pressure ulcers among high risk patients in the general acute ward setting. Significant statistical differences were found between the silicone foam dressing group and the standard care group (p=0.04) and between the fatty acid group and the standard care group (p=0.05) for patients with Braden score of ≤12. Results from this study has led to changes in practice whereby nurses now apply prophylactic sacral foam dressings to high risk patients with a Braden score of ≤12. The sacral foam dressing will also be made available in SGH inpatient wards.

Immersion Programme

The Nursing Research Evidence-Based Practice Immersion Program, launched in July 2016, provides staff nurses with a six-month long research experience in nursing science. Along with mentors from Nursing Research Unit or PhD/DNP-prepared nurses, participants in the program worked on a primary research study or actual evidence-based quality improvement projects, to enhance the quality of nursing care in SGH. The first batch of nurses have done well, with all four of them embarking on a project within 3 months into the program.

Immersion Program (1 st Intake - July 2016)	Study Title
Mr Teo Tiang Peng	An observational study on the prevalence and severity of iatrogenic anemia among intensive care patients with an invasive arterial line
Ms Esther Monica Fan Peijin	An observational study on the adequacy of the current practice of using NEX to determine nasogastric tube insertion length
Ms Nuraini Binte Mohamed Razali	Demographics and clinical factors associated with failed trial of void among patients in an acute medical ward
Ms Priya Dharshini	Understanding visitors' knowledge and awareness of infection control practices in Singapore General Hospital

Grants Awarded in 2016

SHF Grant 2016 (Start-up)

The impact of a mindfulness-based programme on stress and anxiety of family caregivers of adult patients on peritoneal dialysis in Singapore

SGH Research Grant 2016

A descriptive explorative study of the role transition experiences of assistant nurse clinicians in Singapore

SGH Research Grant 2016

Disparity between perceived and actual physiological risk of falling among inpatients in an acute hospital in Singapore

SGH Research Grant 2016

Evaluating the effectiveness of dressings on the prevention of heel ulcers in the intensive care settings

Other Grant Funded Projects

Applied discourse analysis and participatory action research to enhance nursing handover

Identifying and Building Resilience Among Nurses

Awards

Best Poster Nursing

Lim ML, Teo KY, Yee SP, Ang SY. Hospital-Acquired Pressure Injuries: How much does it cost? Singhealth DUKE NUS Scientific Congress 2016

Best Poster Nursing

Aloweni FAB, See MTA, Lim ML, Theng LP, Wong PFR, Mustapha NZ, Chuah PF, Heng LLJ, Supian M, Jasman JM, Sadali SS, Gunasegaran N, Toh JY, Azimat NR, Yeo JH, Chang YY, Tan SB, Lian SB, Ang SY. A randomised controlled trial to evaluate the effectiveness of prophylactic dressing and fatty acids oil in the prevention of pressure injury. Singhealth DUKE NUS Scientific Congress 2016

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Publications (names of SGH nurses are in bold)

Ang SY, Dhaliwal SS, **Ayre TC**, Uthaman T, **Fong KY**, **Tien CE**, Zhou H, Della P. Demographics and personality factors associated with burnout among nurses in a Singapore tertiary hospital. *BioMed Research International*. 2016. DOI:10.1155/2016/6960184

Ang SY, **Ayoob SB**, Hussain NB, Uthaman T, Adenan H, Chiang P, Ong LT, Fong MK, Ostbye T. Older nurses in Singapore: Factors associated with attitudes towards extending working life. *Proceedings of Singapore Healthcare*. 2016;25(4). DOI:10.1177/2010105816655553

Chang YY, Caravelle K, **Tay AC**. The prevalence of skin tears in the acute care setting in Singapore. *International Wound Journal*. 2016;13(5). DOI:10.1111/iwj.12572.

Chee S, **Neo AYP**, **Chen LS**, **Seah EYL**, **Li CL**, **Aung NL**, **Vellasamy T**. Understanding factors influencing the choice of discharge destination by older patients post total lower limb replacement: A qualitative study. *Proceedings of Singapore Healthcare*. 2016;25(1). DOI: 10.1177/2010105815615359

Choo PJ, Ryan K. A qualitative study exploring first time mothers' experiences of breastfeeding in Singapore. *Proceedings of Singapore Healthcare*. 2016; 25(1). DOI: 10.1177/2010105815615992

Goh MM, Tan AB, Leong MH. Bar code-based management to enhance efficiency of a sterile supply unit in Singapore. *AORN J*. 2016;103(4). DOI:10.1016/j.aorn.2016.01.018

Liu J, **Wong SKA**, **Wang Y**, **Nagalingam V**, Too CW, **Ang SGM**, **Ang SY**. Randomized controlled trial comparing simple light dressing (transparent film dressing) versus pressure dressing (elastoplast) after femoral arterial sheath removal. *Journal of Radiology Nursing*. 2016;35(3). DOI:10.1016/j.jradnu.2016.01.001

Mustapha NZ, **Yi X**, **Razali MRM**, **Najumudin N**, **Barman H**. The role of patient navigators: Case studies in Singapore. *Proceedings of Singapore Healthcare*. 2016;25(3). DOI: 10.1177/2010105816632539

Tan BK, Tan EWX, Chong SJ, **Chang YY**, Song C, & Lee, V. J. (2016). An economic evaluation of chronic wound management in a tertiary hospital. *Wound Practice & Research: Journal of the Australian Wound Management Association*, 24(3), 130 – 136.

Uthaman T, Chua TL, **Ang SY**. Older nurses: A literature review on challenges, factors in early retirement and workforce retention. *Proceedings of Singapore Healthcare*. 2016;25(1). DOI: 10.1177/2010105815615358

Yatim J, Wong KS, Ling ML, **Tan SB**, **Tan KY**, Hockenberry M. A nurse-driven process for timely removal of urinary catheter. *International Journal of Urological Nursing*. 2016. DOI: 10.1111/ijun.12113

Nursing Research in the News

(Published in The Straits Times, June 4th 2016, PB4)

Survey on skin tears to help SGH better manage cases

"This will help to further our understanding of the prevalence and impact of skin tears on patients, especially the elderly," said Ms Chang Yee Yee, a wound care nurse clinician at SGH and lead author of the earlier study.

The study, published in the *International Wound Journal* earlier this year, found that out of 144 patients surveyed in two hospital wards, 14 skin tears were identified, but only one had a wound dressing.

"The hospital-wide survey that we plan to conduct soon will let us know the effectiveness of these education initiatives," said Ms Ang Shin Yuh, senior nurse manager at SGH.