

A SELECTION OF TEN READINGS ON TOPICS RELATED TO GERIATRIC CARE 2022

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Selection of readings made by A/Prof Goh Lee Gan

READING 1 – FRAILITY PREVALENCE IN SINGAPORE

Chen CY,¹ Chandran T,² Barrera VC,¹ Tan-Pantanao RT,¹ Quicho TJZ,¹ Thant ZT,¹ Goh KS.¹ Frailty prevalence and its associations in a subacute geriatric ward in Singapore. *Singapore Med J.* 2022 Feb 10. PMID:35139627.

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ABSTRACT

INTRODUCTION: Our aim was to study the prevalence of frailty and its associated factors in a subacute geriatric ward.

METHODS: This was a cross-sectional study of 167 participants between June 2018 and June 2019. Baseline demographics and participants' Mini Nutritional Assessment, Geriatric Depression Scale, Mini Mental State Examination, Charlson's Comorbidity Index, and LACE index scores were obtained. Functional measurements such as modified Barthel's Index scores and hand grip strength (HGS) were taken. Frailty was assessed using the Clinical Frailty Scale (CFS) and the FRAIL scale. Data on history of healthcare utilisation, medications, length of stay, selected blood investigations, and presence of geriatric syndromes was also collected.

RESULTS: The prevalence of pre-frailty (CFS 4) and frailty (CFS ≥ 5) was 16.2 percent and 63.4 percent, respectively. There were significant associations between CFS and age (pre-frail versus non-frail: odds ratio [OR] 1.14, 95 percent confidence interval [CI] 1.04-1.25, $p=0.006$; frail vs. non-frail: OR 1.08, 95 percent CI 1.01-1.15, $p=0.021$), HGS at discharge (frail versus non-frail: OR 0.90, 95 percent CI 0.82-0.99, $p=0.025$), serum albumin (frail versus non-frail: OR 0.90, 95 percent CI 0.82-0.99, $p=0.035$) and the presence of urinary incontinence (frail versus non-frail: OR 3.03, 95 percent CI 1.19-7.77, $p=0.021$).

CONCLUSION: Frailty is highly prevalent in the subacute geriatric setting and has many associated factors. In this study, independent factors associated with frailty were age, HGS at discharge, serum albumin, and urinary incontinence. This has implications for future resource allocation for frail older inpatients and may help direct further research to study the effectiveness of frailty-targeted interventions.

READING 2 – INFLUENZA UPTAKE

Koh EYL,¹ Tay JSH,¹ Chan VX,¹ Goh SSM,¹ Wang SZ.^{1,2} Assessing the impact of educational methods on influenza vaccine uptake and patient knowledge and attitudes: a randomised controlled trial. *Singapore Med J.* 2021 Dec 15. Hu PL,^{1,2} PMID: 34911183.

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ABSTRACT

INTRODUCTION: Although influenza vaccination reduces rates of pneumonia, hospitalisation, and mortality, influenza vaccination uptake remains low in older patients. The primary aim was to compare individualised counselling with educational pamphlets alone in improving influenza vaccination uptake. The secondary aims were to evaluate knowledge and attitudes towards influenza vaccination and factors influencing uptake.

METHODS: A randomised controlled study was conducted in two government polyclinics with 160 participants per arm. Patients aged 65 years and above attending for doctor consultation were recruited. All participants received an educational pamphlet on influenza vaccination. The intervention group received additional face-to-face counselling. Participants filled a pre- and post-intervention questionnaire assessing knowledge of influenza and attitudes towards the vaccine. Follow-up calls and verification of electronic records was done at three months to determine actual vaccine uptake.

RESULTS: At three months, 16 (10 percent) patients in the intervention group and 20 (12.5 percent) patients in the control group had completed influenza vaccination ($p=0.48$). Factors positively associated with vaccine uptake were willingness to receive vaccination immediately after intervention (adjusted odds ratio [OR] 12.15, 95 percent confidence interval [CI] 4.42-33.38), and male sex (adjusted OR 2.96, 95 percent CI 1.23-7.12). Individualised counselling was more effective in improving knowledge ($p < 0.01$). Overall knowledge scores did not influence actual vaccine uptake rates (adjusted OR 1.10 [0.90-1.3]).

CONCLUSION: Both arms of patient education increased uptake of influenza vaccination. Individualised counselling was not superior to pamphlets alone in improving uptake. Performing vaccination at the initial point of contact improves actual uptake rates.

READING 3 – PSYCHOSIS IN PARKINSON'S DISEASE IN SOUTHEAST ASIA

Mok VWL,¹ Chan LG,² Goh JCB,² Tan LCS.^{3,4} Psychosis in Parkinson's disease in a Southeast Asian cohort: prevalence and clinical correlates. Singapore Med J. 2021 Dec 15. PMID: 34911181.

URL: doi: 10.11622/smedj.2021182. PMID: 34911181. (Free full text)

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ABSTRACT

INTRODUCTION: Psychosis is a prominent neuropsychiatric symptom of Parkinson's disease (PD) and is associated with negative outcomes, such as poorer quality of life and greater rate of functional impairment. Early identification of patients with PD at risk of developing psychosis facilitates appropriate management to improve outcomes. However, this phenomenon has not been examined locally. This study aimed to examine the prevalence of PD-associated psychosis in the local setting, identify any associated risk factors, and characterise the cognitive trajectory of patients with PD with psychosis.

METHODS: A retrospective cohort of 336 patients with PD, who presented to the National Neuroscience Institute, Singapore, in 2006 and 2007 and attended follow-up visits through to 2013 was analysed. The data analysed included scores from clinician assessments of cognitive function, disease severity, and presence of psychotic symptoms, conducted when clinically appropriate during patients' medical visits. Survival analysis and logistic and linear regression analysis were performed.

RESULTS: Psychosis was diagnosed in 63 patients with PD, indicating a prevalence of 18.8 percent for PD-associated psychosis. Incidence of psychosis in PD was calculated to be 40 per 1,000 person-years. No significant association was found between demographic variables and the odds of developing psychosis in PD. Regression analyses found that the presence of psychosis significantly predicted greater cognitive decline and disease severity.

CONCLUSION: Psychosis has a significant presence among the PD population in Singapore, possibly serving as an indicator of more rapid cognitive decline and progression of PD severity.

READING 4 – KAP TOWARDS COVID-19 AMONG ELDERLY MULTI-ETHNIC RESIDENTS IN SINGAPORE.

Aravindhan A,¹ Gan ATL,¹ Lee EPX,¹ Gupta P,¹ Man R,^{1,2} Ho KC,^{1,3,4} Sung SC,^{2,5} Cheng CY,^{1,2} Ling ML,^{2,6} Tan HK,^{7,8} Wong TY,^{1,2} Fenwick EK,¹ Lamoureux EL.^{1,2} Knowledge, attitudes, and practice towards COVID-19 among multi-ethnic elderly Asian residents in Singapore: a mixed methods study. *Singapore Med J.* 2021 Oct 11. PMID: 34628802.

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ABSTRACT

INTRODUCTION: We investigated knowledge, attitudes, and practice (KAP) about COVID-19 and related preventive measures in Singaporeans aged ≥ 60 years.

METHODS: This was a population-based, cross-sectional, mixed-methods study (13 May 2020-9 June 2020) of participants aged ≥ 60 years. Self-reported KAP about 10 COVID-19 symptoms and six government-endorsed preventive measures were evaluated. Multivariable regression models identified sociodemographic and health-related factors associated with KAP in our sample. Associations between knowledge/attitude scores, and practice categories were determined using logistic regression. Seventy-eight participants were interviewed qualitatively about the practice of additional preventive measures and data were analysed thematically.

RESULTS: Mean awareness score of the symptoms was 7.2/10. Fever (93.0 percent) and diarrhoea (33.5 percent) were the most- and least-known symptoms, respectively. Most knew all six preventive measures (90.4 percent), perceived them as effective (78.7 percent), and practised "wear a mask" (97.2 percent). Indians, Malays, and those in smaller housing had poorer mean knowledge of COVID-19 symptoms scores. Older participants had poorer attitudes towards preventive measures. Compared to Chinese, Indians had lower odds of practicing 3/6 recommendations. A one-point increase in knowledge of and attitudes towards preventive measures score had higher odds of always practicing 3/6 and 2/6 measures, respectively. Qualitative interviews revealed use of other preventive measures, e.g., maintaining a healthy lifestyle.

CONCLUSION: Elderly Singaporeans displayed high levels of KAP about COVID-19 and related preventive measures, with a positive association between levels of knowledge/attitude, and practice. However, important ethnic and socioeconomic disparities were evident, suggesting key vulnerabilities remain, requiring immediate attention.

READING 5 – MENOPAUSAL OSTEOPOROSIS

Yong EL,^{1,2} Logan S.^{1,2} Menopausal osteoporosis: screening, prevention and treatment. Singapore Med J. 2021 Apr;62(4):159-166. PMID: 33948669; PMCID: PMC8801823.

URL: doi: 10.11622/smedj.2021036. PMID: 33948669; PMCID: PMC8801823. (Free full text)

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ABSTRACT

Screening for osteoporosis in women can be based on age and weight, using the Osteoporosis Screening Tool for Asians and assessment for other risk factors such as early menopause, Chinese ethnicity, and other secondary factors. Based on the resulting risk profile, women can be triaged to dual-energy X-ray absorptiometry (DEXA) scanning for definite diagnosis of osteoporosis. Treatment should be considered in women with previous fragility fractures, DEXA-diagnosed osteoporosis, and high risk of fracture. Exercise improves muscle function, can help prevent falls and has moderate effects on improvements in bone mass. Women should ensure adequate calcium intake and vitamin D. Menopausal hormone therapy (MHT) effectively prevents osteoporosis and fractures and should be encouraged in those aged <50 years. For women aged <60 years, MHT or tibolone can be considered, especially if they have vasomotor or genitourinary symptoms. Risedronate or bisphosphonates may then be reserved for those aged over 60 years.

READING 6 – KAP OF OSTEOPOROSIS AMONG SINGAPORE WOMEN

Lulla D,¹ Teo CW,² Shen X,¹ Loi ZBJ,¹ Quek KW,² Lis HLA,² Koh SA,¹ Chan ET,² Lim SWC,¹ Low LL.³ Assessing the knowledge, attitude and practice of osteoporosis among Singaporean women aged 65 years and above at two SingHealth polyclinics. Singapore Med J. 2021 Apr;62(4):190-194. PMID: 33948668; PMCID: PMC8801830.

URL: doi: 10.11622/smedj.2021039. PMID: 33948668; PMCID: PMC8801830. (Free full text)

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ABSTRACT

INTRODUCTION: Singapore has one of the world's most rapidly ageing populations. Osteoporosis is associated with significant morbidity and mortality from hip fractures in the elderly. This pilot study aims to evaluate the knowledge, attitude, and practice of osteoporosis among Singaporean women aged ≥65 years, and assess barriers to osteoporosis screening.

METHODS: We conducted a cross-sectional survey of 99 English-speaking women aged ≥65 years at two SingHealth polyclinics by convenience sampling. The validated Osteoporosis Prevention and Awareness Tool was used to assess their knowledge about osteoporosis prevention and awareness and perceived barriers to osteoporosis screening. Osteoporosis health education was provided, and bone mineral density (BMD) screening was offered to all participants.

RESULTS: The response rate was 91.6 percent. The majority of the participants (54.5 percent) had low knowledge of osteoporosis, and only 12.1 percent had high knowledge scores. Higher education levels were associated with higher knowledge scores ($p=0.018$). Although participants with higher knowledge scores were more willing to undergo osteoporosis screening, these findings did not reach statistical significance ($p=0.067$). The top reasons for declining BMD testing were misconceptions that lifestyle management is sufficient to prevent osteoporosis, poor awareness and knowledge of the disease, and the perceived high cost of BMD testing.

CONCLUSION: Interventions should focus on osteoporosis education and, eventually, BMD screening for less-educated patients. Health education should rectify common misconceptions of the disease, increase awareness of osteoporosis and improve screening rates.

READING 7 – INTEGRATED HIP FRACTURE PATHWAY

Heyzer L,¹ Ramason R,¹ Molina JAC,² Chan WWL,³ Loong CY,⁴ Kwek EBK.⁵ Integrated Hip Fracture Care Pathway (IHFCP): reducing complications and improving outcomes. *Singapore Med J.* 2021 Apr 19. PMID: 33866715.

URL: doi: 10.11622/smedj.2021041. PMID: 33866715. (Free full text)

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ABSTRACT

INTRODUCTION: Hip fractures in elderly people are increasing. A five-year Integrated Hip Fracture Care Pathway (IHFCP) was implemented at our hospital for seamlessly integrating care for these patients from admission to post discharge. We aimed to evaluate how IHFCP improved process and outcome measures in these patients.

METHODS: A study was conducted over a five-year period on patients with acute fragility hip fracture who were managed on IHFCP. The evaluation utilised a descriptive design, with outcomes analysed separately for each of the five years of the programme. First-year results were treated as baseline.

RESULTS: The main improvements in process and outcome measures over five years, when compared to baseline, were: (a) increase in surgeries performed within 48 hours of admission from 32.5 percent to 80.1 percent; (b) reduced non-operated patients from 19.6 percent to 11.9 percent; (c) reduced average length of stay at acute hospital among surgically (from 14.0 ± 12.3 days to 9.9 ± 1.0 days) and conservatively managed patients (from 19.1 ± 22.9 to 11.0 ± 2.5 days); (d) reduced 30-day readmission rate from 3.2 percent to 1.6 percent; and (e) improved Modified Functional Assessment Classification of VI to VII at six months from 48.0 percent to 78.2 percent.

CONCLUSION: The IHFCP is a standardised care path that can reduce time to surgery, average length of stay, and readmission rates. It is distinct from other orthogeriatric care models, with its ability to provide optimal care coordination, early transfer to community hospitals, and post-discharge day rehabilitation services. Consequently, it helped to optimise patients' functional status and improved their overall outcome.

READING 8 – DYSHAGIA EVALUATION AND MANAGEMENT

Wilkinson JM,¹ Codipilly DC,¹ Wilfahrt RP.¹ Dysphagia: Evaluation and Collaborative Management. *Am Fam Physician.* 2021 Jan 15;103(2):97-106. PMID: 33448766.

URL: PMID: 33448766. PMID: 33448766. (Free full text)

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ABSTRACT

Dysphagia is common but may be underreported. Specific symptoms, rather than their perceived location, should guide the initial evaluation and imaging. Obstructive symptoms that seem to originate in the throat or neck may actually be caused by distal esophageal lesions. Oropharyngeal dysphagia manifests as difficulty initiating swallowing, coughing, choking, or aspiration, and it is most commonly caused by chronic neurologic conditions such as stroke, Parkinson's disease, or dementia. Symptoms should be thoroughly evaluated because of the risk of aspiration. Patients with esophageal dysphagia may report a sensation of food getting stuck after swallowing. This condition is most commonly caused by gastroesophageal reflux disease and functional esophageal disorders. Eosinophilic esophagitis is triggered by food allergens and is increasingly prevalent; esophageal biopsies should be performed to make the diagnosis. Esophageal motility disorders such as achalasia are relatively rare and may be overdiagnosed. Opioid-induced esophageal dysfunction is becoming more common. Esophagogastroduodenoscopy is recommended for the initial evaluation of esophageal dysphagia, with barium

esophagography as an adjunct. Esophageal cancer and other serious conditions have a low prevalence, and testing in low-risk patients may be deferred while a four-week trial of acid-suppressing therapy is undertaken. Many frail older adults with progressive neurologic disease have significant but unrecognised dysphagia, which significantly increases their risk of aspiration pneumonia and malnourishment. In these patients, the diagnosis of dysphagia should prompt a discussion about goals of care before potentially harmful interventions are considered. Speech-language pathologists and other specialists, in collaboration with family physicians, can provide structured assessments and make appropriate recommendations for safe swallowing, palliative care, or rehabilitation.

READING 9. INJURY PATTERNS OF ELDERLY CYCLISTS AND MOTORCYCLISTS

Cheong HS,¹ Tham KY,² Chiu LQ.² Injury patterns in elderly cyclists and motorcyclists presenting to a tertiary trauma centre in Singapore. *Singapore Med J.* 2021 Sep;62(9):482-485. PMID: 32211913.

URL: doi: 10.11622/smedj.2020038. PMID: 32211913. (Free full text)

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ABSTRACT

INTRODUCTION: With Singapore's ageing population, there are increasing numbers of elderly cyclists and motorcyclists. Compared to younger riders, this cohort sustains more injuries and has poorer outcomes. This study aimed to describe and compare patient demographics, injury patterns, and outcomes among elderly cyclists and motorcyclists at a Level 1 trauma centre.

METHODS: Data of all cyclists, motorcyclists and pillion riders aged 65 years and above who presented to the emergency department after accidents from 1 January 2013 to 31 December 2017 were extracted from the hospital's trauma registry and reviewed.

RESULTS: Cyclists and motorcyclists formed 42.0 percent and 58.0 percent, respectively, of 157 recruited patients. At the time of the accident, 40.8 percent of the patients were employed. The mean age of the patients was 71.6 ± 5.8 years. Extremities and pelvic girdle injuries (61.1 percent) were the most frequent, followed by chest injuries (48.4 percent), and head and neck injuries (40.1 percent). Among severe injuries (defined as Abbreviated Injury Scale score ≥ 3), chest injuries (39.5 percent) were the most common, followed by head and neck injuries (36.3 percent). The overall mortality rate was 9.6 percent, with cyclists at nearly three times the risk compared to motorcyclists. More cyclists than motorcyclists (18.2 percent vs. 11.0 percent) required intensive care. There were no significant differences in the length of hospital stay between cyclists and motorcyclists.

CONCLUSION: Elderly riders have unique injury patterns and consume significant healthcare resources. Trauma systems need to acknowledge this changing injury epidemiology and equip trauma centres with the necessary resources targeted at elderly patients. Future work should focus on strategies to minimise extremity and chest injuries.

READING 10. TRUNCAL IMPAIRMENT AFTER STROKE

Kong KH,¹ Ratha Krishnan R.¹ Truncal impairment after stroke: clinical correlates, outcome and impact on ambulatory and functional outcomes after rehabilitation. Singapore Med J. 2021 Feb;62(2):87-91. PMID: 31788705; PMCID: PMC8027135.

URL: doi: 10.11622/smedj.2019153. PMID: 31788705; PMCID: PMC8027135. (Free full text)

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ABSTRACT

INTRODUCTION: Good trunk performance is important for activities such as sitting and standing. In a cohort of patients with stroke, we sought to evaluate changes in trunk performance after stroke, establish factors correlated to trunk performance, and assess the impact of trunk performance on discharge ambulatory and functional status.

METHODS: This was a retrospective review of the data of patients with stroke admitted to Tan Tock Seng Hospital rehabilitation centre, Singapore, over a two-year period. Data analysed included the National Institutes of Health Stroke Scale (NIHSS), Montreal Cognitive Assessment (MOCA), Fugl-Meyer Assessment (FMA) of limb motor impairment, and Functional Independence Measure-motor (FIM-motor) scores, which measures self-care ability. Trunk performance was assessed on the Trunk Impairment Scale (TIS).

RESULTS: 577 patients with stroke (mean age 63.2 ± 11.8 years) were analysed. Truncal impairment was present in 96.4 percent of patients. Mean admission TIS score was 14.3 ± 6.1 and this improved to 17.2 ± 5.2 on discharge ($p < 0.001$). Admission TIS score was positively correlated with admission MOCA, FMA-upper limb and FMA-lower limb scores, and negatively correlated to NIHSS score and neglect. Admission TIS scores significantly predicted discharge FIM-motor scores ($p < 0.001$) and ambulatory status ($p < 0.001$).

CONCLUSION: Truncal impairment was common and improvements in trunk performance were seen after rehabilitation. Trunk performance was significantly correlated to stroke severity, upper and lower limb motor power, cognition, and neglect. As admission trunk performance predicted discharge functional and ambulatory status, it is recommended that trunk performance be evaluated for all patients with stroke.