Telegeriatrics in Nursing Homes- The Singapore Perspective

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Introduction

Population ageing is taking place in nearly all the countries of the world.[1] Singapore is not an exception. Residents aged ±65 years made up 11.8 per cent of the resident population in 2015 while the old-age support ratio of residents fell.[2] Hence, more elderly will have to cope on their own and when they are unable to, institutionalisation may be the recourse. Since 2014, there are 66 Nursing Homes (NHs) having 10,780 beds[3] but of few resident doctors and of no full-time resident specialist. Limited by an inadequate supply of geriatricians, telemedicine between the patient and the geriatrician enables timely and accessible care, while reducing unnecessary costs. Tele- geriatrics in NHs is a piloted Telemedicine Programme between the Geriatric Medicine Department of an acute hospital and several nursing homes (NHs) using a "hub and spoke" model.

Aims

The programme aims to provide specialist access for NHs and empower NH nurses with continuing training and education.

Methods

This descriptive study reviewed 958 telemedicine consultations with 4 NHs from December 2010 – March 2016. Besides the teleconsultation service, this study also reviewed the management plans and follow-ups through multidisciplinary meetings, mortality audits and acute hospital transfers of nursing homes.

A survey on nurses' self-reported confidence and post-course satisfaction was also shown in this study. Over the study period from December 2010 to June 2014, all 17 Telegeriatrics Nurse Training Course (TNTC) -trained nurses participated. The nurses signed a standardized informed consent detailing benefits/risks of the study before filling up the survey forms. Two separate sets of a five-point Likert Scale questionnaire on self-reported confidence and satisfaction were then administered to them. The confidence survey was based on the objectives of the TNTC, while the satisfaction survey was adapted from other studies[3-4] and modified in accordance with the requirements of the TNTC.

Results

Demographics of Residents seen in Telegeriatrics Consultation

- 375 Telegeriatrics consultation sessions
- 958 Residents
- 26 minutes average consult time
- Mean age of residents: 76 years old

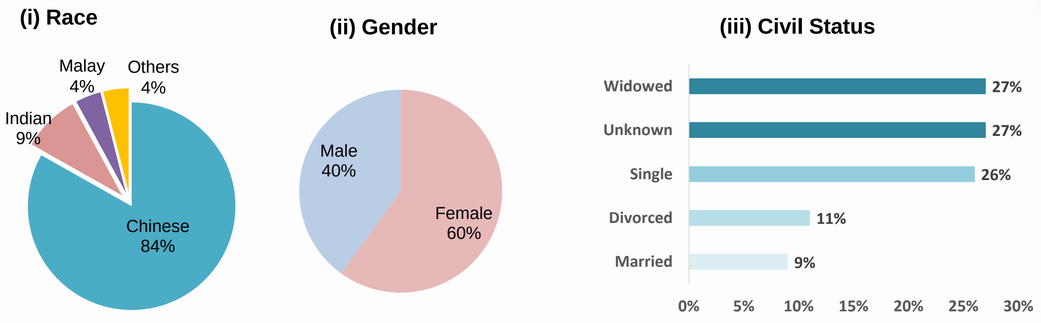


Figure 1: Demographics of residents by race, gender and civil status

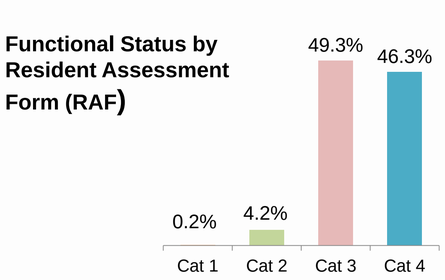


Figure 2: Demographic of residents by functional status

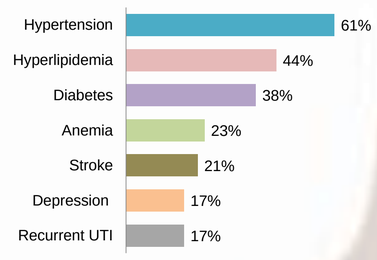


Figure 3: Demographic by commonest comorbidities

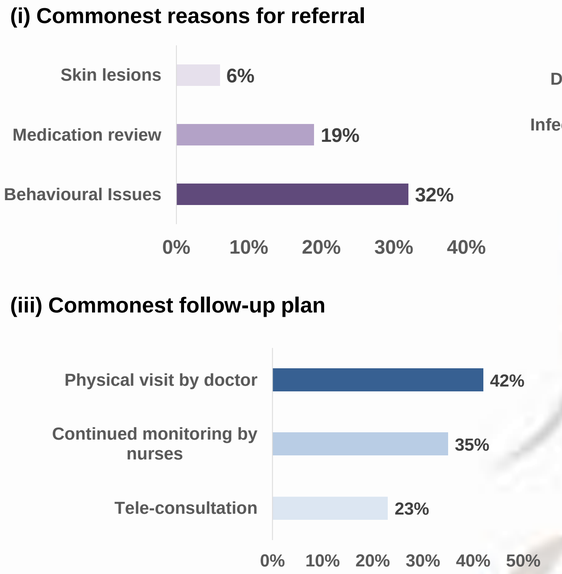


Figure 4: Commonest reasons for referral, diagnosis and follow-up plan

Besides the telemedicine consultation service, this study also reviewed the management plans and case follow-ups through multi-disciplinary meetings (MDM) and mortality audits (MA) of 2 NHs (table 1), and the rate of acute hospital transfers and specialist out-patient clinic (SOC) visits of NHs (fig.5).

Results (Continued)

Table 1: Multi-disciplinary meetings and mortality audits

	NH1	NH2	Total
No. of MDM	17	16	33
No. of cases reviewed in MDM	39	27	66
No. of MA	13	14	27
No. of cases reviewed in MA	34	23	57

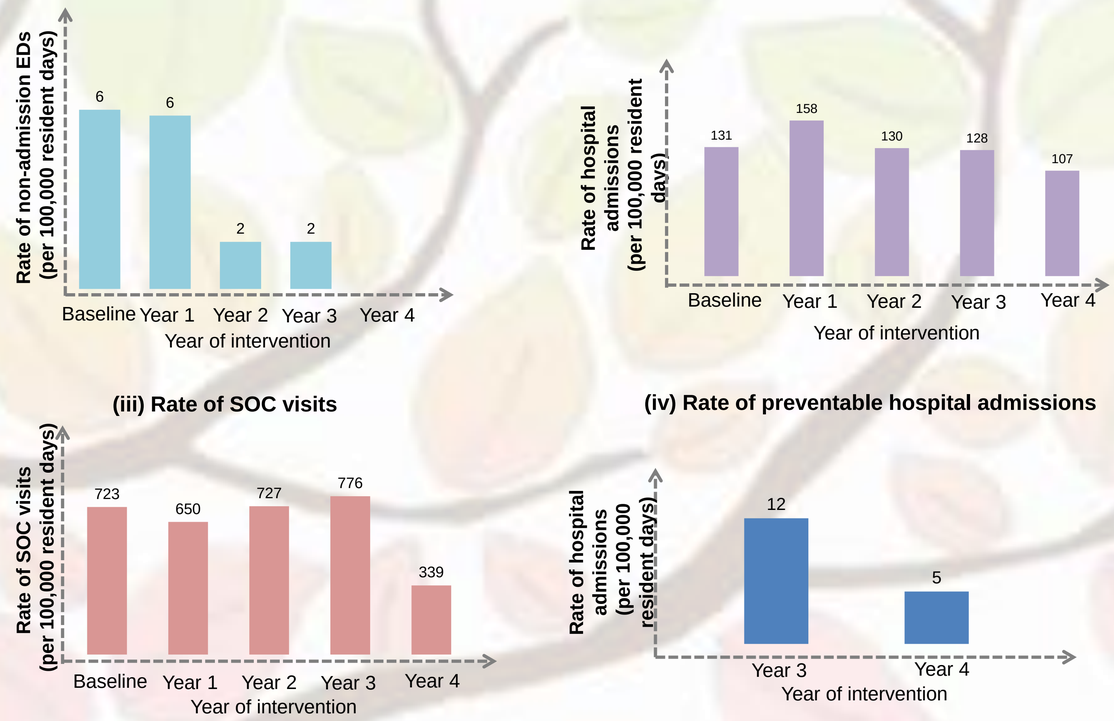


Figure 5: Yearly rate of non-admission visits to ED, hospital admissions, preventable hospital admissions and specialist out-patient clinic visits during the intervention

Demographics of TNTC-trained nurses (N=17)

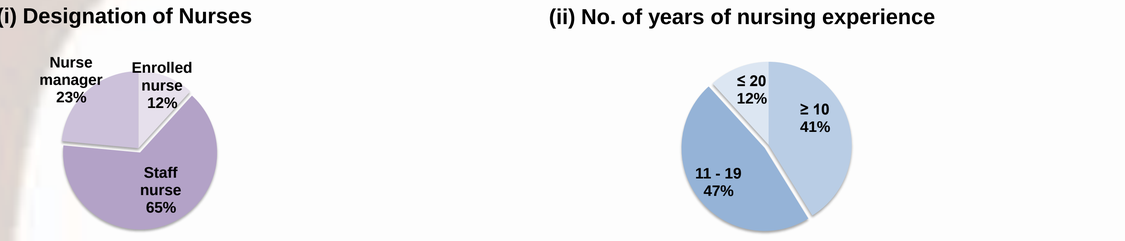
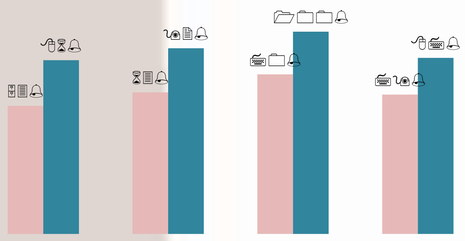


Figure 6: Demographics of TNTC-trained nurses by designation and years of nursing experience

Pre- and Post-TNTC Confidence (N=17)

Nurses' self-reported confidence



Post-TNTC Satisfaction (N=17)

The 9-item satisfaction survey measured the nurses' satisfaction (fig 8) in the following areas:

- Efficiency of course materials and curriculum (Items 1-3),
- Preparedness and competency of trainers (Items 4-6), and
- Professional and academic development (Items 7-9).

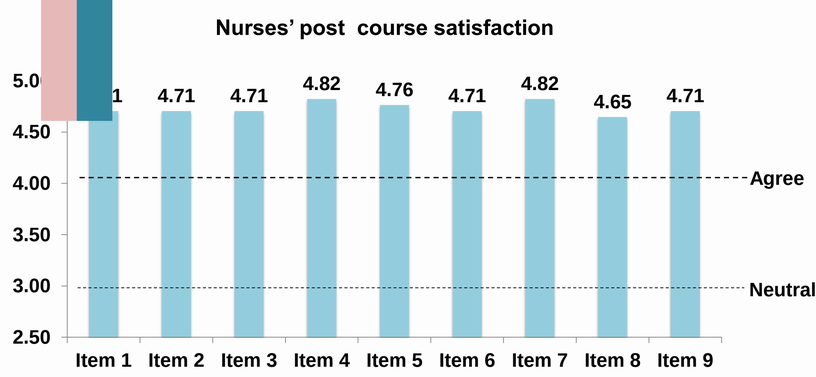


Figure 8: Mean scores of each item in a five-point scale survey that assessed satisfaction in the TNTC

Discussion and Conclusion

This study reviewed 958 residents seen in telemedicine consultations. Majority of the residents were women (fig.1) and the mean age was 76 ±13 years old. The functional status by RAF were mostly category 3 and 4, indicating moderate to severe assistance in residents' activities of daily living. The commonest reasons for referral were behavioural issues, medication review and skin lesions. The commonest diagnoses were dementia with BPSD, infections (pneumonia, urinary tract infection and skin infections while the commonest follow-up plans were physical visit by doctor, continued monitoring by the nurses and teleconsultation (fig.4). The review of acute hospital transfers and SOC visits showed a decreased rate in emergency visits, hospitalization and outpatient appointments at year 3 and 4. (fig.5) The survey on nurses' self-reported confidence (fig.7) and post- course satisfaction (fig.8) showed increased confidence and high satisfaction in the TNTC.

This programme sets measures on enhancing residents' quality of care and life, and reducing unnecessary utilization of acute care resources. Hence, this study suggests that telemedicine service is feasible in providing care in the NHs even in an urban and densely populated setting such as Singapore.

References