

Hospitalization and emergency department visits among seniors receiving homecare: a pilot study

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Background: Despite the recent growth in home health services, data on clinical outcomes and acute health care utilization among older adults receiving homecare services are sparse. Obtaining such data is particularly relevant in Ontario where an increasing number of frail seniors receiving homecare are awaiting placement in long-term care facilities. In order to determine the feasibility of a large-scale study, we conducted a pilot study to assess utilization of acute health care services among seniors receiving homecare to determine associated clinical outcomes.

Methods: This prospective cohort study followed forty-seven seniors admitted to homecare by two homecare agencies in Hamilton, Ontario over a 12-month period. Demographic information and medical history were collected at baseline, and patients were followed until either termination of homecare services, death, or end of study. The primary outcome was hospitalization. Secondary outcomes included emergency department visits that did not result in hospitalization and death. Rates of hospitalization and emergency department visits without admission were calculated, and univariate analyses were performed to test for potential risk factors. Survival curves for accumulative rates of hospitalization and emergency department visits were created.

Results: 312 seniors were eligible for the study, of which 123 (39%) agreed to participate initially. After communicating with the research nurse, of the 123 who agreed to participate initially, 47 (38%) were enrolled in the study. Eleven seniors were hospitalized during 3,660 days of follow-up for a rate of 3.0 incident hospitalizations per 1,000 homecare-days. Eleven seniors had emergency department visits that did not result in hospitalization, for a rate of 3.3 incident emergency department visits per 1,000 homecare-days. There were no factors significantly associated with hospitalization or emergency department visits when adjustment was made for multiple comparisons.

Conclusion: The incidence of hospitalization and visits to the emergency department among seniors receiving homecare services is high. Getting satisfactory levels of enrolment will be a major challenge for larger prospective studies.

Health status in older hospitalized patients with cancer or non-neoplastic chronic diseases

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Background: Whether cancer is more disabling than other highly prevalent chronic diseases in the elderly is not well understood, and represents the objective of the present study.

Methods: We used data from the Gruppo Italiano di Farmacovigilanza nell'Anziano (GIFA) study, a large collaborative observational study based in community and university hospitals located throughout Italy. Our series consisted of three groups of patients with non-neoplastic chronic disease (congestive heart failure, CHF, N = 832; diabetes mellitus, N = 939; chronic obstructive pulmonary disease, COPD, N = 399), and three groups of patients with cancer (solid tumors without metastasis, N = 813; solid tumors with metastasis, N = 259; leukemia/lymphoma, N = 326). Functional capabilities were ascertained using the activities of daily living (ADL) scale, and categorical variables for dependency in at least 1 ADL or dependency in 3 or more ADLs were considered in the analysis. Cognitive status was evaluated by the 10-items Hodgkinson Abbreviated Mental Test (AMT).

Results: Cognitive impairment was more prevalent in patients with CHF (28.0%) or COPD (25.8%) than in those with cancer (solid tumors = 22.9%; leukemia/lymphoma = 19.6%; metastatic cancer = 22.8%). Dependency in at least 1 ADL was highly prevalent in patients with metastatic cancer (31.3% vs. 24% for patients with CHF and 22.4% for those with non-metastatic solid tumors, $p < 0.001$). In people aged 80 years or more, metastatic cancer was not associated with increased prevalence of physical disability. In multivariable analysis, metastatic cancer was associated with a greater prevalence of physical (OR 2.09, 95%CI

1.51–2.90) but not cognitive impairment (OR 1.34, 95%CI 0.94–1.91) with respect to CHF patients. Finally, diabetes was significantly associated with cognitive impairment (OR 1.40, 95%CI 1.11–1.78).

Conclusion: Cancer should not be considered as an ineluctable cause of severe cognitive and physical impairment, at least not more than other chronic conditions highly prevalent in older people, such as CHF and diabetes mellitus.

Prevalence of inappropriate medication using Beers criteria in Japanese long-term care facilities

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Background: The prevalence and risk factors of potentially inappropriate medication use among the elderly patients have been studied in various countries, but because of the difficulty of obtaining data on patient characteristics and medications they have not been studied in Japan.

Methods: We conducted a retrospective cross-sectional study in 17 Japanese long-term care (LTC) facilities by collecting data from the comprehensive MDS assessment forms for 1669 patients aged 65 years and over who were assessed between January and July of 2002. Potentially inappropriate medications were identified on the basis of the 2003 Beers criteria.

Results: The patients in the sample were similar in terms of demographic characteristics to those in the national survey. Our study revealed that 356 (21.1%) of the patients were treated with potentially inappropriate medication independent of disease or condition. The most common inappropriately prescribed medication was ticlopidine, which had been prescribed for 107 patients (6.3%). There were 300 (18.0%) patients treated with at least 1 inappropriate medication dependent on the disease or condition. The highest prevalence of inappropriate medication use dependent on the disease or condition was found in patients with chronic constipation. Multiple logistic regression analysis revealed psychotropic drug use (OR = 1.511), medication cost of per day (OR = 1.173), number of medications (OR = 1.140), and age (OR = 0.981) as factors related to inappropriate medication use independent of disease or condition. Neither patient characteristics nor facility characteristics emerged as predictors of inappropriate prescription.

Conclusion: The prevalence and predictors of inappropriate medication use in Japanese LTC facilities were similar to those in other countries.

Cross-sectional relationship between physical fitness components and functional performance in older persons living in long-term care facilities

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Background: The age-related deterioration of physiological capacities such as muscle strength and balance is associated with increased dependence. Understanding the contribution of physical fitness components to functional performance facilitates the development of adequate exercise interventions aiming at preservation of function and independence of older people. The aim of the study was to investigate the relationship between physical fitness components and functional performance in older people living in long-term care facilities.

Methods: *Design* cross-sectional study

Subjects 226 persons living in long-term care facilities (mean age: 81.6 ± 5.6). *Outcome measures* Physical fitness and functional performance were measured by performance-based tests.

Results: Knee and elbow extension strength were significantly higher in men (difference = 44.5 and 50.0 N, respectively), whereas women were more flexible (difference sit & reach test = 7.2 cm). Functional performance was not significantly different between the genders. In men, motor coordination (eye-hand coordination) and measures of strength were the main contributors to functional performance, whereas in women flexibility (sit and reach test) and motor coordination (tandem stance and eye-hand coordination) played a major role.

Conclusion: The results of this study show that besides muscle strength, fitness components such as coordination and flexibility are associated with functional performance of older people living in long-term care facilities.

This suggests that men and women living in long-term care facilities, differ considerably concerning the fitness factors contributing to functional performance. Women and men may, therefore, need exercise programs emphasizing different fitness aspects in order to improve functional performance.