The Relationship Between Nutritional Status and Physical Function, Admission Frequency, Length of Hospital Stay, and Mortality in Old People Living in Long-Term Care Facilities

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ABSTRACT

Background: Nutrition is an important issue for elderly residents of long-term care facilities (LTCFs). About 20% of elderly LTCF residents in Taiwan are malnourished.

Purpose: This study investigated correlations between nutritional status and physical function, admission frequency, hospital stay duration, and mortality in elderly LTCF residents.

Methods: Researchers used a retrospective study design and convenient sampling to enroll 174 subjects aged 67 to 105 years (average, 82.5 years) who were living in legally registered LTCFs in Beitou District, Taipei City, Taiwan. A review of LTCF resident files provided data on subjects’ demographics, physical examination laboratory results for the most recent 1-year period, anthropometry, physical function, admission frequency, hospital stay duration, and causes of admissions. Subjects had lived in their LTCF for more than 1 year before their enrollment date. Subjects who died during and after the study period were also included in analysis.

Results: Results showed significant changes over the study year in subjects' nutritional status, physical function, and calf circumference. Physical function was found significantly correlated with calf circumference, hospitalization status was found correlated with nasal-gastric tube feeding status, and eating pattern was found correlated with calf circumference and levels of both serum albumin and cholesterol. Nutritional status, calf circumference, albumin level, and cholesterol level also correlated significantly with hospitalization status. In this study, the likelihood of hospitalization increased with age and nasal-gastric tube feeding use. Hospital stay duration for subjects receiving nasal-gastric tube feeding was longer than that for those receiving oral feeding. Also, weak nutritional status scores for calf circumference and hemoglobin levels were factors associated with increased mortality risk.

Conclusions/Implications for Practice: Findings recommend that greater attention should be paid to the nutritional status of elderly persons living in LTCFs to reduce hospitalization and death risks, cut medical expenses, and improve quality of care.

KEY WORDS: long-term care facility, nutritional status, admission frequency, hospital stay duration, mortality.

Introduction

Taiwan’s aging population has made care of old people a critical issue. Demand for long-term care facilities (LTCFs) for old people has increased. According to Taiwan’s Department of Social Affairs under the Ministry of the Interior (2011), there were only 183 public and private LTCFs in Taiwan at the end of 1999. At the end of January 2011, this number had increased to 1,050, indicating strong demand.

Elderly health is complex, and changes in nutritional status are critical. The physical, mental, and social deterioration that accompanies aging directly or indirectly restricts diet quantity and quality, which can result in dystrophy or malnutrition (Singh, Bhaldraithe, Bondin, & Goorah, 2010). Russell and Elia (2008) highlighted the risk of malnutrition growing with age and noted a higher incidence among those currently receiving care or living in institutions. Studies addressing the situation in various countries found that some 35%–65% of hospitalized old people (Omran & Morley, 2000; Stechmiller, 2003; Suominen, Sandelin, Soini, & Pitkala, 2009) and 20%–50% of elderly LTCF residents experienced malnutrition (Chen, 2007; Chiu, Lin, Hsieh,Accepted for publication: February 20, 2012

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