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Promoting oral health: a highly prioritized care in geriatric setting?

Doris S.F. Yu & Diana T.F. Lee
The Nethersole School of Nursing, The Chinese University of Hong Kong

Introduction

Older people are the main consumers of hospital services in Hong Kong. Apart from the index medical problem for hospital admission, they are usually suffering from one or more comorbidities, to be more physically dependent and have deteriorated bodily functions. It is, hence, more challenging for geriatric nurses to assess and fulfill the complex health care needs of hospitalized geriatric patients.

Hospitalized geriatric patients are more susceptible to impaired oral health (Locker, Matear, Stephens, 2002). This is because numerous systematic diseases common to older people, as well as the associated medical treatment that is required, are known to have deleterious effects on oral functioning (Ghezzi & Ship, 2000). The possible physical limitations and hospitalization resulting from the illness may also reduce older people's awareness and/ or capacity for self-care and thus negatively impact their oral hygiene. Indeed, good oral health is important for maintaining the normal physiological and functional well being of older people (Ship, 2002). Oral health problems such as unhealthy gum, tooth loss, dental caries, periodontal disease, dental prosthesis problem and oral dryness have been found to causing oral discomfort, chewing problems, poor nutrition, disturbed self-esteem, and reduced social life (Hutton, Feine & Marais, 2002; Locker, Clarke & Payne, 2000; Tada, Watanable, Yokoe, Hanada & Tanzawa, 2003; Thomson, Lawrence, Broadbent & Poulton, 2006;). As a result, oral health-related quality of life (OHRQoL), which refers to an individual's perception of how one's oral health condition affects daily life, has received more attention in gerontological care. However, oral health care needs of hospitalized geriatric patients are often neglected and oral care is usually a low-prioritized nursing care. Indeed, no information about the oral health status and OHRQoL of geriatric patients in Hong Kong has been reported.

Study aim

The purpose of this study was to describe the oral health status and OHRQoL among hospitalized geriatric patients in Hong Kong.

Methods

Study population

A consecutive sample of 155 older patients was recruited from the geriatric unit of a regional hospital in Hong Kong from November 2006 to January 2007. All the patients in the study setting were aged 65 years or older. Eligible patients included those who were speaking Chinese, communicable and had intact cognitive function (Abbreviated Mental Test score 6).

Data collection

Approval to conduct the study was obtained from the Ethics Committee. The Brief Oral Health Status Examination (BOHSE) and the General Oral Health Assessment Index (GOHAI) were used to measure the oral health status and OHRQoL of the hospitalized geriatric patients, respectively. The BOHSE is developed for non-dental professionals to conduct oral health assessment. The assessment covers ten aspects of oral health including: lips, tongue, soft tissues, gums, saliva, condition of natural teeth and artificial teeth, and pairs of occluding teeth (Kayser-Jones, Bird, Paul et al., 1995). Each aspect has three descriptors to represent healthy state (score = 0), oral changes (score = 1), and unhealthy state (score = 2) in the corresponding aspect, respectively. The rater is required to grade each aspect of the oral health status on a 3-point scale with '0' = healthy state, '1' = oral changes, and '2' = unhealthy state. As for the 12-item GOHAI, it measures an individuals perception of how the oral health condition affect one's physical functioning, psychosocial functioning and pain or discomfort of the oral cavity (Wong, Liu, Lo, 2002). Each item is rated on a '1-5' 5-point Liket scale, with higher score representing a better OHRQoL (Wong, Liu & Lo, 2002). The three categories of the GOHAI scores: <50, 51-56, and 57-60, are considered as low, moderate and high ratings of perceived oral health, respectively. For each successful recruited participant, a nurse academician performed an oral assessment with BOHSE and administered the GOHAI in a face-to-face interview.

Statistical analysis

Data analysis was performed by using SPSS (version 14.0). Descriptive statistics was used to describe the central tendency and frequency distribution of the oral health status and OHRQoL of the participants. One-way analysis of variance was used to compare the OHRQoL between participants of different oral health status.

Results

The mean age of the participants was 80.0 (SD=7.2), and 34.8 % were male; approximately 20% were living in old-age homes. The most common reasons for admission included cerebrovascular accident (49%), cardiorespiratory disease (14.9%) and clinical sepsis (8.4%). Comorbidities were prevalent with the mean number as 3.0 (SD=1.7). Bathing and toileting were most commonly affected ADLs among the pariticipants.

About one fifth of the participants was completely edentulous but their natural teeth were well replaced with dentures. Each of them had 26-28 artificial teeth. Table 1 summarized the BOHSE score of the geriatric patients. Approximately 22% of the participants had four or more decayed teeth, 27% had fewer than eight pairs of occluding teeth (including dentures) and more than 60% had tartar or food particles in many locations in their oral cavity. Almost half of the participants had other oral health problems such as coated tongue, dry and rough red oral tissue and diseased gums.

As for the OHRQoL, the mean GOHAI score (49.77, SD = 6.40) was lower than the cut-off point for the lowest acceptable level of OHRQoL (i.e. 50). The oral physical function was most affected (physical function score: 3.26 1.16; pain and discomfort score = 4.36 0.65; psychosocial function score = 4.45 0.42). By using the recommended cut-off point, about half of the participants (51%) reported a low GOHAI score whereas one-third (36.1%) had moderate GOHAI score. When comparing the GOHAI scores between the participants of different oral health status, the results indicated participants with changed gum condition ($p = 0.002$) and fewer than eight pairs of occluding teeth ($p<0.001$) reported significantly lower OHRQoL than their healthy counterparts.

Discussion

The study evaluated oral health status and OHRQoL of hospitalized geriatric patients in Hong Kong. The findings reinforced the conclusion of a decline in oral health status among this group of older people. Impaired oral health conditions including tooth loss, tooth decay, gum problems, coated tongue, dry and rough red oral tissue and excessive tartar were prevalent. Such problem may be related to systematic diseases, the treatment for which results in exposure to more adverse oral side-effects of medications such as gingival overgrowth, reduced salivary secretion and ineffective plaque control (Ghezzi & Ship, 2000). The disruption of the normal daily living routine as a result of hospitalization may further affect their oral hygiene practice. Maintaining effective oral care should, therefore, be a highly prioritized issue in effective geriatric practice.

This study also indicated the low OHRQoL of the hospitalized geriatric patients, with the physical functioning of eating, swallowing and speaking being rated by the hospitalized geriatric patients as poorest. Among the various aspects of oral health, less than eight pairs of chewing teeth and unhealthy gums were significantly associated with a reduced OHRQoL. Kasyser and colleague (1995) recommended that ten pairs of occluding teeth are required to maintain optimal chewing ability. Having fewer than eight pairs of occluding teeth may limit the food choice of geriatric patients and lead to poor nutrition as well as an undermining of general well being. Indeed, eating is also an especially important activity for older people to partake actively in the social gathering for meals. As for unhealthy gum, this is an important factor reflecting the periodontal health of older people (Petersen & Yamamoto, 2005). The strong association between periodontal disease and tooth loss as well as oral pain may account for its significant impact on OHRQoL.

Clinical implications

In views of the poor oral health status and compromised OHRQoL of the hospitalized geriatric patients, promoting oral health should be a highly prioritized care in geriatric setting. This study has three important clinical implications. Firstly, tooth decay and periodontal diseases are the main reasons for tooth loss in older people (Kwan & Williams, 1999). Routine assessment of dental and gum condition allows early detection and prompt treatment for such oral health problems. The BOHSE, which developed to facilitate non-dental health care professionals to perform oral assessment, provides nurses a mean to assess the oral status in geriatric setting. Secondly, maintaining good oral hygiene is important to optimize the oral health and oral functions. As more work has been done to identify and synthesize evidence on effective oral care interventions for older people (Coleman, 2002; Davies, 2004; Robinson et al., 2007), it is important for nurses to implement such evidence in the day-to-day oral care practice. Indeed, hospitalization also provides a good opportunity for nurses to provide health education on oral health self-care practice to geriatric patients and their families. Finally, preserving all remaining teeth for geriatric patients has been recognized as an important agenda item in the provision of oral care. Nurses can alert the clinician to make referrals for geriatric patients to dental service for decayed teeth and inadequate dental prosthesis.

Corresponding author: Prof. Doris S.F. Yu, Assistant Professor, The Nethersole School of Nursing
The Chinese University of Hong Kong, Tel: (852) 3163 4289, Email: dyu@cuhk.edu.hk