

Oral Health Status and Treatment Needs of Elderly Residents in a Singapore Nursing Home

Dear Editor,

The oral health of nursing home residents is an integral part of their total health. Good oral health facilitates effective chewing, contributes positively to speech, social confidence and is associated with better cognitive and functional capacity in older persons.¹ Gum disease can exert a negative effect on diabetes, pneumonia, heart disease, high-density-lipoprotein cholesterol, serum iron, white blood cell count, fasting blood sugar, hypertension and other health markers.^{2,3} Upon admission to a local nursing home, residents are given a medical assessment and thereafter regularly monitored by medical practitioners. However, residents are generally not provided with any oral health assessment and only referred to dentists when they complain of dental symptoms.

It has been over 15 years since any data on the oral health of nursing home residents in Singapore was published.⁴ A study conducted in 1991 suggested that oral health neglect was common and residents only had episodic dental care when they complained of pain. There were no preventive programmes and about 50% of subjects examined required urgent dental treatment.

In November 2006, a team of 3 dentists (HPYT, MLW and ASMW) carried out a bedside oral health assessment for the residents of a 270-bedded local nursing home. They assessed the prevalence of edentulism, denture status, extent of tooth decay, oral hygiene and the dental treatment needs of the residents.

Of the 265 residents, 184 residents participated in the study. Ninety-one (49.5%) were males and the mean age was 75 years (range, 29 to 100) years. None except 2 of the residents had any dental complaints. One complained of a painful molar due to advanced tooth decay and another complained of denture discomfort (the resident had angular cheilitis and an ulcerated bleeding denture-induced hyperplastic lesion on the buccal sulcus of the mandible).

Edentulism was common. Seventy-five (41%) were completely edentulous and another 54 (29%) were completely edentulous in either the maxilla or mandible. Altogether 64 maxillary and 37 mandibular complete dentures were examined in this study (Table 1). Few of the partially dentate had partial maxillary (2 out of 50) or mandibular (4 out of 90) dentures.

Complete dentures were assessed for retention, stability, extension, occlusion and hygiene. The results are reported

in Table 1. For partial dentures, only 1 out of the 6 was satisfactory. Despite the high number of unsatisfactory dentures, oral mucosal lesions were uncommon. Only 17% of the participants had mucosal lesions and the majority was denture-induced. The low incidence of denture-induced lesions might have been due to the infrequent denture usage. The use of ill-fitting and poorly maintained dentures is a health hazard. Dentures, like natural teeth, require regular checks and maintenance.

Table 1. Status of Complete Dentures

		Unsatisfactory	Satisfactory
Retention	Maxillary	35 (54%)	29 (46%)
	Mandibular	18 (50%)	19 (50%)
Stability	Maxillary	31 (48%)	33 (52%)
	Mandibular	22 (59%)	15 (41%)
Extension	Maxillary	28 (43%)	36 (57%)
	Mandibular	17 (45%)	20 (55%)
Occlusion	Maxillary	32 (50%)	32 (50%)
	Mandibular	18 (50%)	19 (50%)

Retention is the ability of the denture to resist dislodging forces.

Stability is the ability of the denture to resist forces that tend to alter the relationship between the denture base and its supporting bony foundation.

Extension is the adequate coverage of mucosal tissue.

Occlusion is the adequate interdigitation of upper and lower teeth.

The extent of untreated decay and retained roots among the elderly residents was high. There were 109 residents who had some or all of their natural teeth. Fifty-nine per cent of them required >1 unit of simple treatment while 15% required >5 units of simple treatment. 24% required >1 unit of complex care. 56% of all dentate residents required >1 extraction and 10% of them required >5 extractions.

Denture and oral hygiene were generally poor among the residents: 95% of dentures and 92% of the residents who had 1 or more teeth were found to have food debris, plaque and/or calculus on their prostheses and remaining natural dentition, respectively.

Our recent oral health assessment of a convenient sample of residents suggests that untreated dental conditions in nursing homes are still prevalent. The 1991 local nursing home study⁴ showed that 56% of their sample was completely edentulous (79% of whom required denture treatment) and 21% required extraction of retained roots. Comparing

these 2 studies, there is a suggestion that although the prevalence of edentulism may have decreased slightly over the last 15 years, the need for extractions has increased. Disease patterns, mainly in the number of remaining teeth, have changed since 1991 but there seems to have been little or no improvement in the overall oral health of nursing home residents.

To address the problem of oral health neglect in this population, we recommend that nursing home staff and residents be empowered with training in tooth brushing and denture cleaning. We also suggest that oral health assessment be routinely done at the time of admission into the nursing home. Needful dental work can then be rendered upon admission followed by annual check-ups for maintenance. A cost effective strategy would be to train nurses in oral health assessments using tools such as the BOHSE (Brief Oral Health Status Examination), Index of ADOH (Activities of Daily Oral Hygiene), MPS (Mucosal Plaque Score Index) and the OHAT (Oral Health Assessment Tool).⁵ Residents at high risk of dental problems can be referred to general dental practitioners for definitive treatment.

In conclusion, the oral health status of nursing home residents remains a concern as the prevalence of untreated oral disease is still high. Most of their dental needs can be addressed by nursing home staff with the support of the general dental practitioner. We therefore recommend that nursing homes provide dental screening upon admission, early referral to general dental practitioners for detected problems and greater attention to daily oral hygiene care.

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