Irish Society for Disability and Oral Health

Annual Special Care Dentistry Award 2012

Oral Health of Infirm Elderly Patients

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Abstract

The proportion of the population above the age of 65 is increasing. Adults are retaining their natural dentition much later in life. With the increase in systemic disease seen with aging, their oral manifestations and associated medications, it follows that challenges are posed in terms of maintaining the aging dentition.

Elderly infirm patients may become dependent on other individuals for their care, including their oral hygiene. This care may be provided in the patient's own home, in the home of a family member or in residential care. Within the residential care setting, it has been shown that oral healthcare may not be fully appreciated and addressed in the same way as general health. Nor is the connection between oral and general health fully appreciated. A mutual understanding between the oral and general healthcare professionals is not always apparent and this may prevent the patient being treated holistically.

The general health of aged patients is discussed, along with behavioural, psychological and dental health. Contemporary oral healthcare services and the standard of oral care in residential homes will be explored.

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Introduction

The World Health Organisation defines health as a *state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity* (WHO, 1948). It has been shown that elderly patients are more frequently found to have complex medical histories. These systemic conditions affect oral health and quality of life. It has also been shown that a person's oral health will contribute significantly to their general health.

The Irish Dental Health Foundation (IDHF) and Oral Health Services Research Centre (OHSRC), University College Cork, states:

> *Oral Heath is achieved when the teeth and oral environment is not only healthy but also comfortable and functional, that is food can be chewed thoroughly and without pain and discomfort and the teeth are not sensitive to different stimuli such as cold.*
>
> *Social acceptability is also of importance and the mouth must not give rise to bad breath. The appearance of the teeth and gums should be acceptable and not give rise to embarrassment.*
>
> *There should be an absence of sources of infections, which may affect general health.*

> *This state of oral health should persist for life which given a healthy lifestyle,is achievable for the majority of the population* (Oral Health Services Research Centre & Dental Health Foundation, 1999).

This aim of this project is to investigate the oral health status of elderly infirm patients. The project will explore the common conditions suffered by elderly patients and those under institutional care and demonstrate how these conditions may affect their oral health.

Literature Review

General characteristics of the elderly

The Organisation for Economic Co-operation and Development estimates that 11.9% of the Irish population is over 65 in 2010, and predicts this to rise to 15% in 2020 and above by 2040 (National Recovery Plan 2011-2014, 2010).

An increase in the elderly population often means a change in this population's health profile, manifesting clinically as increased morbidity rates. To combat the systemic diseases associated with this rise in morbidity, the elderly are using medications, the effects of which may manifest orally (McCreary & Ní Ríordáin, 2010).

Medical considerations

In the United Kingdom, it has been found that high numbers of the older population are affected by chronic illnesses. Thirty-eight per cent of 65-74 year-olds have a chronic illness whereas 50% in those over 75 have a chronic illness as of 2008 (Ransford, 2009).

The use of medication reflects the pattern of chronic disease for patients aged 16-59. The number of prescription items dispensed per head of this group was 9.0 in 2006. The number rose to 40.8 units in 65-74 year-olds (Ransford, 2009).

Cardiovascular

Cardiovascular disease increases with age and sees an exponential rise between the ages of 40 & 80 (McCreary & Ní Ríordáin, 2010). Zhu et al found that patients who had been admitted to hospital following acute medical upset, such as stroke, often have their oral health neglected as medical care takes priority. Stroke victims may display orofacial motor and sensory deficits. Patients included in the study suffered from a reduced oral health-related quality of life (OHRQoL), stemming from problems associated with aesthetic changes, speech, eating and swallowing difficulties (Zhu et al, 2008).

In terms of dental treatment, no elective dental treatment is indicated for at least 3 months after a patient has experienced a stroke. Often patients are given anti coagulant therapy to prevent cerebrovascular accidents, affecting their INRs (McCreary & Ní Ríordáin, 2010).

Musculoskeletal

Arthritis is the most common musculoskeletal disorder seen and affects the joints of the body. There are two variants, osteoarthritis (OA) and rheumatoid arthritis (RA).

Both of these conditions have been shown to affect the joints of the hands, reducing the patient's manual dexterity. Patients affected by RA may be at risk of atlanto-axial subluxation when maintained in the supine position (McCreary & Ní Ríordáin, 2010).

Diabetes

Over the age of 65, 625,000 people per year are diagnosed with diabetes mellitus in the US alone. Diabetic patients are predisposed to periodontal disease and opportunistic infections and while in the surgery are potentially at risk of a hypoglycaemic attack (McCreary & Ní Ríordáin, 2010).

Neoplasia

Genito-urinary, gastro-intestinal and lung cancers are the most common malignancies affecting the elderly. Although these types of cancer do not directly affect the mouth, the modalities of their treatments may have adverse effects on the oral cavity. The most commonly encountered related conditions are osteochemonecrosis, osteoradionecrosis and oral mucositis (McCreary & Ní Ríordáin, 2010).

Medications

Category of drug	Oral side-effects
Arthritis	
Corticosteroids	Oral microbial infections Poor wound healing
Methotrexate	Oral ulceration
NSAIDs	Haemorrhage Lichenoid mucosal reaction
Chronic obstructive pulmonary disease	
Corticosteroids	Oral microbial infections Poor wound healing
Diabetes	
Oral hypoglycaemics	Lichenoid mucosal reaction Taste disturbance
Cardiovascular disease	
ACE inhibitors	Lichenoid mucosal reaction Oral ulceration Taste disturbance
Alpha blockers	Lichenoid mucosal reaction Salivary dysfunction
Anti-coagulants	Haemorrhage
Beta blockers	Lichenoid mucosal reaction Oral ulceration Salivary dysfunction
Calcium channel blockers	Gingival enlargement Lichenoid mucosal reaction Salivary dysfunction Taste disturbance
Diuretics	Lichenoid mucosal reaction Salivary dysfunction Taste disturbance
Potassium channel activators	Oral ulceration
Statins	Lichenoid mucosal reaction
Parkinson's disease	
Levodopa	Salivary dysfunction Taste disturbance

Table 1

The oral side effects of medications often seen in elderly patients. (Taken from McCreary & Ní Ríordáin, 2010)

Parkinson's disease

Is a progressive degenerative neurological disorder that affects 1.5% of Europeans over the age of 60. It is characterised by tremors, bradykinesia and rigidity. In later stages, hypersalivation may be seen and dysphagia affects up to 80% of patients (McCreary & Ní Ríordáin, 2010).

Psychological aspects

The probability of developing mental health conditions such as dementia or cognitive functional disorders increases with age. Over the age of 65, dementia affects 9.4%, and 20% over the age of 80. The most common form of dementia is Alzheimer's. There is no clear oral manifestation of Alzheimer's (McCreary & Ní Ríordáin, 2010).

Hopcraft et al related a lack of proper communicative ability with an inaccurate assessment of oral health (Hopcraft et al, 2011). Pearson stated "the promotion of oral health for older adults with dementia is rarely regarded as an imperative by nurses who practice in residential aged care" (Pearson, 2004).

Behavioural aspects

It was shown in 2007 that elderly patients feel that a medical doctor will not spend enough time with them. In spite of this and other dissatisfactions, these patients find it distressing to move from one medical practitioner to another. Conversely, the same patients have little emotional problems changing from one dentist or dental hygienist to another. This suggests that there is a difference between the

patients' perceptions of the two healthcare disciplines. Closer interaction between the two may be of benefit overall to the patient (Andersson et al, 2007).

Andersson also found that elderly people are nearly twice as likely to have consulted with a general medical practitioner in the previous year than a dentist. Thus they may view the general medical practitioner as the gateway to their health and wellbeing (Andersson et al, 2007).

Oral characteristics

Elderly patients are now retaining their natural dentition later in life, changing the their dental needs. Periodontal disease is now becoming more common (Hopcraft et al, 2011).

In addition to increased general medical needs, elderly patients have the highest prevalence of dental problems (Peterson & Yamamoto, 2005). Studies in older patients show the presence of natural teeth relates to the ability to eat certain foodstuffs, improving nutrient intake (Sheiham & Steele, 2001). Dahl et al stated that pain and discomfort eating food are the most common problems among elderly individuals. There is a strong correlation between loss of teeth and a reduced OHRQoL (Dahl et al, 2011).

According to the Irish Dental Health Foundation , 40% of elderly people complain of dry mouth (IDHF, 2011). The perception of having a dry mouth and the finding of reduced salivary flow is common in old people, caused both by disease and

medication. These have been identified as a determinant for lowered quality of life in old and medically compromised individuals. Loss of saliva impairs the protection of the soft tissues and teeth. It has also been shown to adversely affect appetite, swallowing, talking and sense of well being (Wärnberg Gerdin et al, 2005).

Older people admitted to residential care have displayed problems such as nutritional restrictions, weight changes, speech, hydration, behavioral problems, appearance and social interactions. These have been linked to poorer oral health. These undesirable effects have implications for the patient, family members and caregivers (Pearson, 2004).

Gabre studied the prevention of dental caries in those with disabilities, finding that people with disabilities are in need of preventative care and are unable to provide that for themselves. Significant factors in the development of dental caries were identified, oral clearance was cited as a major contributor. Gabre stated that people with disabilities have prolonged oral clearance time and their glucose levels seem to permanently remain at high levels, irrespective of the frequency of meals (Gabre, 2009).

Residential care

Hopcraft et al found that access to oral healthcare is limited for residents of care facilities and as a consequence many patients have unmet dental treatment needs. These include dental caries and mild-to-moderate periodontal disease and these findings have led to an overall sense that these patients are subject to dental neglect (Hopcraft et al, 2011).

Patients suffering with cognitive impairments have difficulties communicating problems related to their mouths. To ensure proper detection of these problems, Hopcraft et al suggested that screening of these patients may be of benefit, and also proved that dental hygienists could be used to do this to the same effect as a dentist. It was argued that the accuracy of the screening provided by nursing home staff or allied healthcare professionals did not match the level provided by a comprehensive screening carried out by a dentist or dental hygienist (Hopcraft et al, 2011).

Pearson has argued that nurses who work in residential care homes do not fully understand the correlation between general and oral health (Pearson, 2004).

It was reported that an oral health examination of a new patient occurred within one week of arrival by only half of respondents. In addition to this, only 27% of managers claimed that the staff performing these assessments were trained to do so.

Contemporary Oral health services for the elderly

Within policies issued by the Department of Health and Children, the following are related to the provision of dental care:

-*Shaping a Healthier Future: A Strategy for Effective Healthcare in the 1990s*(1994a)

This was published in 1994, with the general aim of improving the health of the whole population. This document made no specific dental references.

-*The Dental Health Action Plan* (1994b)

This was formulated subsequently. It contained oral health goals specifically for the elderly, which were 1) not more than 42% of over 64-year-olds will have no natural teeth, and 2) provision of full dentures to medical card holders over65 years who require them

-*Quality and Fairness: A Health System for You* (2001)

This is the second national health strategy to make specific dental reference to elderly patients. It states that there should be an integrated approach to meeting the needs of aging and elderly people. It also highlighted the importance of the expansion of specialist services, the provision of adequate services to medical cardholders over the age of 70 and the desire to develop a needs-based approach to the use of these services.

There are currently 4 routes through which elderly patients can seek dental care in Ireland.

-Dental treatment benefit scheme (PRSI contributions)

-Dental treatment services scheme (medical card)

-Private health insurance

-Private dentistry.

Since 2001, every one aged 70 years and above is entitled to a medical card, regardless of income.

Conclusions and Future Considerations

A multitude of conditions can affect the elderly patient. The medications that may be used to treat these patients, although they have benefits, have their consequences for the patient's oral health.

The understanding of the correlation between oral and general health should be emphasised. As suggested in a paper by Andersson, the need for close liaisons and understanding of professions between medical and dental staff would further improve the overall welfare of elderly patients (Andersson, 2007).

I would advocate the use of dental hygienists in an oral health screening capacity in residential care settings. They have been shown to screen patients to the same effect as dentists and may prove to be more cost-effective in this role. However independent practice is yet to be recognised for dental hygienists in Ireland. Historically, non-dental personnel have been trained for oral health screening purposes. These have proved to be inaccurate, further highlighting the need for dental professionals to be involved.

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