

Peer-reviewed paper; submitted May 2019; accepted April 2020

Poor Oral Health in Long-Term Care Facility Residents: Two Illustrative Cases

Sweetapple KM

Abstract

The ageing New Zealand population is retaining their natural dentition for longer than previous generations, and this results in increased treatment complexity for oral health practitioners. Institutionalised and dependent older individuals represent a group with a high risk of dental neglect. The importance of oral health is often misunderstood, and this can have a significant impact upon an older adult's quality of life and wellbeing. The cases described focus on two dependent long-term care (LTC) facility residents who have had their oral health neglected. These patients presented with severe oral disease that has resulted in invasive treatment in an attempt to improve their remaining quality of life. This report reflects how the long-term retention of teeth can become a burden for dependent older adults, and the need for increased oral health support within LTC facilities.

Introduction

New Zealand has an ageing population (Statistics New Zealand, 2011). It is anticipated that individuals aged 65 and older will exceed one million by the late 2020s, and almost half of this group will transition into LTC facilities at some stage of their lives (Smith, 2010; Broad *et al.*, 2015). The number of individuals aged 85 years and older will more than triple, from approximately 83,000 in 2016, to up to 320,000 in the next 30 years (Statistics New Zealand, 2016).

The older population is retaining their natural dentition for longer than previous generations, and this results in increased treatment complexity for oral health practitioners (Samson *et al.*, 2008). Dentists exposed to the geriatric population have to manage medically compromised individuals taking multiple medications, and face oral diseases and disorders that have a greater incidence in the older population (Lamster, 2014). Afflictions often associated with ageing, such as cognitive impairment and reduced manual dexterity, can affect the capacity to undertake personal oral hygiene (Portella *et al.*, 2013). The longer teeth are retained, the greater the risk of caries and periodontal disease, and prolonged exposure to erosive, functional, parafunctional, and traumatic experiences (Lamster, 2004; Thomson, 2012).

Institutionalised and dependent older individuals in New Zealand represent a population with a high risk of dental neglect (Thomson *et al.*, 1992). Dental caries in LTC facilities is a major problem because the caries

incidence among LTC facility residents is at least twice that of independent older adults within the community (Smith & Thomson, 2017). Studies demonstrate older individuals within LTC facilities have poorer oral hygiene than their community-dwelling counterparts, and within these institutions, oral hygiene status was poorer among dependent residents (Smith, 2010; Philip *et al.*, 2011). The incidence of oral disease is heavily influenced by oral hygiene, and for many older individuals, the standard of oral hygiene is dependent upon support staff (Axelsson & Lindhe, 1981). The staff responsible for the oral hygiene of dependent LTC facility residents are often episodic dental visitors themselves, and many have insufficient education in the skills required to maintain a satisfactory standard of oral health care (Stephenson *et al.*, 2018). This is compounded by factors such as challenging residents, understaffing, and time constraints (Stephenson *et al.*, 2018). As the average LTC facility resident becomes older, these challenges will continue to increase.

The importance of early evaluation and monitoring of older institutionalised adults has been identified as essential, especially for those with cognitive disabilities like dementia as they are more prone to the development of complex oral diseases and conditions (Chalmers & Pearson, 2005). The importance of oral health is often misunderstood and neglected within the older population (Lin *et al.*, 1999). Cohen-Mansfield and Lipson (2002) deduced that dental pain and dental problems within LTC facility dementia patients were under-detected and that they have a significant unmet need. Poor oral health and dental pain can have a great impact upon an older adult's quality of life and wellbeing (Chalmers & Pearson, 2005).

Described below are two cases managed at the Southland Hospital Dental Unit that demonstrate dental neglect within the dependent older population as a result of the current shortfalls in the New Zealand oral health care system.

Case Report 1

A general medical practitioner urgently referred an 89-year-old male to the Southland Hospital Dental Unit to assess and manage unspecified dental issues with a history of pain, infection, and difficulty when eating. The patient was a dependent resident in a LTC facility with advanced dementia, and he required a hoist to be transferred for treatment from his wheelchair.

At the initial assessment appointment, the patient was brought in with one of his caregivers. When asked



Figure 1

Figure 1. An intraoral photograph of the mandibular dentition taken on 18/05/18.



Figure 2

Figure 2. A panoramic dental radiograph taken on 06/10/2014.



Figure 3

Figure 3. A panoramic dental radiograph taken on 18/05/2018.

about his dentition, he was initially in denial that his teeth were causing him issues; however, when prompted by his caregiver, he was reminded that his teeth ache, and that he had been complaining of jaw pain. An intraoral examination found plaque present on more than one third of his remaining tooth surfaces, several missing teeth, generalised dental caries, numerous retained roots in the maxilla, and generalised, chronic periodontitis (Figure 1). Several of his teeth were tender to percussion.

A panoramic dental radiograph had been taken at the patient's last dental appointment on 06/10/2014 (Figure 2) at Southland Hospital, and again at this visit, on 18/05/2018 (Figure 3). The contrast between the two radiographs demonstrates an unfortunate and rapid decline in oral health due to rampant dental caries.

The first appointment involved the initial assessment, diagnosis and discussion of the best course of treatment. The decision to proceed with a full dental clearance (FDC) in order to improve his remaining quality of life was based on the information provided by his general medical practitioner, immediate family, LTC facility staff, and the clinical findings.

The next appointment was organised to determine whether it would be feasible to extract a few of the acutely painful teeth under local anaesthetic (LA) in the dental clinic environment. This approach was unsuccessful because he became quite agitated and confused, as he could not comprehend the need to have his teeth extracted. An additional conversation was had with his enduring power of attorney (EPA), and a date set for a general anaesthetic (GA) and FDC with an oral and maxillofacial surgeon. This was a decision made with thorough consideration and the input of an anaesthetist to ensure patient safety.

The FDC under GA went to plan. All 22 teeth were extracted simply with forceps, and absorbable sutures placed.

Owing to the patient's LTC facility being out of town and the difficulty associated with transportation to bring him in for a review, a nurse from the facility monitored his progress. She explained that although it had taken a few days for him to settle, he was soon back to normal, and managing to eat and drink comfortably.

Case Report 2

An 85-year-old male was referred to the Southland Hospital Dental Unit from a general medical practitioner to assess his oral health and ensure that his teeth were not causing him distress. He was in dependent care in a LTC facility. His medical history included advanced dementia and hypertension.

He presented for his first appointment with a caregiver, and we were informed that he had no close family. The clinical intraoral findings strongly suggested a substantial period of dental neglect. Plaque was present on greater than two thirds of most tooth surfaces, and there was generalised interproximal food impaction, dental caries, and generalised chronic periodontitis (Figures 4, 5, 6). Teeth 16, 14, 35, 41 and 42 were percussion-sensitive. A panoramic dental radiograph was taken which showed generalised alveolar bone loss, dental caries, and an impacted, unerupted tooth 48 (Figure 7).

The initial treatment involved full-mouth scaling in order to enable thorough assessment of the condition of the remaining tooth surfaces and help determine the restorability of the teeth. The assessment was completed and a provisional treatment plan made to extract his remaining 17 erupted teeth due to the extent of the generalised dental caries and periodontal disease. The caregiver was shown the plaque deposits present and informed about assisted brushing techniques for dependent residents and oral hygiene expectations, with the hope that this information could be implemented in the future for other dependent residents.



Figure 4



Figure 5



Figure 6

Figure 4. Case 2. An intraoral photograph taken on 30/07/18.

Figure 5. Right buccal view taken on 30/07/18.

Figure 6. Left buccal view taken on 30/07/18.

Figure 7. A panoramic radiograph taken on 30/07/18

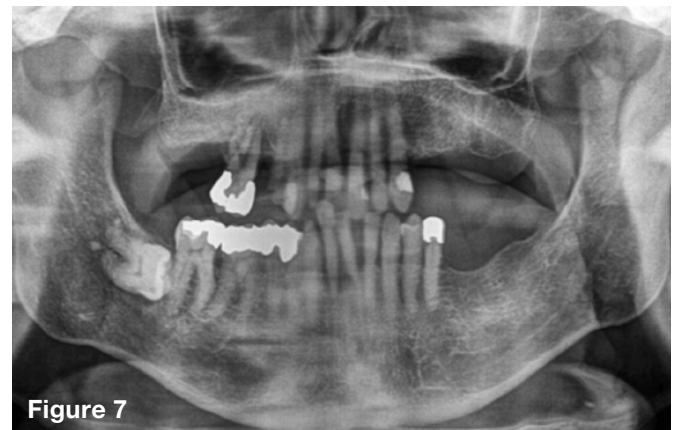


Figure 7

Due to the patient's advanced dementia, he was deemed to lack the capacity to provide informed consent for the proposed dental treatment. A letter was sent to his EPA which outlined the recommended treatment plan to maximise his remaining quality of life, and consent was given.

We were fortunate that the patient was fairly amendable, and so we were able to successfully manage him in the dental chair, completing the extractions under LA. The FDC was undertaken over two appointments. The first involved extracting the symptomatic teeth and remaining posterior dentition (the unerupted 48 was left in situ); the second involved extracting the remaining anterior teeth. All teeth were removed easily, and absorbable sutures were placed.

At the review appointment one week later, the extraction sites were healing well. A nurse at the LTC facility explained that following the extractions the patient's behaviour had been more aggressive than usual, which could be attributed to post-operative pain.

Discussion

Both cases share a number of similarities that are becoming increasingly familiar to many oral health practitioners. Clinicians have the responsibility to ascertain their patients' ability to give informed consent. Every patient must be presumed to be competent to make an informed choice, unless there are reasonable grounds to believe otherwise (Dental Council of New Zealand, 2005). In the cases discussed, both patients had impaired mental capacity due to dementia, therefore the recommended treatment was based on the patients' best interest to improve their remaining quality of life.

Presently, oral health care in LTC facilities is both challenging and generally not a priority for facility staff (Stephenson *et al.*, 2018). The first case clearly identified a rapid decline in oral health based on the radiographs taken less than four years apart. Throughout this period of time there was no professional oral health input into his care, his oral hygiene standard declined and consequently his dentition deteriorated. This is not an unfamiliar trend, and the number of dependent residents afflicted will continue to rise as the increasingly dentate

population ages. In order to see improvements in the oral health care of older people, national standards and protocols should be introduced that would see programmes such as the NZDA and the Ministry of Health training programme 'Healthy Mouth, Healthy Ageing: Oral Health Guide for Caregivers of Older People' being mandatory for all care staff.

For dependent older individuals, access to dental care can be very difficult. There are many barriers to the access of care, including the lack of perceived need for dental care, transportation, finances, family and/or staff availability, and the need for specialised equipment such as a hoist. Both of the cases discussed had a general medical practitioner referring the patients. LTC facilities generally boast a wide variety of health professionals that visit their facilities, and oral health practitioners are rarely a part of that list (Stephenson *et al.*, 2018). The most common barrier for dentists in New Zealand providing domiciliary care was found to be the inconvenience of leaving their private practice (Antoun *et al.*, 2008). In one study, LTC facility staff unanimously favoured the idea of basic domiciliary dental care, in order to allow for staff education opportunities and screening for disease in those dependent residents who struggle to access care (Stephenson *et al.*, 2018). There needs to be funding available to support basic domiciliary oral health care that would help to identify residents who are at high risk of dental neglect, and to provide a path for preventive care. This would most likely be provided through public health services. The integration of oral health care services and support into these LTC facilities is fundamental in ensuring that oral health is recognised as a crucial part of general health and overall quality of life (Smith, 2010).

Neglect of oral health care and late identification of oral disease results in complex and difficult treatment decisions that do not come without risk. LTC facility



residents with dementia have poorer oral hygiene than residents without dementia; those with limited self-care capacity have the worst oral hygiene and gingival inflammation of all LTC facility residents (Philip *et al.*, 2011). Edentulism is most frequently regarded as an undesirable endpoint; however, the long-term retention of teeth for dependent older people can be a significant burden, as demonstrated in the cases discussed (Smith & Thomson, 2017).

In order to provide the best care possible for these compromised, dependent individuals, a mandatory dental examination during early stage dementia diagnosis

should be implemented, similar to a dental check prior to certain orthopaedic or cardiac surgeries. These assessment appointments would enable the creation of prevention-based treatment planning, regular recalls, and a comprehensive, informed discussion about future oral health expectations, before cognitive impairment make these decisions more challenging.

Acknowledgements

I acknowledge the staff at the Southland Hospital Dental Unit for their ongoing support and Professor Murray Thomson for his help and guidance.

References

- Antoun J, Adsett L, Goldsmith S, Thomson WM (2008). The oral health of older people: general dental practitioners' beliefs and treatment experience. *Special Care Dentistry* 28(1), 2-7.
- Axelsson P, Lindhe J (1981). Effects of controlled oral hygiene procedures on caries and periodontal disease in adults. *Journal of Clinical Periodontology* 8(3):239-48.
- Broad J, Ashton T, Gott M, McLeod H, Davis P, Connolly M (2015). Likelihood of residential aged care use in later life: a simple approach to estimation with international comparison. *Australian And New Zealand Journal Of Public Health* 39(4), 374-379.
- Chalmers J, Pearson A (2005). Oral Hygiene care for residents with dementia: a literature review. *Journal of Advanced Nursing* 52(4), 410-419.
- Cohen-Mansfield J, Lipson S (2002). The under detection of pain of dental etiology in persons with dementia. *American Journal of Alzheimer's Disease and Other Dementias* 17, 249-253.
- Dental Council of New Zealand (2005). *Informed Consent Practice Standard*. Wellington: Dental Council of New Zealand.
- Lamster I (2004). Oral health care services for older adults: A looming crisis. *American Journal of Public Health* 94(5), 699-702.
- Lin C.Y., Jones D.B., Godwin K., Godwin R.K., Knebl J.A. & Niessen L. (1999). Oral health assessment by nursing staff of Alzheimer's patients in a long term-care facility. *Special Care in Dentistry* 19, 64-71.
- Philip P, Rogers C, Kruger E, Tennant M (2011). Oral hygiene care status of elderly with dementia and in residential aged care facilities. *Gerodontology* 29(2), e306-e311.
- Portella F, Rocha A, Haddad D, Fortes C, Hugo F, Padilha D, Samuel S (2013). Oral hygiene caregivers' educational programme improves oral health conditions in institutionalised independent and functional elderly. *Gerodontology* 32(1), 28-34.
- Samson H, Strand G, Haugejorden O (2008). Change in oral health status among the institutionalised Norwegian elderly over a period of 16 years. *Acta Odontologica Scandinavica* 66(6), 368-373.
- Smith M (2010). Oral health and well-being of older adults in residential aged-care facilities: issues for public health policy. *New Zealand Dental Journal* 106(2), 67-73.
- Smith, M. B., & Thomson, W.M. (2017). 'Not on the radar': Dentists' perspectives on the health care of dependent older people. *Gerodontology* 34(1), 90-100.
- Statistics New Zealand (2011). *Demographic Trends: 2011*. Wellington: Statistics New Zealand.
- Statistics New Zealand (2016). *National Population Projections: 2016 (Base)-2068*. Wellington: Statistics New Zealand.
- Stephenson MGH, Sweetapple KM, Thomson WM (2018). Oral health knowledge and attitudes among care facility staff caring for older people. *New Zealand Dental Journal* 114(1), 4-12.
- Thomson WM, Brown RH, Williams SM (1992). Dental status and treatment needs of a New Zealand institutionalised elderly population. *New Zealand Dental Journal* 87, 119-23.
- Thomson WM (2012). Monitoring Edentulism in Older Adults in New Zealand over Two Decades: A Review and Commentary. *International Journal of Dentistry* 2012, 1-4.

Author details

KM Sweetapple BDS (Otago)

Oral Health Department, Hawke's Bay Hospital, 398 Omahu Road, Camberley, Hastings 4120

Email kmsweetapple@gmail.com