

# The Oral Health of Institutionalized Older Adults in Malta

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**Purpose:** Studies on the oral health status of institutionalized older adults are less prevalent than those of community-dwelling older adults, as institutionalized older adults tend to be frailer. Poor oral health in older adults has a negative impact on the quality of life and self-confidence of older people and potentially poses a financial burden on both the older adult and society in general. The objective of this study was to assess and compare the oral health status of state institutionalized older adults in Malta with that of their European counterparts. **Materials and Methods:** A total of 278 older adults with an average age of  $83.6 \pm 6.5$  years from nine state institutions in Malta were randomly selected. Participants were clinically examined for caries, periodontal disease, oral mucosal lesions, and prosthetic status. **Results:** The oral health status of state institutionalized older adults was poor, with a very low routine dental attendance (29.3%) and, consequently, a high level of treatment need (44.4% of dentate individuals required extractions and 42.1% of dentate individuals required restorations). Only 2% of dentate individuals had healthy periodontal tissues with no clinical attachment loss over 4 mm. Edentulism among state institutionalized older adults stood at 41%. **Conclusions:** Institutionalized older adults from Malta have a poor oral health status comparable to institutionalized older adults from Europe in general, which poses fiscal and cultural challenges that need to be addressed by the dental community. *Int J Prosthodont* 2015;28:146–148. doi: 10.11607/ijp.4184

It is well known that institutionalized older adults have poorer oral health than independent older adults,<sup>1</sup> which has a negative impact on the quality of life and self-confidence of older people and potentially poses a financial burden on both the older adult and society in general.<sup>1</sup> Older Europeans are retaining their natural dentition longer, and clinicians are becoming increasingly interested in the aging mouth. However, due to polymorbid conditions and frailty with increasing age, older people may experience considerable barriers to care, especially older adults who reside in an institution. Having spent a substantial amount of their

life savings, institutionalized older adults may find the cost of dental treatment prohibitive, especially when transport is required for immobile patients or those who are medically compromised. In addition, nursing home staff might not prioritize dental care, and dental offices may not cater to frail older adults.

Studies on the oral health status of institutionalized older adults are less prevalent than those of community-dwelling older adults because institutionalized older adults tend to be frailer and less compliant.<sup>2</sup> European studies have highlighted the poor state of oral health of institutionalized older adults,<sup>3,4</sup> which contributes to a poorer quality of life and adds risk to serious consequences in dependent older adults, such as chest infection and aspiration pneumonia.<sup>5</sup>

## Materials and Methods

The authors studied a sample of institutionalized older adults in nine state residential homes with a total population of approximately 1,000 older adults in Malta. Patients were screened over 1 year beginning April 2012. Sample size calculation was estimated at 278 participants, allowing for a margin of error of 5% and a 95% confidence interval. The sample was chosen randomly by first screening all willing residents at their

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**Table 1** Comparison of the Oral Health Status of Maltese, Norwegian,<sup>4</sup> and Welsh<sup>3</sup> Institutionalized Older Adults

Examined criteria	South European model (Malta)	Nordic model (Norway <sup>4</sup> )	Beveridgean model (Wales <sup>3</sup> )
Number of participants	278	147	426
Mean age (y)	83.6	86.5	85.0
Average number of teeth	13.7	14.6	13.7
Decayed, missing, filled teeth	21.6	23.2	–
Routine dental attendance (%)	29.3	–	20.8
Edentulous (%)	41	43	57
Dentate (%)	59	57	43
Edentulous without dentures (%)	23.2	21	–
Decayed teeth (%)	43.3	64.5	72
Functional dentition, 21 or more teeth (%)	7.9	–	23
No periodontal pockets, bleeding, or calculus (%)	1.3	–	–
Pockets over 4 mm (%)	86.7	65	–
Oral mucosal lesions (%)	12.6	–	–

respective residential home, including residents who remained in their respective rooms ( $n = 449$ ). Those participants who required an examination at the dental clinic were given an appointment and provided with transport. Those who attended the appointment were included in the sample. Those who failed to attend were excluded. The sample was, therefore, random because the author was blind as to who was attending the clinical examination. Cognitively impaired individuals were excluded from the study but were clinically examined and treated, when necessary. Participants were asked for demographic data including marital status, education levels, and occupation. Participants were clinically examined for caries (British Association for the Study of Community Dentistry), periodontal disease (Modified Community Periodontal Index), oral mucosal lesions, and prosthetic status in a dental clinic within one of the residential homes. Ethical approval was obtained from the University of Malta.

## Results

The average age of the study population was  $83.6 \pm 6.5$  years. They were 20.5% male ( $n = 57$ ) and 79.5% female ( $n = 221$ ). The majority were widowed (51.1%),

with a primary level of education (74.8%) and a routine or semi-routine occupation (27%). Current and/or former smokers comprised 20.1% of the sample and 6.1% regularly consumed alcohol. Table 1 compares the findings of the present study to the studies of institutionalized older adults from Wales<sup>3</sup> and Norway.<sup>4</sup>

## Discussion

Older European adults have longer life expectancies and are also retaining their teeth into old age. However, oral health is decreasing, with a higher prevalence of disease as evidenced in various studies.<sup>3,4</sup> Institutionalized older adults are more likely to be frail with physical and cognitive decline, which may cause an increased inability for them to perform or receive oral care. Likewise, barriers to care may hinder older institutionalized adults from participating in daily oral care or treatment, hence the importance of regular dental screenings within their respective residential homes. Expenditures in Europe on oral health care often surpass those of cancer, heart disease, stroke, and dementia and are estimated to amount to 93 billion Euro in 2020, with the highest expenditure in treating caries and its complications.<sup>6</sup>



Further dental health promotion campaigns directed at not only the older adult but also the carers and relatives are required. Interdisciplinary action is necessary to raise awareness of the importance of good oral health among older adults, especially targeting those older adults most in need—dependent older adults or older people with terminal illness. The aim of gerodontologists is to enable older adults to overcome their barriers, but their limited resources may not be reaching out enough to those older adults most in need of care.

## Conclusions

Due to a number of barriers hindering Maltese institutionalized older adults from participating in daily oral care and seeking/receiving treatment, their oral health status remains poor and comparable to that of other institutionalized older European adults. This may affect their quality of life and poses fiscal and cultural challenges to both society and the dental community.

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## Literature Abstract

### Diabetes and oral implant failure: A systematic review

The authors performed a systematic review and meta-analysis to investigate the effects of dental implant placement in people with diabetes versus those without diabetes in terms of implant failure rates, postoperative infection, and marginal bone loss. A total of 14 human studies, comprising 7 controlled clinical trials and 7 retrospective analyses, were selected based on detailed inclusion and exclusion criteria. The included articles showed heterogeneity in their data, such as information about patients' diabetes control, sites of implant placement, types of implants used, and follow-up time. Meta-analysis showed there was significant difference in marginal bone loss in favor of nondiabetic patients (based on two studies); a meta-analysis was not possible for postoperative infection (as only one study observed its occurrences) and no statistically significant difference in implant failure rates was seen between the two groups. It was concluded that placing implants in nondiabetic and diabetic patients did not statistically affect the implant failure rates. However, due to limitations such as the study's retrospective design and uncontrolled confounding factors (the use of grafting, smoking, taking bisphosphonates, fresh extraction sockets, short or different brands, and surface treatment of implant used) were included, the authors suggested the review should be interpreted with caution.

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