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Caring for oral health in Australian residential care

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Dedication

This publication is dedicated to the memory of Dr Jane Margaret Chalmers (1965–2008) who passed away on 6 December 2008 in Iowa City, USA, following a long illness.

The AIHW Dental Statistics and Research Unit and co-authors of this publication wish to acknowledge Jane, as the principal author of this publication, for her leadership and valuable contributions to the field of geriatric dentistry.

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Please note that there is the potential for minor revisions of data in this report. Please check the online version at <www.aihw.gov.au> for any amendments.

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Abbreviations

ADOH	Activities of Daily Oral Hygiene
BOHSE	Brief Oral Health Status Examination
CNA	certified nursing assistants
CODE	Clinical Oral Disorder in Elders Index
DON	Director of Nursing
GOHAI	Geriatric Oral Health Assessment Index
MDS	Minimum Data Set
MPS	Mucosal Plaque Score (Index)
NHMRC	National Health and Medical Research Council
NIDR	National Institute of Dental Research
OHAT	Oral Health Assessment Tool
OHCP	Oral Hygiene Care Plan
ppm	parts per million
RACF	Residential aged care facilities
WHO	World Health Organization

Abbreviations of places

NSW	New South Wales
SA	South Australia
Vic	Victoria

Symbols

—	nil or rounded to zero
..	not available
n	number
ppm	parts per million
s.d.	standard deviation
sig.	significant

Summary

Within the increasing older Australian population, there is a significant group at very high risk for developing complex oral diseases and dental problems – institutionalised older adults in Australian residential care facilities. There are abundant general health, functional, cognitive, social and financial problems among this group of high-risk older adults. These problems are associated not only with their development of oral diseases, such as dental caries, but with the many barriers they encounter to accessing adequate dental care. In the Australian residential aged care community, it is the carers who play an essential role in the delivery of oral hygiene care and the maintenance of residents' oral health. Better integration of carers into oral hygiene care delivery and the timely identification of oral health problems are essential in improving residents' access to and equity in oral health.

This study investigated the role of carers in Australian residential care facilities in maintaining adequate oral health for residents, and improving their timely referral and access to dental professionals. Three aspects of best practice were used in this research. The first was to assist participating facilities to develop comprehensive and appropriate oral and dental care policies and procedures, in accordance with Commonwealth Residential Aged Care Standards. The second was to train carers to use an Oral Health Assessment Tool (OHAT), a modified version of the Kayser-Jones Brief Oral Health Status Examination (BOHSE) (Kayser-Jones et al. 1995). The study then assessed the reliability and validity of carers' use of the tool in monitoring and assessing residents' oral health. The third was to use an Oral Hygiene Care Plan (OHCP) developed as part of an evidence-based oral health protocol for carers of dependent older adults (Blanco & Chalmers 2001).

The aims of this study were to:

- establish best practice oral health policies and procedures for participating residential care facilities, in accordance with the Commonwealth Residential Aged Care Oral and Dental Standard 2.15
- trial, over a 6-month period, the use by carers of an Oral Health Assessment Tool in randomly selected Australian residential care facilities, in conjunction with residents' 3-monthly care plan reviews
- trial, over a 6-month period, the use by carers of an Oral Hygiene Care Plan in Australian residential care facilities, in conjunction with residents' 3-monthly care plan reviews
- test the reliability and validity of carers' use of the Oral Health Assessment Tool over a 6-month period in Australian residential care facilities.

A total of 21 residential care facilities in New South Wales, Victoria and South Australia completed this study. Approval was obtained from the appropriate administrators/directors of nursing at each residential care facility and, where required, by the Human Research Ethics Committee for any affiliated Regional Health Organisations. Of the 534 residents who participated at baseline, 455 completed the three study phases. Thus, a complete data set was collected for these 455 residents comprising: OHATs at baseline, 3 months and 6 months; two OHAT reliability exams at 3 months; and OHCPs at baseline, 3 months and 6 months. Mean age of the

455 participating residents was 82.1 years. Of the residents participating, 56.5% had a diagnosed dementia, 88.9% were in Residential Care Services (RCS) 1–4 and 68.7% had resided at the facility for more than 12 months. A questionnaire concerning each facility's dental policies and procedures was completed at baseline and at the end of the study. All facilities improved their scores on this questionnaire over the study period.

Mean total OHAT scores decreased significantly from the baseline score over the study period from 2.71 at baseline to 2.5 at 3 months and 2.4 at 6 months. There were no significant differences in category scores. The highest mean scores were for natural teeth, followed by dentures and oral cleanliness.

OHAT reliability was analysed both for an individual carer (intra-examiner) and between carers (inter-examiner) for each participating resident. Intra-examiner percentage agreement for individual categories ranged from 74.4% for oral cleanliness to 93.9% for dental pain and 96.6% for referral to a dentist. Intra-examiner Kappa statistics were in the moderate range (0.51–0.60) for lips, saliva, oral cleanliness and referral to a dentist. All other categories had an intra-examiner Kappa statistic in the range of 0.61–0.80, indicating substantial agreement. The Pearson correlation coefficient for intra-examiner total OHAT score was 0.78, and all intra-examiner analyses were statistically significant.

Inter-examiner percentage agreement for individual categories ranged from 72.6% for oral cleanliness to 92.6% for dental pain and 96.8% for referral to a dentist. Inter-examiner Kappa statistics were in the moderate range (0.48–0.60) for lips, tongue, gums, saliva, oral cleanliness and referral to a dentist. All other categories had an inter-examiner Kappa statistic in the range of 0.61–0.80, indicating substantial agreement. The Pearson correlation coefficient for inter-examiner total OHAT score was 0.74, and all inter-examiner analyses were statistically significant. These intra- and inter-carer reliability scores were similar or higher than previous studies with the Kayser-Jones BOHSE. However, ongoing problematic categories were saliva, oral cleanliness and dental pain, which require further research.

Percentage agreement and Pearson correlation analyses were completed between individual OHAT categories and associated dental examination findings (using standardised assessments and indices) for 21 residents. There was complete agreement on scoring for the lips. Natural teeth, dentures and tongue had the highest significant correlations and high percentage agreements, and the gums also had a significant but lower correlation. Non-significant and low correlations and percentage agreements were evident for saliva, oral cleanliness and dental pain.

Focus group discussions and questionnaires were conducted at baseline and during the study. Themes identified were:

- access to dental care
- organisational issues
- residents with dementia and uncooperative residents
- oral assessments
- preventive oral hygiene care products
- cleaning teeth
- bleeding gums
- dentures
- infection control
- staff training.

The great majority of carers responded positively to the statements on the focus group questionnaires concerning the use and completion of the OHAT and OHCP, and generally found them practical and easy to use. The self-reported mean time taken to complete the OHAT was 7.8 minutes and the OHCP 8.3 minutes. More time was needed for those residents with dementia and behavioural difficulties. Other comments included: 'it was very interesting as we looked better than we would normally look'; 'this (is) now infiltrating among staff so that it is second nature'; 'we are now doing a dental audit for all new residents'; 'everyone knows it is an issue that needs to be looked at'.

In this study, the use of oral and dental policies and procedures, an Oral Health Assessment Tool and an Oral Hygiene Care Plan improved carers' involvement in the maintenance of residents' oral health and the delivery of oral hygiene care in Australian residential care facilities. The OHAT was evaluated as being a reliable and valid screening tool for use among residents in Australian residential care facilities, including those with cognitive impairments.