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AIHW Dental Statistics and Research Unit
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Social impact of oral conditions among Australian adults

THE UNIVERSITY OF ADELAIDE AUSTRALIA
ARCPOH Australian Research Centre for POPULATION ORAL HEALTH

This report examines the social impact of oral conditions on quality of life among a representative sample of adults in Australia. The frequency and severity of impacts such as pain and functional limitation was evaluated using the 14-item Oral Health Impact Profile (OHIP-14) (AIHW: Carter & Stewart 2003) that was administered by a self-completed survey mailed to adult interviewees in the 2002 National Dental Telephone Interview Survey (Slade 1997). Ordinal response categories for OHIP-14 questions range from 'never' to 'very often'. In this report prevalence was defined as the percentage of people who reported one or more items 'fairly often' or 'very often'.

- **One in six Australian adults aged 18+ years experienced at least one impact fairly often or very often in the preceding year. Prevalence varied almost three-fold between the lowest (28.4%) and highest (9.7%) household income categories. Prevalence was greater in dentate adults with <20 teeth (35.0%) than in the 7% who were edentulous (25.8%).**
- **Prevalence of impacts among uninsured concession cardholders (30.6%) was greater than among insured cardholders (17.6%). Among the dentally insured, prevalence did not differ significantly between cardholders (17.6%) and non-cardholders (12.5%).**
- **Smoking had no effect on prevalence of impacts at higher incomes, but prevalence was greater in smokers at low incomes.**

Population prevalence of impacts

The estimated national prevalence was 16.9%, equivalent to one in six adults experiencing an adverse impact on quality of life fairly often or very often. Differences in prevalence of impacts based on sex, age group and geographic remoteness were not significant.

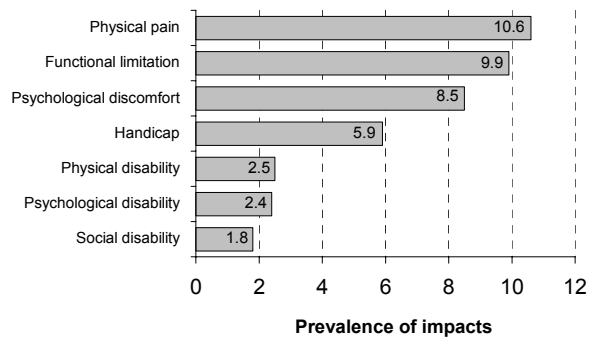
Adults who spoke a language other than English at home reported significantly greater prevalence (26.4%) than those who spoke English (16.0%).

Categories of impacts on quality of life

OHIP-14 comprises seven theoretical dimensions that assess dysfunction, discomfort and disability related to problems with teeth, mouth or dentures (Figure 1). It is based on the World Health Organization classification (WHO 1980) of the consequences of disease, adapted by Locker for oral health in 1988.

Of the seven dimensions, items that evaluated physical pain (e.g. painful aching, uncomfortable to eat) and functional limitation (e.g. trouble pronouncing words, affected sense of taste) were most commonly reported fairly often or very often, affecting about 10% of the adult population. Psychological discomfort was experienced fairly often or very often by 8.5% of adults who reported that their oral condition made them feel tense, embarrassed or self-conscious. Handicap, reflecting disadvantage in usual social roles, is the most severe of the OHIP-14 dimensions and only a 6% reported impacts of this severity fairly often or very often. Yet for these people life in general had been less satisfying and/or that they had been totally unable to function as a result of oral conditions. Physical, psychological and social disability each affected fewer than 3% fairly often or very often.

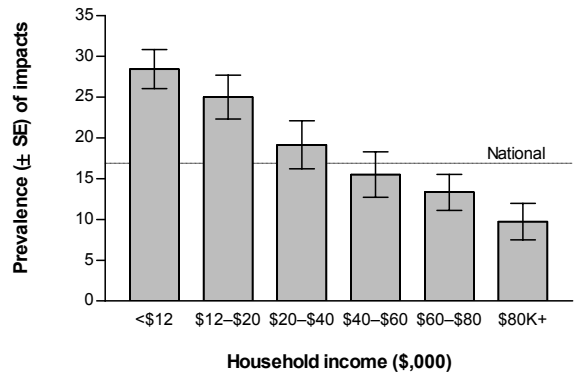
Figure 1: Prevalence (% of people) reporting categories of OHIP-14



Socioeconomic inequality in the prevalence of impacts

An inverse gradient in the prevalence of impacts was observed across annual household income categories. A greater than two-fold difference in prevalence ranged from 28.4% for adults with a household income less than $12,000 to 9.7% for those with a household income of >$80,000 (Figure 2).

Figure 2: Prevalence (% of people) reporting impacts according to annual household income categories

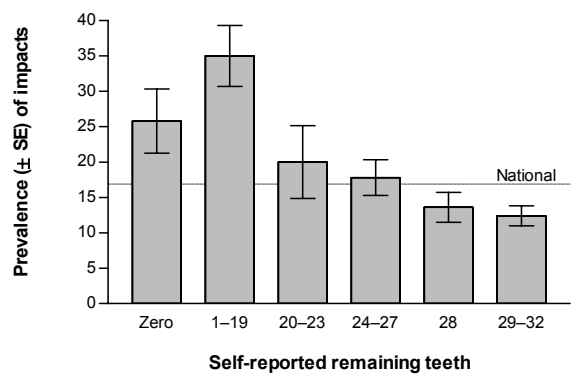


(p<0.001) Chi-square

Prevalence of impacts was greatest among dentate adults reporting fewer than 20 remaining teeth (35.0%) (Figure 3). Edentulous adults experienced significantly fewer impacts (25.8%). Among adults with more than 20 teeth, prevalence tended to decline in accordance with greater tooth retention.

Among the dentate, those with a denture had greater prevalence of impacts (24.2%) than those with no denture (14.7%).

Figure 3: Prevalence (% of people) reporting impacts according to self-reported number of remaining teeth



(p<0.001) Chi-square

Government concession cardholders

A program of state/territory subsidised dental care is available to low-income adults who hold a government concession card (Health Care Card). Prevalence of impacts was significantly greater among cardholders than non-cardholders in the 18–34, 35–44 and 45–64 years age groups (Table 1).

Table 1: Prevalence of impacts among cardholders and others in four age groups

	Age groups (%)				
	18–34*	35–44*	45–64*	65+ ns	All ns
Cardholders	38.7	31.4	28.9	21.0	27.3
Non-cardholders	14.1	12.5	13.4	13.6	13.4
All adults	17.7	14.9	16.3	18.8	16.9

ns (p>0.05); * (p<0.01) Fisher's Exact test

In the general adult population prevalence of impacts was significantly lower among adults with private dental insurance (13.1%) than those without insurance (20.5%) (Table 2).

For concession cardholders without dental insurance, prevalence of impacts was higher again (30.6%). Of note, prevalence among cardholders who had dental insurance (17.6%) did not differ significantly from that of non-cardholders who also were insured (12.5%).

Table 2: Prevalence of impacts among cardholders and others with and without dental insurance

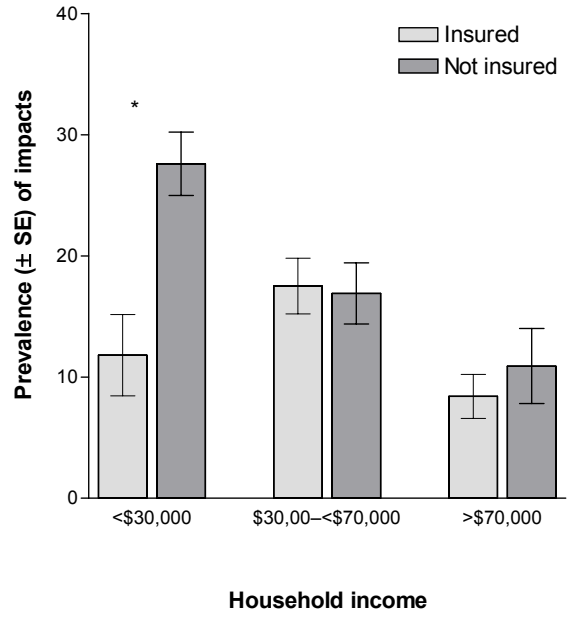
	Dental insurance (%)		
	Insured ns	Not insured*	All
Cardholders	17.6	30.6	27.3
Non-cardholders	12.5	14.6	13.4
All adults	13.1	20.5	16.9

ns (p>0.05); * (p<0.01) Fisher's Exact Test

Income had no effect on prevalence of impacts among the insured (Figure 4). However, among uninsured adults, prevalence of impacts was lower at higher income levels, implying a protective effect of insurance against the adverse exposure of low income.

Differences in prevalence within income levels were only significant in the <$30,000 income category, where prevalence of impacts for insured adults was 11.8% compared with 27.6% for uninsured adults.

Figure 4: Private dental insurance, household income and prevalence of impacts



*(p<0.05) Fisher's Exact test

Twenty-six percent of adults had avoided or delayed dental care in the past year due to cost.

Among concession cardholders, those who had avoided or delayed dental care due to cost had a two-fold greater prevalence of impacts (41.6%) than those for whom dental visiting had not affected by cost (19.8%) (Table 3). Among non-cardholders for whom cost was not a barrier to dental care, prevalence of impacts was 9.7%.

Table 3: Prevalence of impacts among cardholders and others based on whether dental care was avoided or delayed due to cost

	Prevalence of impacts (%)		
	No avoidance or delay *	Avoided or delayed*	All
Cardholders	19.8	41.6	27.3
Non-cardholders	9.7	25.6	13.4
All adults	12.0	30.8	16.9

* (p<0.001) Fisher's Exact Test

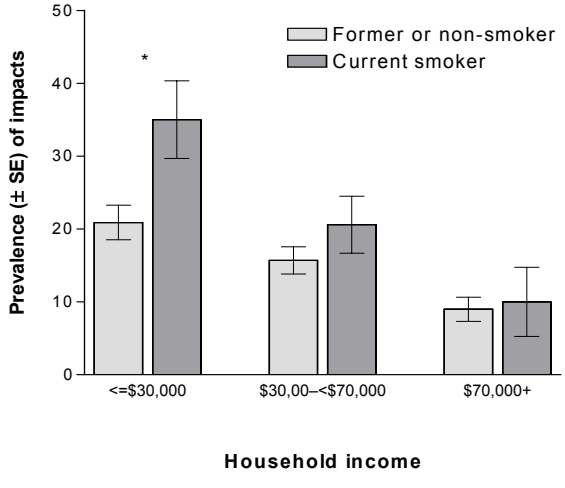
Among non-cardholders with and without a dentist who they usually visited for dental care, differences in prevalence were not significant (13.1% and 15.0% respectively). However, concession cardholders with a usual dentist had significantly lower prevalence (22.8%) than those cardholders without a usual dentist (32.1%).

Health behaviour

Australia collects survey information on four risk factors that account for a substantial burden of illness in the population. These are tobacco smoking, alcohol use, physical inactivity, and excess of weight / obesity. Using established questions and thresholds for risk (AIHW 2003a, 2003b), the association between these risk indicators and prevalence of impacts was examined.

Nearly one-fifth (19.6%) were current smokers. Prevalence of impacts was significantly greater in smokers (22.2%) than in former- or non-smokers (15.4%). Income had no effect on prevalence at moderate and higher income, but for those with incomes of up to $30,000, significantly greater prevalence of impacts was found in smokers (Figure 5).

Figure 5: Smoking status, household income and prevalence of impacts



*(p<0.05) Fisher's Exact test

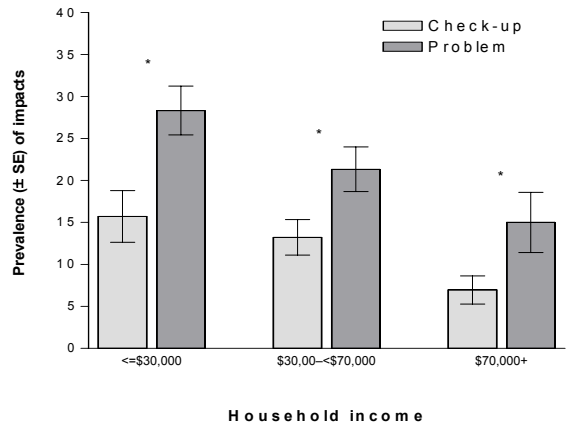
Adults in the risk category for alcohol were defined as those who drank daily and exceeded the daily limit for their sex. For this 19.0% of adults, prevalence of impacts (16.2%) did not differ significantly from that of the non-risk group (16.9%).

Based on the World Health Organization classification for adults (WHO 2000), 50.0% was overweight or obese. Prevalence of impacts in this group (18.0%) was not significantly higher than those in normal or below normal ranges (15.5%). Differences in prevalence between those with insufficient leisure-time physical activity (16.6%) were not significant in comparison to their more active counterparts (16.8%).

Oral health-related behaviour

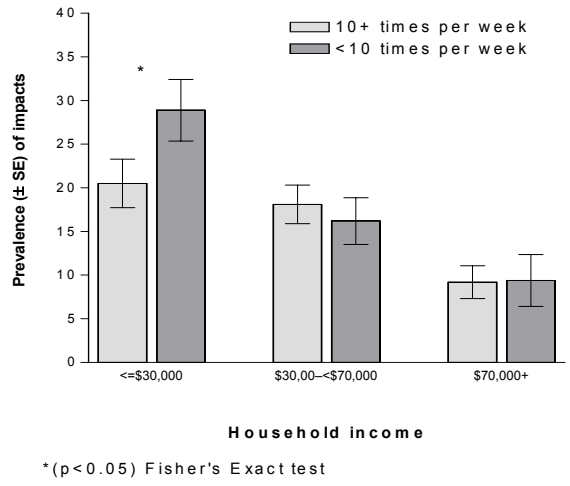
The prevalence of impacts was lower among adults who usually made a dental visit for a check-up rather than problem among all three household income groups (Figure 6).

Figure 6: Usual reason for dental visit, household income and prevalence of impacts



A binary split of toothbrushing frequency produced a risk group that brushed less than 10 times per week. Toothbrushing frequency was not protective for the overall sample, but among adults in households with <$30,000 income, those who brushed more often had significantly lower prevalence of impacts (Figure 7).

Figure 7: Toothbrushing frequency, income and prevalence of impacts



Dietary non-milk extrinsic sugar consumption (NMES) was measured by standard serves of a range of items consumed on a usual day. Summed serves were split at the median value. Adults who consumed more than the median value had significantly higher prevalence (20.5%) than those who consumed less (14.1%).

Summary

Contrary to common perception, it was not the edentulous who experienced greatest social impact from oral conditions, but rather the 9% of people who had some, but fewer than 20, teeth.

Adults with fewer socioeconomic resources frequently experience adverse impacts of oral health on quality of life. While smokers and the uninsured in higher income groups appear protected by their income from the social impact of oral conditions, this was not the case for these low-income Australians.

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Further information can be obtained from Anne Sanders by:
email <anne.sanders@adelaide.edu.au>, or phone (08) 8303 4171.

The AIHW Dental Statistics and Research Unit (DSRU) is a collaborating unit of the Australian Institute of Health and Welfare, established in 1988 at The University of Adelaide and located in the Australian Research Centre for Population Oral Health (ARCPOH), Dental School, The University of Adelaide. DSRU aims to improve the oral health of Australians through the collection, analysis and reporting of information on oral health and access to dental care, the practice of dentistry and the dental labour force in Australia.

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AIHW Dental Statistics and Research Unit
ARCPOH, Dental School
The University of Adelaide
SOUTH AUSTRALIA 5005

Email: <aihw.dsru@adelaide.edu.au>
Phone: 61 8/(08) 8303 4051
Fax: 61 8/(08) 8303 3070
www.arcpoh.adelaide.edu.au