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Holes a plenty: oral health status a major issue for newly arrived refugees in Australia

N Davidson,* S Skull,*†‡ H Calache,§ S Murray,‡ J Chalmers‖

Abstract

Background: Dental health needs of newly arrived refugees are much greater than for the wider Australian community. This paper identifies the disparities and highlights major dental health issues for Australia's growing and constantly changing refugee population.

Methods: Using available data and the decayed, missing and filled teeth (DMFT) index as a measure of oral health, the reported oral health status of refugee groups in Australia was compared with that of the general population, Indigenous Australians, recipients of public dental services, special needs groups in Australia and other refugee groups outside Australia.

Results: The reported oral health status of Australian refugees compared poorly with the comparison groups. Of particular concern was the number of reported untreated decayed teeth (D). This ranged from a mean of 2.0 to 5.2 compared with 0.6 to 1.4 for the general Australian population. Refugee groups also reported fewer filled teeth (1.0 to 5.8) compared with the general population (4.1 to 9.3). Similar results were found when reported D, M and F teeth for refugees were compared to Indigenous Australians, public dental service recipients, immigrants and special needs groups in Australia.

Conclusions: Dental health of refugees, particularly untreated decay, compared poorly to that of Indigenous Australians, and special needs populations in Australia who all have known worse dental health than the general population. There is an urgent need for the inclusion of this at risk population among targeted dental services. In addition, sources of health related data must clearly identify refugees to enable appropriate comparisons with other population groups. Recommendations for refugees are made regarding on-arrival dental assessment and treatment, and community based oral health programmes.

*Victorian Immigrant Health Program, Melbourne.
†Murdoch Children's Research Institute, Melbourne.
‡Department of Paediatrics, The University of Melbourne.
§Dental Health Services Victoria, Melbourne.
‖College of Dentistry, The University of Iowa, Iowa, USA.

Key words: Oral health status, refugees, review, dental treatment needs, Australia.

Abbreviations and acronyms: DMFT = decayed, missing and filled teeth; NACOH = National Advisory Committee on Oral Health.

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INTRODUCTION

Australia receives 125 000 immigrants each year, of whom 10 per cent are classified as refugees under the Humanitarian Program.[1] In addition, 8000 to 10 000 unauthorized arrivals (asylum seekers) currently reside in Australia as well as new arrivals with refugee-like backgrounds who share similar experiences to refugees such as disrupted or inadequate health services in their country of origin or in transit to a resettlement country. Access to basic health services, including dental care, nutrition, immunization, preventive care and chronic disease management are frequently limited by visa category related to arrival circumstances.[2-4]

Refugees and those with refugee-like backgrounds are at risk of poor health before and after arrival in Australia.[5,6] Prior to arrival refugees may not have had access to appropriate health care and may have experienced exposure to many traumatic events, losses, separations or threats.[7] In situations of political and social instability where populations are exposed to human rights violations and organized violence, refugees are at heightened risk of psychosocial deprivation and exposure to trauma[8] and, therefore, require special attention when addressing health needs.[5]

A complex array of factors contribute to a high prevalence of dental disease among immigrant and refugee groups in Western industrialized countries:[9,10] difficulties with access to and organization of dental services in countries of origin;[11,12] under and poor quality nutrition prior to resettlement;[13,14] increased development of caries due to exposure to a different diet;[14] difficulty accessing dental services following resettlement;[15-17] and that dental care is frequently not seen as a high priority during the migration process.[18] Cost, cultural isolation, communication barriers and

alternative beliefs about dental health care and disease also contribute to poor oral health among refugee populations.[19,21] Finally, dental problems may be the result of the physical consequences of torture and trauma and seeking oral health care can be a distressing experience as a result.[22]

Common oral health problems among refugees include dental caries, periodontal diseases, malocclusion, orofacial trauma, missing and fractured teeth, and oral cancer.[17,23,24] Caries experience (DMFT) includes the total number of untreated decayed teeth (D); teeth extracted (missing) due to dental decay (M); and teeth filled (F) due to dental decay. There is a higher prevalence of past caries experience when refugees are compared with international host populations.[16,23] Given the apparent high number of caries experienced by refugees in other host countries,[25,26] it is likely that refugee groups settling in Australia will also have greater dental health needs when compared to the wider Australian community.

Not unexpectedly, dental health varies considerably among different refugee populations[27-29] such as Yugoslav, Senegalese and Moroccan refugee populations in Italy.[30] With the profile of refugees and asylum seekers arriving in Australia constantly changing, it is important to review available data to guide service provision and clinical management. Furthermore, where gaps in data exist, it is important to identify key areas for research that can assist this process.

In this paper we will describe the reported oral health status of Australian refugees. Where possible, for comparative purposes, we contrast their oral health status with particular interest in untreated decay with that of the general Australian population and Indigenous Australians, recipients of public dental health services and other special needs groups who share poor oral health status or reduced access to dental services.

METHODS

A MEDLINE search was conducted for published articles addressing dental health needs of refugees from 1978 to September 2005 using the search terms oral health, dental health, refugee, immigrant and Australia. In addition, previously unpublished or incomplete data on the dental health of refugee populations in Australia were requested from current researchers in the field[31] and from the Australian Institute of Health and Welfare, The University of Adelaide Dental Statistics and Research Unit, and the National Oral Health Survey, 1987-1988.[32]

Other groups used for comparison were identified by policy makers[33] as those likely to have poorer oral health than the general Australian community, to access care only when they have a problem, and to pose more of a challenge when providing appropriate and acceptable care. These included Indigenous Australians, people living in supported residential services with chronic mental illness, other immigrant groups and refugees settling in Australia or in other countries (groups with limited access to dental services, lower utilization of dental services than the wider population, and/or who are concession card holders).*

All relevant Australian published DMFT data were included and international data are referred to where no Australian data were available. Due to the small sample numbers, direct statistical comparisons were not possible. Where available, 95 per cent confidence intervals are provided.

RESULTS

Table 1 shows reported individual D, M and F scores and sum DMFT scores of refugees living in Australia, the general Australian population, special need groups, recipients of public dental health services and refugees living in other countries. Two Australian studies provided data for this review. Although the age groups in Table 1 are not strictly comparable, these data nevertheless show adult refugees have poorer dental health status (D, M and F teeth), particularly untreated decayed teeth compared with the general Australian adult population. In 1987–1988, the mean number of decayed teeth in the Australian population was 1.5 compared with refugees, whose numbers ranged from 3.3 to 11 depending on their country of origin. Former Yugoslavian refugees had between 4.3 and 7.8 decayed teeth compared with 4.0 for general public dental care recipients. Refugees had a higher number of missing teeth (M=11; Former Yugoslavians) and fewer filled teeth (F=0.5 Iraqis and 5.6 Former Yugoslavians), when compared with the general Australian population (M=3.7, F=9.3). The DMFT score for Former Yugoslavians (DMFT=12.6) and Kosovars (DMFT=12.6) compared unfavourably with the general Australian adult population (DMFT=6).

Table 1 shows that refugee groups had more untreated decayed and missing teeth, and less filled teeth than other special needs groups identified. Kosovar refugees had 5.3 decayed teeth compared with 4.2 for Indigenous Australians, 4.6 for emergency care recipients and 3.6 for mentally ill boarding house residents. Refugees had more missing teeth; M=3.3 (Iraqis), M=7.7 (Kosovars), compared with M=2.6 (Indigenous) but a similar number compared to emergency care recipients (M=3.6). The DMFT score for Former Yugoslavians (DMFT=12.6) and Kosovars (DMFT=12.6) compared unfavourably with Indigenous (DMFT=7.5), emergency care recipients (DMFT=8) and Iraqi refugees (DMFT=3.3).

Variation also existed when comparing D, M and F teeth between refugee groups in Australia. Kosovars had a higher number of untreated decayed teeth,

*Concession card holders refers to Commonwealth concession card holders and their dependants and State concession card holders, including transport and public dental services, namely the Health Care Card and Pensioner Concession Card.

Table 1. Oral health status (mean D, M, and F teeth) of refugees, the general population, migrants and other special needs groups in Australia

	Australian refugees			Other countries refugees	Australian population			Australian migrants			Australian special needs groups¶	
15-24†	Former Yugo-slavia (31) *(+/-sd) *n=58*	Iraq (31) *n= 28*	*Kosovar (54) *n =182*	Bosnia/ Herzeg-ovina (4) *(+/-sd) *n=719*	General (32) *n=16 897*	Public dental care recipients (55) *(+/-sd) *n=10 230*	Indigenous (38) *n=217*	Vietnamese (56) *(+/-sd) *n=670*	Non - English speaking (57) *n=493*	All migrants (57) *n=5243*	Emergency care recipients (55) *(+/-sd) *n=29 800*	Chronic mental illness (58) *(+/-sd) *n=138*
Decayed	4.3 (3.9)	2	7.8	2.8 (2.9)	1.4	4 (.7)	3.5	2.8 (6.3)	2.1	4.2	4.9 (0.4)	10 (6.9)
Missing	5.8 (5.1)	1.3	3.6	0.7 (1.1)	0.5	0.8 (.2)	0.5	0.7 (1)	1.2	1.7	0.6 (0.1)	4 (0)
Filled	2.5	0	1.2	2.7 (2.4)	4.1	2.3 (.4)	3.5	7.2 (6.5)	4.7	2.7	2.5 (0.2)	1.7 (1.5)
DMFT	12.6 (6.4)	3.3	12.6	6.2 (3.9)	6	7.1 (.8)	7.5	11.3	8	8.6	8 (0.5)	15.7
25-44‡												
Decayed	2.7 to 5.2	4.7	5.3	3.5 (3.1)	1.5	3.5 (.2)	4.2	1.4 (2.3) to 3.2 (*4.2)	2.4	6.4	4.6 (0.2)	3.6 (3.5)
Missing	11 (6) to 11.5 (6.2)	3.3	7.7	5.7 (5.7)	3.7	3.7 (0.2)	2.6	1.9 (2) to 4.2 (5.6)	4	3.6	3.6 (0.2)	9.5 (6.2)
Filled	5.6	0.5	1.2	5.9 (4.6)	9.3	6.6 (0.2)	3.6	6.7 (7.1) to 10.5 (12)	6.5	2.7	4.6 (0.2)	5.9 (4.5)
DMFT	19.9	8.5	14.2	15.1 (7)	14.5	13.8 (0.3)	10.4	10 to 17.9	12.9	12.7	12.8 (0.3)	19
45-64§												
Decayed			3.5		0.9	1.7 (0.1)	2.6	3.6 (6.3)	1.6	7.3	2.1 (0.1)	3.3 (3.0)
Missing			11.8		12	6.9 (0.3)	5.9	3.9 (3.2)	7.2	6.7	7.6 (0.3)	14.6 (7.6)
Filled			2.1		6.5	7.8 (0.2)	4.4	13.8 (11)	7.1	1.5	6.8 (0.2)	4 (2.7)
DMFT			17.5		19.4	16.4 (0.3)	12.9	21.3	15.9	15.5	16.5 (0.3)	21.9
65+‖												
Decayed					0.6	1.3 (0.1)	0.5	2.1	1.4	6.5	1.5 (0.1)	3.9 (3.5)
Missing					13.6	9.2 (0.4)	5.3	1.2	10.8	9.8	10.3 (0.4)	15.7 (8.7)
Filled					3	7.2 (0.2)	6.7	8.2	6	1.5	6.4 (0.2)	2.7 (4.1)
DMFT					17.2	17.7 (0.4)	12.5	11.5	18.2	17.8	18.2 (0.4)	22.3

*P<0.05

*Kosovar evacuees had an oral health assessment undertaken within three weeks of arrival in Australia. Ninety-five per cent of these evacuees returned to Kosovo within 12 months.

†Age range varies in the 15-24 yr age group; Kosovars, general and emergency care recipients, Indigenous, non-English speaking migrants and all migrants' figures 18-24 yr, Bosnia/ Herzegovina 12 yr.

‡Age range varies in the 25-44 yr age group; Former Yugoslavia and Vietnamese figures included 25-34 and 35-44 yr, Iraq 25-44 yr, Bosnia/ Herzegovina 35-44 yr.

§Age range varies in the 45-64 yr age group; Vietnamese 45-54 yr.

‖Age range varies in the 65+ yr age group; Vietnamese 54+ yr.

¶Special needs groups consisted of those with access to general public dental services, i.e., those holding concession cards. Concession card holders refers to the Commonwealth concession cards and their dependants and State concessions including transport and public dental services, namely the Health Care Card and Pensioner Concession Card.

Note: Given the small numbers in the refugee samples and the large numbers within comparison groups, statistical methods were not applied to these data.

7.8 compared with Iraqis (2.0) and Former Yugoslavians (4.3). However, the latter group had more missing teeth (M=5.8) than either Iraqis (M=1.3) or Kosovars (M=3.6). Wide variation existed with regard to filled teeth with Iraqis and Kosovars having fewer filled teeth (F=0 and 1.2, respectively) compared to Former Yugoslavians (F=2.5).

An additional finding was the high numbers of missing teeth (M=12) in the general Australian population in the 45–64 years age group. Kosovar refugees in the 45–64 years age group also experienced high numbers of missing teeth (M=11.8) when compared to all other populations of the same age group.

Data reported on other oral health indicators measuring denture status, gingivitis, periodontal disease and oral mucosal lesions, including oral cancer, were sparse and are not discussed in the results.

DISCUSSION

This study clearly demonstrates that the oral health status of recently arrived refugees compares poorly with the general Australian population. This was particularly the case for untreated decay, and with the exception of the 45–64 years age group, refugees had a higher number of missing teeth and fewer filled teeth. These findings are consistent with a number of international studies[25,34,35] examining similarly aged refugees in Australia and elsewhere. Given that host populations have better access to dental services[36] and refugees' dental health is compromised prior to arrival,[25] addressing poor oral health and providing access to appropriate care should be a high priority.

The oral health status of refugees also compares poorly with other Australian immigrant populations, Indigenous Australians and emergency care recipients attending public clinics and dental hospitals. Refugees from Iraq and the Former Yugoslavia have more untreated decayed teeth compared with Indigenous Australians and emergency care recipients. These population groups are known to have poor oral health status and experience difficulties accessing appropriate care.[37,38] While the age groups are not uniform, the differences observed support existing evidence comparing Indigenous, non-Indigenous and overseas-born children.[39] Given that barriers to accessing services are shared by refugees,[39] they are likely to be further disadvantaged compared to the above groups in terms of oral health status.

Comprehensive implementation of dental care requires responsiveness to the needs of specific ethnic refugee groups. The variations between refugee groups' oral health status seen in this study are supported elsewhere[30] with marked differences in dental caries prevalence observed between different ethnic minorities.[40] The comparatively high numbers of untreated decayed teeth supports the assertion that refugees have poor dental care prior to arrival in a new country[25] and seek services only when there is a serious oral health problem.[16] By way of example, Kosovars have more untreated decay and a higher number of missing teeth compared with Iraqis and Former Yugoslavians. This is of particular concern given that 20 per cent of Australia's humanitarian intake over the past five years was from the Former Yugoslavia.[1]

Higher numbers of missing teeth may be associated with different treatment philosophies of dentists in the country of origin or patients' attitudes towards treatment cost rather than the severity of the disease.[41] The finding of fewer filled teeth and more missing teeth among refugees support previous data showing that refugees access dental care late in the course of disease, often only presenting for emergency care, including tooth extractions.[17] The number of filled teeth is an indicator of access to general dental services.[42] Therefore, the fact that refugee groups have fewer filled teeth suggests they are not seeking or do not have access to timely general dental services. We know these to be limited.[43]

Consideration of the pre-arrival experiences of refugees is important. Many have experienced torture and trauma and have fled war and conflict.[25] The detrimental effect of war on health care systems in countries of origin can be reflected in oral health status.[4] Torturers may also have been dentists in the refugees' country of origin or torture may result in oral injuries.[41] Additionally, oral injuries often exist for prolonged periods before refugees access dental care and severe pain may have been experienced for an extended period.[44] Providing accessible dental services that are "refugee-friendly" is a high priority considering the comparatively low levels of utilization of dental services among refugees in their resettlement country.[18,45]

This study has several limitations. Great variation exists within the studies reviewed with regard to research methods employed, sampling procedures undertaken and age groupings of the subjects. Additionally, access to health services and dental health systems vary between these groups so comparisons are difficult. Due to the small numbers in the refugee samples and large numbers within comparison groups, direct statistical comparisons were not possible. However, in the absence of any other data, they provide an indication of the oral health status of refugees in Australia and highlight deficiencies in the existing literature. No other data are available on the oral health status of refugees living in Australia.

It is evident from this study that there is a lack of population-based data identifying refugees and their oral health status. The only such Australian data on the dental health of immigrants are those from the National Dental Telephone Interview Survey 1999 and the Adult Dental Programs Survey 1996 which list "country of birth" and "languages spoken at home" as identifiers possibly indicative of refugee status.[46,47] However, this information does not distinguish refugees from other overseas-born persons, whose access to

dental health care, adequate nutrition and experiences prior to resettlement may vary considerably.[48] The changing refugee population warrants the systematic collection of data concerning newly arrived refugees' oral health status to ensure services are targeted efficiently, appropriately and in a timely manner.

Recommendations

The National Advisory Committee on Oral Health (NACOH) published a National Oral Health Plan 2004–2013.[49] Oral health needs of refugees were considered within the area of low income and social disadvantage. The following recommendations build on this plan suggesting strategies for improvement of refugee dental care. Recommendations focus on: (1) timely access to dental assessment with on-arrival treatment where possible; and (2) community-based refugee oral health promotion programmes.

Developing and implementing mechanisms to identify people with special needs at first point of contact with health services so implications for oral health services can be managed.[49]

Current data sources do not clearly identify refugees. Target prospective oral epidemiological data collection to define refugees' dental history, oral health status, dental treatment needs and dental service utilization.

Build community and health workforce capacity in oral health and promotion by collaboration of the oral health sector with policy makers in health, community service and education; other human services providers; teachers, and organizations representing specific disadvantaged groups.[49]

Developing programmes with multicultural health workers, migrant resource centres, public and private providers (for example, community dental clinics in areas where refugees are increasingly settling), non-government and community organizations.

Engage Foundations for the Survivors of Torture and Trauma,[50] Hotham Mission[51] and agencies assisting newly arriving refugees under the Integrated Humanitarian Settlement Strategy component of the Humanitarian and Refugee Program[52] ensuring a multidisciplinary approach to care.

Using a community development approach, develop and implement targeted health promotion and preventive programmes for specific socio-economically disadvantaged groups; low income earners and non-English speakers.[49]

Develop, support and evaluate community based oral health promotion programmes targeting refugee and asylum seeker groups (for example, adapting existing tools such as the Oral Health Promotion Program for Older Migrant Adults).[53]

Pilot programmes exploring efficient models for provision of timely dental care using the full oral health care team (general and specialist dentists, dental therapists, hygienists, prosthetists and dental assistants).[49]

Assist with monitoring and evaluating inter-disciplinary refugee dental programme interventions and publish findings to assist workers in the field.

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Address for correspondence/reprints:
Natasha Davidson
Research Fellow
Centre for Rheumatic Diseases
Department of Medicine
The University of Melbourne
Parkville, Victoria 3050
Email: natashad@unimelb.edu.au