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Oral Health Care Needs Among Former Refugees of the War in Syria

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Abstract

There are no reports on the oral health of adult Syrian refugees who have been resettled in New Zealand. A self-administered Arabic language questionnaire was distributed to students of community English classes, all of whom arrived in Dunedin, New Zealand, from Syria as refugees from December 2014 to June 2017. The questionnaire included items on self-reported oral health, utilisation of oral health services and oral health-related quality of life. Only two in five had received dental check-ups since arriving in Dunedin, nearly three in four reported dental pain within the past month, and two in three reported that their oral health problems affected their quality of life 'often' or 'very often' during the past month. Almost all former refugees qualify for limited financial support for dental care in New Zealand but many still reported finances were a major barrier to care. *Conclusion:* High unmet need for dental care is causing pain, embarrassment, worry, and reducing quality of life, among former refugees who have recently resettled in Dunedin, New Zealand.

Introduction

The current Syrian civil war (2011 to present) has internationally displaced over 5.5 million Syrians (United Nations High Commissioner for Refugees 2018). Many Syrians have experienced physical and/or psychosocial trauma as refugees, with repeated displacements, persecution and extended stays in poorly equipped temporary camps. Sustained trauma and long-term deprivation result in high health needs among refugees on arrival to their host nations (Ministry of Health 2012a; Taylor et al. 2014). It has been reported that hundreds of Syrian dental clinics have been destroyed and many dental professionals have fled due to the fighting, leading to severe lack of dental services (Saltaji and Alfakir 2015). It has also been suggested that rates of dental diseases have increased since the war began (Saltaji and Alfakir 2015). Caries is the second most commonly reported health issue among refugees after the common cold (van Berlaer et al. 2016). The provision of health care for refugee populations can be a challenge for host nations, as health professionals are often unfamiliar in dealing with people who have experienced the violence and trauma of war and life as a refugee (Taylor et al. 2014).

New Zealand currently accepts 750 refugees per year under the United Nations High Commissioner for Refugees mandated quota system, settled in the regions of Auckland, Hamilton, Palmerston North, Wellington, Nelson, Dunedin, and Invercargill. All people have the right to "highest attainable standard of physical and mental health" and the underlying determinants to protect and promote that right (United Nations 1966). As a signatory to the International Covenant on Economic, Social and Cultural Rights, New Zealand has obligations and duties under international law to ensure that migrants and refugees' right to the highest attainable standard of physical and mental health is realised (United Nations 1966; Keboa et al. 2016). Accordingly, refugees should have access to health services equivalent to that of the host population (United Nations 1951). The New Zealand Refugee Resettlement Strategy envisages that refugees will be "exercising the same rights as other New Zealanders" and that they and their families "enjoy healthy, safe and independent lives" (Immigration New Zealand 2018). The New Zealand Ministry of Health also recognises that health interventions must be tailored to the needs of refugee groups (Ministry of Health 2012a).

In New Zealand, newly-arrived refugees spend six weeks on an orientation programme at the Mangere Refugee Settlement Centre in Auckland, before being relocated to one of the other settlement regions in New Zealand. Their orientation includes an oral health screening and treatment for emergency dental problems. For those settled in Dunedin, limited oral health services are available through the *Former Refugee Dental Care Programme.* Provided by the Faculty of Dentistry, University of Otago, and the WellSouth Primary Health Network (PHO), the dental care programme offers former refugees settling in Dunedin an initial programme of basic dental care, provided as a one-off 'complete treatment' that includes oral health education, cleaning and preventive treatments, permanent fillings, extractions, limited root canal treatment and removable prostheses. The provision of crown and bridgework, implants, or more complex treatments to replace missing teeth are not included as part of the programme. The dental care programme aims to control active disease and "stabilise the individual's oral health such that it significantly improves their wellbeing". This programme is specific to Dunedin – health services in each region of New Zealand that receives refugees for resettlement is responsible for implementing their own dental programmes

Referrals to the *Former Refugee Dental Care Programme* must be made through each refugee's general medical practitioner. There are sufficient funds available to provide dental treatment at no cost for about 160 refugees annually, up to a total treatment

value of NZD $1300.00[1]. On-going care beyond this can be provided by the Faculty of Dentistry or other dental providers on a fee-for-service basis. Refugees are also likely to be eligible for Community Service Cards, and thus able to receive limited financial support for emergency dental care from Work and Income New Zealand (WINZ) (government welfare agency). Publicly-funded adult dental care in New Zealand is limited; some District Health Boards (DHBs) provide emergency and basic dental treatment as capacity allows and often with a co-payment for low-income adults with community service cards. Under the Community Oral Health Service, free dental treatment is provided for all eligible children (including refugees and protected persons, applicants and appellants for refugee and protection status, and victims of people trafficking offences) up to age of 18 years (Ministry of Health 2014). The Otago District Health Board provides Syrian Arabic interpreters who are required to be present when patients seek treatment at the Faculty of Dentistry.

Financial constraints are a major barrier to oral health care among refugee populations (Taylor et al. 2014) . It has been suggested that oral health care products are low on the priority list for refugees, with accessing food a greater challenge (Saltaji and Alfakir 2015). Regardless of the host country, the high cost of transportation has also been identified as a common barrier to refugees accessing oral health care (Sivakumar et al. 2016). Inability to communicate in the language of the host country also commonly impedes the successful integration of refugees into the host population and is a challenge to providing oral health care (Taylor et al. 2014; Shishehgar et al. 2017). For example, Hunter-Adams et al. (2017) reported an inverse association between dental caries and spoken English language ability among Somali refugees in the United States. This suggests that those who have worse oral health problems will have greater difficulty in communicating their needs to health professionals. It is also more challenging to oral health providers to communicate oral health self-care advice, treatment options, and informed consent, even through a translator. Culturally and linguistically-responsive health interventions can improve access to care, enabling earlier interventions and reducing avoidable hospitalisations (Ministry of Health 2012a).

Data are currently not available on the dental health of Syrian refugees newly arrived in New Zealand, and there is very little data available on oral health in Syria prior to the start of the current war. A study of Syrian kindergarten children conducted close to the beginning of the war reported a mean of 5.6 decayed, missing and filled teeth (dmft) among 5-year-old Syrian children, and over half of caries-affected surfaces were untreated. The mean number of filled teeth for children in Syria remained low over the past two decades, with extraction being the predominant treatment (Qadri et al. 2012). By comparison, the mean dmft among New Zealand 5-year-old children was 1.9 in 2012, with most affected surfaces restored (Ministry of Health 2012b). Mean dental caries experience was nearly three times greater among Syrian than New Zealand 5-year-old children at the beginning of the war, and treatment was less favourable for Syrian children. Data for Syrian adults are unavailable.

Previously published studies have found that refugees are likely to have a large burden of oral disease, even relative to the lowest SES group in the host country (Keboa et al. 2016). However no data are available that quantifies the oral health needs among refugees arriving in New Zealand. Objective data are needed when forming evidence-based policy (Davidson et al. 2007; van Berlaer et al. 2016). Such data are also needed to identify inequalities, barriers to care, evaluate efficacy of existing programmes and determine priorities to best use oral health resources for the benefit of the refugee community (Sivakumar et al. 2016; Thomson 2017). The lack of data on refugees is a problem that is neither new nor specific to New Zealand refugee populations, with past studies from other countries finding similar issues when gathering data on this topic (Young et al. 1987; Angelillo et al. 1996). The aim of this study was to investigate the oral health care needs of former adult Syrian refugees in Dunedin.

Methods

Ethical approval was obtained from the University of Otago Human Ethics Committee (reference D17/287). The study was cross-sectional and included former Syrian refugees aged 18 years or more who attended one of four community English classes for former Syrian refugees in Dunedin. Individuals were excluded if they were aged less than 18 years, did not consent to participate, had not lived in Syria, or were absent from class on the day data were collected.

Participants were asked to complete an oral health questionnaire, with questions exploring three aspects of their oral health: current oral health, dental experiences and oral health impacts on quality of life. At the end of the questionnaire participants were invited to make additional comments about their oral health and oral health experiences. All items in the questionnaire were translated into Arabic and checked for accuracy by native speakers of Syrian Arabic. An Arabic translated information sheet explaining the aim of the research project was attached to the survey, together with a consent form. An Arabic language speaker was available to read questions aloud for those who were not adequately literate. Participants were asked about their personal characteristics, including age, sex, education, past occupation, region of origin, and their length of residence in Dunedin.

Questions concerning participants' oral health included: number of remaining teeth, (excluding false teeth), reasons for any tooth loss, frequency of tooth brushing (response options: more than once a day, once a day, once a week, less than once a week or not brush at all) (Thomson et al. 2012), "How would you describe the health of your teeth or mouth?" (Thomson et al. 2012) ('Excellent', 'Good', 'Average', 'Poor' or 'Very Poor'), frequency of use of tobacco products (never, daily,

1 Personal communication, Faculty of Dentistry Clinical Director Don Schwass, March 2018

occasionally or previous smoker) and method of tobacco use (chewing tobacco, rolled/manufactured cigarettes, shisha, or other method).

To determine past dental experiences in New Zealand and their region of origin, participants were asked questions about avoidance of dental care, length of time since last dental check-up, time since last dental treatment, self-care advice received from a dentist or dental hygienist, the nature of any dental treatment received in Dunedin (cleaning, extractions, dentures, fillings, root canal or any other treatment), difficulty in paying $300 for dental treatment, expenditure for dental care and the source of any financial assistance for dental care received while in New Zealand.

The short-form Oral Health Impact Profile (OHIP-14) was used to gather information about the oral health impacts on participants' quality of life, including frequency in the previous month of experiencing oral health problems ('Very often' (scoring 4), 'Fairly often'(3), 'Occasionally' (2), 'Hardly ever' (1) or 'Never' (0) (Slade 1997)).

Data were entered into a password-protected IBM SPSS Statistics 24 database and were subsequently analysed in Stata/IC 15.1 using descriptive statistical techniques (frequency counts and proportions). Responses to open-ended questions were reviewed for recurring themes, illustrated by verbatim quotes.

Results

Of the 63 individuals who were invited to participate only one declined to do so, leaving 62 participating adults (46.8% female), with a mean age of 37.7 years (range 24-60). All were Syrians who left Syria as refugees between 2010 and 2015 and originated from 11 cities throughout Syria. Aleppo, Damascus and Homs were the top three cities of origin. All had stayed in the Mangere Refugee Settlement Centre in Auckland before relocating to Dunedin between December 2014 and June 2017.
In terms of education, five (7.1%) were tertiary-educated, 26 (37.1%) had received some secondary schooling, 26 (37.1%) had received primary education only, and the remaining five had not received any education.
The most commonly reported occupation was 'house-wife' (n=28, 45.2%), while four did not report an occupation. Among the remaining participants, occupations included art, baking, carpentry, farming, driving, photography, tailoring, teaching, mechanics, hairdressing, psychology and general labour. Based on occupation, all but two would be classified as of a lower socioeconomic position according to the New Zealand Social Economic Index (Fahy et al. 2017).

Oral health

The majority of participants perceived their oral health as *'poor'* or *'very poor'* (n=33, 53.2%), around a third (n=19, 30.7%) as *average* and the remainder as *''good'* or *'excellent'*. The 60 participants who counted their upper and lower teeth had an average of 22 teeth each, with six (10.0%) reporting edentulism in the upper arch and eight (13.3%) reporting edentulism in the lower arch. Some 16 participants (28.3%) had fewer than 20 teeth remaining and all but two (3.3%) had lost at least one permanent tooth. Of those who had lost teeth, 22 (37.9%) reported that it had not been possible to save them, 32 (55.2%) reported they had been unable to afford treatment to save the tooth or teeth, while two (3.3%) had lost teeth due to other reasons (health problems and war).

About one in four participants reported brushing their teeth more than once daily (n=15, 25.9%), half brushed once daily (n=31, 53.5%), one in ten brushed weekly (n=6, 9.7%), while six brushed weekly or less (10.4%) and the remaining four did not report their brushing frequency.

More than half the participants were current smokers (n=32, 51.6%) while a further tenth of participants were past smokers (n=6, 9.7%). Among the current smokers, 46.9% were daily smokers and 53.1% were occasional smokers. More than half of current smokers reported they smoke shisha (58.1%), one in three reported smoking rolled tobacco (32.3%) and one in four smoked cigarettes (25.8%).

Dental experiences

Just over one in three participants reported they had had a dental check-up or professional dental cleaning within the past 18 months (n=24, 38.7%), while four (6.5%) reported it had been over six years since their last dental check-up or cleaning. The remainder (n=34, 54.8%) could not recall if or when they had ever had a dental check-up. Dental visiting for treatment was more common, and about three in four (74.2%) had been to a dentist for treatment within the past 18 months.

Just over half (n=32, 52.5%, one non-response) of the participants reported having received oral hygiene advice on at least one occasion since arriving in New Zealand, while one in five (n=12, 19.7%, one non-response) had received advice about their diet. Of the 38 who reported they were current smokers, one in four (26.3%) reported they had received smoking cessation advice. Since arriving in New Zealand, about one in five had actively avoided attending for dental care (n=14, 22.6%).

Since arriving in Dunedin, nearly half of the participants had had at least one tooth extracted (n=26, 42.6%). Almost a third had had at least one tooth restored (n=19, 31.2%) or had a dental cleaning (n=18, 29.5%). Other procedures that participants had experienced included root canal therapy (n=15, 24.6%) and denture delivery (n=6, 9.8%). One participant did not respond to this section. In response to the question "*how difficult would it be for you to pay a $300 dental bill",* all responded it would be *"very difficult"* (the response options were "*not difficult at all"; "somewhat difficult"; "very difficult"*). Just over half of the participants (n=35, 57.4%) had received some form of financial support for dental treatment since arriving in Dunedin. Financial assistance sources included WINZ (n=6), WellSouth (n=15), and unknown sources of assistance (n=14). None had received financial assistance from more than one source. Only three individuals reported that they had been required to pay a dental bill in New Zealand.

Oral health impacts on quality of life

Not all participants answered the questions in the OHIP-14; only 41 participants answered all 14 questions. The prevalence of one or more impacts experienced *'often' or 'very often'* was high (n=46, 78.0%). Within each sub-domain, the prevalence of impacts was also high, at 21.7% for functional limitation, 70.4% for pain, 47.3% for psychological discomfort, 36.5% for physical disability, 39.7% for psychological disability, 21.2% for social disability, and 24.1% for handicap. Health impacts were experienced in all domains by three participants (among those who answered all OHIP questions, 7.3%).

Additional comments

Twenty-eight participants made additional comments at the end of the questionnaire about their oral health and oral health experiences. Some reported their dental issues, for example *"I have lots of problems, please I need treatment", "I get pain when I eat and bad mouth smell", "I can't eat and chew with my teeth", "I am very tired from all the dental problems I have, no one contacted me for dental treatment, please help me…", "I really want treatment in general 'cause I feel embarrassed in front of people. Sometime I can't even eat …", "… I can't chew or eat any hard food. My teeth are in a very bad condition …", "I want treatment because I feel self-conscious and have no confidence to smile. I feel like I have a bad smell all the time from my mouth",* and "*I urgently need treatment as my artificial teeth is in a very bad condition. My gums are very inflamed and very red and I think it bleeds as well"*. Others suggested that preventive dental care services should be offered to refugee arrivals so as to reduce risk for dental problems, as well as better advice on how to access dental check-ups and treatment in this country.

Discussion

This study found a very high level of unmet oral health need among adult Syrian refugees in Dunedin, New Zealand, and that financial issues are perceived as a barrier to them receiving oral health care. It is concerning that fewer than 40% of participants reported having had a dental check-up within the 18 months since their arrival, and over 70% (including more than half of those who had been for a dental check-up) reported currently experiencing dental pain. It is also of concern that a large proportion reported they had not received oral hygiene, diet, or smoking cessation advice.

To our knowledge this is the first study to report systematically-collected information on the views of Syrian refugees in New Zealand about their oral health needs. It was decided to limit the scope of this project to a self-report questionnaire-based survey with no clinical examination. The lack of clinical data for studies of oral health of refugee populations is a limitation due to potential discrepancy between self-reported and actual need for dental treatment (Ghiabi et al. 2014). The investigators felt it would not be appropriate to conduct clinical examinations without simultaneously providing dental treatment to these needy individuals; further, provision of dental care was outside the scope of this study (and no funding was available for that purpose). This study was limited to investigating the oral health of adult refugees. Children were not included in this research as dental care is more readily accessible to them than adults. However, child refugees also often experience significant oral health issues that greatly affect their oral health-related quality of life (Pani et al. 2017). Future investigations should include children as it is likely that they have substantial oral health needs on settlement in New Zealand that requires a high level of intervention and on-going care.

Ensuring the validity and reliability of the translated questionnaire was an important part of this study. For example, the wording for a Syrian Arabic version of the OHIP-14 had to be tested as Locker's term uses slightly different response options and translation necessitated a slight variation. However, equivalent Syrian Arabic words were not difficult to select because of the simple structure of the OHIP-14 and the universal nature of its contents (Montero-Martin et al. 2009), for example, we judged the closest equivalent Arabic word to 'fair' to be "متوسطة", which more directly translates to 'average'. No differences were found when pre-testing both the English and Arabic versions of the questionnaire with bilingual Arabic/English speakers.

Half of participants (53%) reported they had lost one or more of their teeth in their life time because they could not afford the treatment, despite being told the teeth could be saved. Although almost all participants qualified for (limited) financial assistance for dental care in New Zealand, nearly half reported they had not received any such assistance, and of those that had, more than a third did not know from what source the financial assistance had come. Every participant regarded cost as a significant barrier to care and would find paying for dental care out-of-pocket very difficult, and many expressed fear about accessing care due to their uncertainty regarding current and future availability of financial assistance for dental care. This is consistent with findings in other countries where there was no clear long-term funding framework or health policy for refugees (El Azrak et al. 2017). Refugees settled in Dunedin have access to initial basic dental care, funded by a specific contract with the Primary Health Organisation. However, there is limited, and likely insufficient, financial support available for on-going dental care. Furthermore, cultural and language barriers, and inexperience in navigating the health and welfare systems, are likely to further impede refugees accessing dental treatment. There is a need to ensure that information, advice and treatment are provided in a manner that is culturally relevant and appropriate.

Refugee populations are likely to have high oral health needs, difficulty in accessing dental services and low socio-economic status (Ghiabi et al. 2014; Sivakumar et al. 2016), and this is likely to be worse than any host population. The 2009 New Zealand Oral Health Survey (NZOHS) reported that around one in four low SES adults rated their oral health as *'fair'* or '*poor'*, whereas more than half of the Syrian refugees who participated in this study did so. Only about one in six low SES participants

in the 2009 NZOHS reported experience of one or more negative impacts of oral health problems on their quality of life during the past 12 months, whereas four in six Syrian refugees during the past month experienced negative impacts during the past one month.

The qualitative results of our study, in the form of additional comments given by participants, are consistent with the quantitative results from the oral health impact profile. The participants seem to value good oral health and are experiencing distress at the problems they are having with their teeth and with accessing care. There is clearly much richer information that could be gathered through more comprehensive qualitative methods, such as interviews. In future we hope to conduct such research, to gather information on experiences of dental problems and treatment both before and after arriving in New Zealand.

While dental issues among newly arriving refugees may have been caused by various past factors, it is still important for their host country to develop an evidence-based protocol to develop standardised national policy for screening, regardless of reported symptoms (Riggs et al. 2017), and facilitate access to treatment. This, however, also has to be integrated with culturally appropriate oral health promotion initiatives for control of risk factors, such as diet and oral hygiene habits, and community-based population interventions (Arora et al. 2018).

Access to post-settlement oral health care for refugees is currently unsatisfactory, and dental clinicians and refugees are both placed into a difficult situation when pathways to care are unclear. Oral health screenings are provided at Auckland's Mangere Refugee Resettlement Centre, but the refugees later resettled in Dunedin have received emergency care only, and arrive in Dunedin with no oral health plan or clear pathway whereby they may receive comprehensive dental care. Relatively few participants in the current study indicated that they had previously received oral health advice regarding self-care, diet, and smoking cessation, which seems like a lost opportunity considering that they had all passed through the Mangere Refugee Resettlement Centre.

There is an ethical obligation to address a health problem once it has been identified. As oral health care for adults in New Zealand is mostly funded out-of-pocket by those receiving treatment, a person's financial means may be a better predictor of whether they are likely to receive dental care than the severity of their dental problems. The current system seems to be failing to provide accessible, funded care, a problem not limited to former refugees. Providing publicly-available oral health care to those who struggle to afford it would not only improve the oral health (and overall health and well-being) of refugees and low income New Zealanders, but the State would also be addressing their human rights obligations.

Another barrier to accessing dental care in Dunedin is the requirement for refugees to be referred to the Former Refugee Dental Care Programme through their general medical practitioner; self-referrals are not accepted. Currently, general practitioners (GPs) are the gatekeepers to funded dental care for refugees in Dunedin. This is problematic as, for some refugees, referrals may not be immediate. Further, the waiting time from referral for dental treatment is up to a year, although anecdotal reports suggest that it may be longer. Also, refugees who have not seen a GP since settling in Dunedin will not have had the opportunity to be referred to the dental care programme. The number of Dunedin Syrian refugees who have visited a GP in Dunedin since settling is uncertain; however, in 2015/16, 14% of all refugees to New Zealand had not been to a GP within the first year of settlement (Immigration New Zealand 2016). It is also likely that referral to the dental care programme has limited consideration or relatively low priority in general medical practice.

Former Syrian refugees residing in Dunedin appear in great need of dental treatment, reporting frequent and severe negative impacts on their quality of life due to their oral health problems. It is unclear whether similar issues are seen in other parts of the country where refugees are resettled. Future studies should collect clinical examination data to better quantify dental care need requirements nationally, to identify modifiable risk factors (or this could be quantified at the Mangere Refugee Resettlement Centre) and to ensure consistency of oral health care delivery. The findings are consistent with studies investigating the oral health issues of refugees who have settled in other countries (van Berlaer et al. 2016), suggesting a need for improved guidance at the global level.

Everyone has the right to health and the conditions to promote and protect that right. As signatory to the International Covenant on Economic, Social and Cultural Rights, the State is also obligated under international law to ensure that right is realised. As such, the State should provide the support necessary for those who lack the financial means to receive appropriate dental care. For refugees, this is complicated as they often need advanced and complex oral health care services. Anecdotal evidence suggests that many refugees have previously received complex dental work in Syria, where dental care is (or was) publicly-funded, that potentially increases their risk of caries and requires a high degree of maintenance. Many refugees have existing crowns, long-span bridges, and endodontically-treated teeth, which have often been neglected for several years. Many refugees require repair or replacement to existing complicated dental work, including replacement of pre-existing failed crowns, bridges, and root canals, and want to retain these teeth, and are surprised that such care is unavailable in New Zealand, when it had been in Syria. Addressing the oral health issues of refugees requires input from all sectors of the dental profession, since comprehensive dental care plans for Syrian refugee adults in the community may include preventive hygiene care and advice, dental prostheses, and basic and advanced restorative dental work, and often specialist-level dental care.

A nationally-standardised protocol, guided by the global oral health sector, is needed to clarify which dental care services are available and funded, and how they should be accessed. Clinical pathways for dental

care of refugees should be established, including a clear statement of any limitations of scope of dental care, contingencies for providing care to individuals who have complex and costly dental needs, timeframes for care, and expected outcomes. Oral health should also be included as a success indicator in the New Zealand Refugee Resettlement Strategy. In New Zealand, as in many other countries, refugees appear to have poor oral health. Oral health care should be made available and accessible to refugee and other at-risk population groups in New Zealand, and elsewhere, to ensure they enjoy good oral health and overall well-being, and that their human rights are being realised.

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