Oral health disparities and the underutilization of dental services by Refugees in Canada

by

Razaz Agaban

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Name:	**Razaz Agaban**
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Examining Committee:	

Chair: **Malcolm Steinberg**
Senior Supervisor

Clinical Assistant Professor, Program

Director, Public Health Practice & Chair

Hema Shrestha
Second Reader
Manager, Population and Public Health
Fraser Health

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Abstract

Little is known about the oral health status of adult refugees in Canada, nor the barriers they face when accessing dental health services. This paper examines data derived from local and international studies, where a clearer picture emerged of the unique oral health needs of refugees around the world and the common barriers they face. Evidence suggests that despite their poor oral health status, refugees experienced challenges accessing dental services mainly due to financial constraints, limited oral health knowledge, language difficulties, and psychological and cultural health beliefs. While these findings highlight the need for Canadian research on barriers faced by adult refugees, existing data based on these findings suggests that the Interim Federal Health Program needs to be re-assessed and restructured to meet the needs of this underserved population. Key to this is the introduction of culturally competent oral hygiene programs, in areas where there are large concentrations of refugees, to help raise awareness and improve oral health literacy and oral health knowledge, while tackling issues related to cultural beliefs in a sensitive manner.

Keywords: Adult Refugees; Oral health; Access; Utilization; Dental services; Barriers

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List of Acronyms

SFU	Simon Fraser University
LAC	Library and Archives Canada
UNCHR	United Nations High Commissioner for Refugees
DMFT	The Decayed, Missing, and Filled teeth index
DMFS	The decayed , Missing and Filled teeth score
MeSH	Medical Subject Headings
IFHP	Interim Federal Health Program
CINAHL	The Cumulative Index to Nursing and Allied Health Literature.

Chapter 1.

Introduction

"Refugees are persons who have fled their country because their lives, safety or freedom have been threatened by generalized violence, foreign aggression, internal conflicts, massive violation of human rights or other circumstances which have seriously disturbed public order." Cartagena Declaration on Refugees (1984).

Currently, there is limited Canadian research exploring the oral health status and needs of adult refugees and asylum seekers upon their arrivals and post-settlement. While several researchers have striven to determine the oral health status and the barriers that refugees might face when attempting to access dental care, most of that research focuses on children (Cote et al, 2004; Reza et al, 2016) youth and adolescents (DiAngelis et al, 1982), and less on adult refugees.

It is important, for the purpose of this paper, to differentiate between refugees and immigrants. A phenomenon called "the healthy immigrant effect", where recent immigrants benefited by having better overall health and lower mortality rates than the general native-born population has been thoroughly discussed in Canadian literature (Newbold & Danforth, 2003; Beiser, 2005), even though data is inconsistent and sparse when it comes to evidence that it extends to their oral health. Although the relationship between health and immigration is complex, evidence suggests the positive effect may be because of self-selection (Kennedy, Kidd, McDonald & Biddle, 2015). Immigrants are normally selected based on their education levels, language proficiency, skills, age, financial stability and health status (Kennedy et al, 2015). Refugees are not fortunate enough to be selected based on those criteria, and often have poorer health and health issues before arrival (Beiser, 2005).

Refugees and immigrants have separate, distinct legal statuses in Canada, which may entitle them to different levels of access to public benefits and services such as health insurance. The purpose of this paper is to understand, identify and explore some of the major barriers faced by adult refugees in the effort to improve their oral health status within Canada. Understanding refugees' dental needs is imperative to plan

effective interventions and eliminate potential barriers to care in order for them to fully realize their potential in their new country.

Because the oral health status is an important indicator of overall health status, immediate dental assessment and timely treatment could provide a window into other chronic or urgent health needs (Willis & Bothun, 2011). However, as is common with vulnerable and low income populations in Canada, refugees have limited access to dental care (Davidson et al 2007; Quiñonez & Figueiredo, 2010; Locker, Maggirias & Quiñonez, 2011). While Canadian data on refugee oral health is limited, global data provides considerable insight into the oral health status of refugees, as well as the factors affecting their access and utilization of dental services. This paper aims to shed a light on those barriers as well as predictors to accessing dental care globally, and using that information to reduce those barriers, increase access and utilization of dental services and improve the oral health status of refugees within Canada.

Chapter 2.

Background

The Journey of Refugees

Over the last several decades, Canada has become an increasingly multicultural society, largely as a result of increased migration. Statistics show that one in 5 people in Canada are foreign-born (Statistics Canada, 2011). In recent years the number of foreign-born newcomers has reached 20.6% of the population in Canada (Statistics Canada, 2011), with immigrants and refugee claimants coming from countries in Africa, the Middle East, Europe, South America and Asia (CIC, 2017b) in response to political and social instability in various global situations. According to the UN Refugee Agency, a staggering 65.3 million people have been forcibly displaced from their homes worldwide (UNHCR, 2017). Less than one-fifth of all refugees and asylum seekers end up in industrialized countries; developing countries host the majority (86 %) (UNCHR, 2015). 2015 saw Canada take in approximately 20,000 resettled refugees, being surpassed only by the United States (UNCHR, 2017). Most recently, the dramatic conflict in the Middle East has resulted in an influx of Syrian refugees into Canada.

In Canada, refugees fall into categories, mainly government assisted refugees (GAR), privately sponsored refugees (PSR) and Blended Visa Office Referred (BVOR) (ISS*of*BC, 2017). Of these, GARs are the most likely to be vulnerable, as they are entirely supported by the Canadian Government for one year and receive monthly income support. PSRs and BVORs, while also vulnerable, are often fortunate enough to enjoy some form of emotional, social and financial support from their sponsoring families. A refugee's vulnerability is increased as a result of being forced to leave their countries of origin. It has been established that refugees, in general, report more physical, psychological and dental problems than the immigrant population (Beiser, 2005; McKeary & Newbold, 2010). Before arriving in Canada, refugees who seek asylum may have spent years in refugee camps, where living conditions are often unfavorable (Vallejo, 2007). Many people from refugee backgrounds will not have had access to comprehensive healthcare for years, if ever (Vallejo, 2007). Most refugees receive health screening at the camps, which also typically provides health care but dental care

is often overlooked (Roucka, 2011). At refugee camps, nutrition and facilities promoting proper dental hygiene are often lacking, if they exist at all (Roucka, 2011).

While Canada boasts of its position as one of the world leaders when it came to the overall oral health of its citizens, it does identify certain vulnerable groups as having a higher risk to oral diseases than others. Among this group are new immigrants with a refugee status (Canadian Dental Association, 2017). However, very little is known about the oral health status of adult refugees in Canada, and little to none is documented of the barriers they face in accessing dental care services in Canada. Nonetheless, it would make sense to say that they would face most if not all of the difficulties faced by immigrants with regard to their oral health status (Calvasina, Muntaner & Quiñonez, 2015), since they are often considered as a sub-group under 'immigrants' and 'newcomers' (Hollander et al, 2013). It is well documented in the literature that refugees and asylum seekers often have unique health needs (Beiser, 2005; Magoon, 2005; McKeary & Newbold, 2010). Refugees and asylum seekers often suffer from psychological disorders like PTSD, depression, anxiety and low self-esteem caused by torture and trauma (Harris & Zwar, 2005; Singh et al, 2008). Also, maintaining good oral health prior to arriving in Canada might have been challenging due to the likely limited access to affordable fluoride toothpastes and fluoridated drinking water (Lamb et al, 2009; King, 2012).

Access to health care means having "the timely use of personal health services to achieve the best health outcomes" (Millman, 1993). Accessing healthcare means the patient's need is being met by the healthcare system, where the patient identifies that need, and successfully seeks and reaches out to the health care service to fulfil that need (Woodgate et al, 2017). Refugees often have high expectations regarding the comprehensiveness of oral health care in Canada; they often expect it to be free and very accessible (Amin et al, 2014).

The importance of oral health

Oral health, when acknowledged, receives little attention during the refugee domestic health screening process (Mcnally, 2011), which often leads to the exacerbation of untreated dental problems. Oral health means more than just good teeth and is generally considered a 'window' to assessing and intervening to support an

individual's general health. The experiences of oral pain and restricted smiling and communication due to the bad appearance of teeth often has a negative impact on people's mental and social well-being (Reisine & Bailit, 1980). Oral diseases restrict activities at school, at work and at home causing an estimated annual loss of 2.26 million school days and 4.15 million working days each year in Canada (Health Canada, 2010). Poor oral health may have a profound effect on general health, where the relationship between oral health and systemic health is increasingly recognized. Periodontal disease, for instance, has been associated with diabetes (Löe, 1993), cardiovascular diseases (Morrison, Ellison & Taylor, 1999) and reproductive outcomes (Goepfert et al, 2004). Dental problems that are relatively more common in refugees include caries, abscesses, gingivitis, and manifestations of trauma (Barnett, 2004). Many refugees also face dietary changes upon arrival, and that is mainly in the increased consumption of refined sugary foods and drinks (Willis, 2005) which further exacerbate the oral health status.

Newly arrived refugees often have many hurdles to overcome, including learning a new language and trying to acclimate to their new lifestyle. While mental health issues were founded to be the most urgent health care concern among refugees, dental health was documented as a common and persistent health concern among refugees, especially years post-settlement (Morris et al, 2009). Poor oral health may further negatively affect refugees, as it has been shown to affect social connectedness, self-respect and employability (Canadian Academy of Health Sciences, 2014). Studies show that after entering and settling in their receiving countries, dental health is not among their priorities (Zimmerman, 1995) as they may be focusing their efforts on securing a stable job to support themselves and their families. This may prove to be difficult if they are plagued with oral diseases that are often painful.

Dentistry in the Canadian Healthcare system

The Canadian health care system is complex. Canadian provinces and territories operate separate health insurance systems that together form the national health insurance program, best known as 'Medicare' (Government of Canada, 2016). Under this system, all citizens are entitled to receive comprehensive medical services with the exception of dental (only emergency hospital visits are covered), optometric, chiropractic, pharmacologic, and home care services (Canada Health Act, 2012). In Canada, the dental care system is a predominantly private fee-for-service, and visits are

mostly determined by the individual's ability to pay for those services (Canadian Association of Public Health Dentistry, 2017). This lack of coverage has led many uninsured low-income and underserved Canadians to resort to the emergency room when encountering toothaches, at a minimal cost of $513 per visit (Ottawa Public Health, 2015). Since hospitals are not equipped with dental units or dentist practitioners, individuals are normally treated symptomatically with painkillers and antibiotics, which cost the province of Ontario $30 million in 2012 alone (Ottawa Public Health, 2015).

Current dental screening process for New Refugee arrivals in BC, Canada

Evidence-based Canadian guidelines targeting primary healthcare providers recommend that newly arrived refugees and immigrants undergo an oral screening for dental pain and "obvious dental caries and disease" (Mcnally et al, 2011). Healthcare providers are advised to treat the pain with non-steroidal anti-inflammatory drugs and refer to dentists if necessary (Mcnally et al, 2011). This screening procedure is carried out with a penlight and tongue depressor (Mcnally et al, 2011), and a disposable mouth mirror if necessary (Alberta Health Services, 2015). Vancouver Coastal Health, ISS*of*BC and the BC Dental Association collaborated to provide systematic dental screening along with primary healthcare screening to all new GAR arrivals, mainly the first wave of Syrian refugees (ISS*of*BC, 2016). However, due to the limited capacity of the IFHP and encountering more extensive dental issues than was anticipated, that systematic screening was halted in March 2016 and limited only to persons in pain (ISS*of*BC, 2016). Currently, Fraser Health is starting to employ an organized dental clinical screening process for refugees that includes preventive procedures and oral health promotion measures (Fraser Health, Personal communication, August 10th 2017).

The Interim Federal Health program for Refugees

The federal government has been responsible for the provision of health care to refugees since 1957 with the establishment of the Interim Federal Health Program (IFHP) (CIC, 2007c). Refugee claimants receive the same health care coverage as Canadians on social assistance through this program (CIC, 2007c), which covers refugees for 12 months or until they are eligible for provincial coverage. Refugees have access to dental first aid; which is often in the form of tooth extractions; but not necessarily to comprehensive dental care that fit their unique needs. The IFHP provides

refugees with basic, supplemental and medication coverage through Medavie Blue Cross, a non-profit insurance company (CIC, 2017a). Coverage by IFHP is not automatic, and the refugee must apply for it before they are eligible to be covered by the provincial health insurance (CIC, 2017a). However, cuts to the IFHP in 2012 meant that the budget significantly decreased. This created a disadvantage, as refugees may arrive with their own often chronic medical conditions (Pottie et al, 2011), especially if they have been living in refugee camps. Retracting full coverage from disadvantaged refugees may have created an additional barrier to accessing medical care, as their health may suffer in the time they are required to wait for provincial coverage (Barnes, 2013).

Currently, recipients are covered only for basic levels of dental care including emergency dental examinations, tooth extractions and restoration of severely affected teeth (only with prior approval), with no coverage for any preventive procedures or routine dental exams (CIC, 2017). Because the IFHP is a complex system, many providers as well as clients may not be familiar with or aware of the services covered by the IFHP, which further complicate the access of refugees to services (McKeary & Newbold, 2010). Many dentists are often discouraged from registering with the IFHP because they may not want to deal with the payment delays, late reimbursements by the federal government, red-tape and pre-approval process as well as the lower financial profit (McKeary & Newbold, 2010). To further complicate matters, the payment, which may be delayed up to 6 months, is often significantly lower than what the province has set, and sometimes the refugee may end up receiving a bill for the difference (Miedema, Hamilton & Easley, 2008). The IFHP was re-instilled in 2016 after four years of limited coverage, however, the toll its limitations and absence has taken on refugees' oral health has yet to be investigated (Barnes, 2013).

Social Determinants of Oral Health

The social determinants of health (SDOH) are "the social and economic conditions that influence the health of individuals, communities, and jurisdictions as a whole" (Raphael, 2009). They are largely universal, affecting a range of oral health outcomes and the exposure to risk factors (Raphael, 2009). It has been documented that those that are disadvantaged have a higher risk of dental diseases like periodontal diseases and edentulism not just in developing countries, but within wealthier countries

as well (Petersen & Kwan, 2011). Disadvantaged individuals also tend to limited knowledge and unhealthy habits and attitudes when it comes to oral health. While the social determinants of health are fairly well documented for many population public health outcomes, the social determinants of oral health deserve to be further explored. Elements like employment status, gender, poverty, discrimination, language proficiency and the presence of social support impact refugees' access to oral care and their oral health status. Refugees from war-torn countries tend to have a strong desire to succeed because they cannot return to their homes in the near future, if ever (Willis et al., 2005). This may cause them to fall in the low socio-economic bracket if they accept low paying jobs that do not require high skills in order to secure an income. To further complicate matters, Canada also requires all refugees brought on publically funded flights to repay the expenses of the flight and medical exam through what is called a transportation loan (CIC, 2017d), this may also further saddle them with debt and mental health issues before they even begin their new lives in Canada (Wilson, Murtaza & Shakya, 2010).

The importance and connection of the mouth and body was not formally acknowledged until the year 2000, when the Surgeon General stated that "oral health is a critical component of overall health and must be included in the provision of health care and the design of community programs" (National institute of Dental and Craniofacial Research, 2000). Since oral health tends to be determined and influenced by environmental and lifestyle factors (e.g. smoking, alcohol, diet, trauma), this has led to the introduction of the common risk factor approach (CRFA); which connects oral and general health; in order to effectively promote oral health within context of the socio-environmental setting (Sheiham & Watt, 2000). This approach aims to improve the general health by addressing and controlling a small number of risk factors, while also enabling the individual to cope with those risk factors (Sheiham & Watt, 2000). An example was the development of the food and nutrition policy, which aims to develop a holistic nutrition program that targets school children's diet, and thereby their future development while also reducing the consumption of caries causing sugars (Sheiham & Watt, 2000), and most recently, the sugar tax.

Purpose statement

In the hopes of improving the oral health status of refugees residing in Canada, the current paper aims to identify and tackle common and potential barriers that impact refugees' access and utilization of oral health care services, while also establishing an over view of their current oral health status. This review will also provide recommendations that may help refugees overcome those barriers and improve utilization of dental services.

Research questions:

a- What is the current oral health status of refugees?

b- What are the barriers faced by refugees when accessing oral healthcare?

c- And what methods can be undertaken to reduce those barriers to improve the utilization of dental health services by refugees residing in Canada?

Objectives:

1- To assemble and critically appraise available literature on the current oral health of refugee populations in Canada and globally

2- To identify, describe and summarize barriers faced by refugees in accessing oral health care services

3- To describe strategies and provide recommendations based on those barriers in order to improve utilization of services by refugees residing in Canada in and prevent and control oral diseases and conditions.

Chapter 3.

Methods

For the purpose of this paper, a structured approach to the literature review was used, with the assistance of an SFU-based librarian. The primary source of data were peer-reviewed articles published in academic journals with no restriction on the date of publication or the language. Reports were also retrieved from grey literature after exhausting the research literature, as the topic was not a much researched area. Further searches were conducted using MeSH headings with modified and combined search terms (Appendix 1).The preliminary search engine used was Medline, were the term "oral health" and "refugee" resulted in 42 articles published between 1982 and 2017. Databases that were also utilized were PubMed, Global Health and CINAHL using the same MeSH terms and keywords. Grey literature and dissertations were gathered through the SFU library databases, Google and Google Scholar.

Inclusion criteria were articles that (i) had refugees as all or part of the study population; and (ii) the refugees in the study were mostly adults (aged 18 and over); and (iii) the study had to report on the oral health status and behaviors or the oral health environment - which includes accessibility issues- of said refugees. Articles where the study population were children, or did not clearly state refugees within its population, or they were simply referred to as "Newcomers", "migrants" or "immigrants" were excluded from this review. A total of 16 articles fitted the above criteria for review (Appendix 2).

The preliminary search yielded a literature review close in similarities to the current paper, however, the authors chose to evaluate all published papers in a scoping review on refugee oral health, regardless of age (Keboa, Hiles & Macdonald, 2016). While the purpose of the scoping review was to look at the strength of the current data on refugee oral health regardless of age and identify gaps, the references proved to be very useful.

Chapter 4.

Literature Review

Oral health status of adult refugees in Canada

The overall need for adult refugee dental care has been assessed in a limited number of Canadian studies (King, 2012; Ghiabi et al, 2014). Ghiabi, Matthews & Brilliant (2014) found that 85% of refugees in Canada had untreated dental decay, moderate to severe gingivitis was present among 98 % of the sample, and around 85% had periodontal problems. Government assisted refugees who lived in refugee camps before arrival were found to have poor oral status and limited experience with dental care; the majority of the sample had not been examined by a dental professional in Canada even though they had dental insurance to cover part or all of their expenses (King, 2012). Many of the refugees cited cost as a major barrier to accessing dental care in Canada (King, 2012). Refugees were also found to have more complex oral health needs when compared to the Aboriginal and Canadian populations (King, 2012; Ghiabi et al, 2014).

Oral Health status of adult refugees globally

Several studies have indicated that asylum seekers and refugees have more need for acute and basic dental treatment and health education compared with their native born compatriots (Selikowitz, 1984; Smith & Szuster, 2000). In one of the earliest studies conducted to determine the oral health status of refugees, Angelillo, Nobile & Pavia (1996) examined immigrants and refugees from Morocco, Yugoslavia and the Senegal residing in Italy. Their study found that there was poor oral hygiene and a high prevalence of caries and periodontal diseases among the participants, particularly Moroccan and Yugoslavians. By measuring the mean DMFT and DMFS scores, the researchers also noted a lack of filled teeth among the Yugoslavian participants, despite their poor oral status. Out of 252 participants, only 34 have been to the dentist since arriving in Italy, and the main reason for the visit was pain. The participants justified not having access to dental care was largely due to the perception that nothing was wrong with the teeth, and that also applied to their children. Economic issues were the second reason.

In another study assessing the oral health status of refugee torture survivors in Boston, it was found that almost all of the patients had an unfavorable perception when it came to their oral health, and that they needed dental care (Singh et al, 2008). When comparing immigrants to asylum seekers, Mattila et al (2016) found that immigrants were more pleased with the status of their teeth when compared to asylum seekers. The asylum seekers also reported a significantly higher level of dental pain, and were less satisfied with the quality of treatment they received. However, both groups, while acknowledging their poor oral status, reported difficulty accessing dental services, many reporting communication as the culprit, despite having an interpreter present. The study concluded that while both immigrants and asylum seekers had a need for basic and acute dental treatment and health education when compared to the general population, refugees presented with a greater need.

Refugees were found to not only underutilize dental services, but when they do visit the dentist, their consumption of the offered services were found to be much higher than average (Zimmerman et al, 1995). Barring financial barriers, Zimmerman et al (1995) concluded that, as resettled refugees are fully covered by the Swedish national dental insurance plan as citizens, the failure of said refugees to seek dental care was determined by other factors of higher priority related to culture and the immigration process. Tibetan (Mahajan, 2013) and Somali (Geltman et al, 2014) refugees were found to have better oral health in comparison to other refugees, but that was largely attributed to a diet high in fluoride -brick tea- , acculturation and strong social support networks.

Predictors and Barriers to dental care uptake

Throughout the literature, several themes emerged regarding the barriers faced by refugees to accessing dental care.

Financial issues

As it is a plight for many underserved and vulnerable Canadians, it was not surprising that financial costs were the most common barrier when it came to accessing dental care. Covering the cost of dental services was a major hindrance to dental care among refugees (King, 2012; Ghiabi et al, 2014). As discussed above, dental care is not covered under the CHA, and lack of insurance coverage can be a barrier to accessing

dental care for refugees. In the Canadian study conducted by Ghiabi et al (2014), none of the Bhutanese refugees had dental insurance, and most reported seeing a dentist only for emergency care, which is covered under Canadian healthcare.

Culture and Health Beliefs

Cultural beliefs was found to directly affected refugees' concepts of prevention services, independence, expectations of care and stigma around health conditions, all factors that in turn influenced their health care choices (Morris et al, 2009). Among the issues related to culture that affected access were unfamiliarity with Western dental methods (Willis & Bothun, 2011) and distrust and fear of dentists (Singh et al, 2008; Lamb et al, 2009; Riggs et al, 2016) .Pregnant refugee women were found to have misconceptions about seeking dental care during pregnancy, and many believed that anesthetics and dental treatments had a negative the effect on their unborn child (Riggs et al, 2016). South Sudanese refugees were also found to take up extraction of their lower anterior teeth as a tribal and spiritual trend (Willis & Bothun, 2011).

Communication Barriers

Language and communication were consistently found to be among almost all refugees' common hurdles to accessing health care (Davidson et al, 2007; Mattila et al, 2016; Riggs et al, 2016; Angelillo et al, 1996; Willis & Bothun, 2011). Language barriers can often result in miscommunication and lack of proper follow-up and compliance (Lamb et al, 2009). Some even reported that it was a challenge despite having interpreter services available, and they felt that they were misunderstood (Matilla et al, 2016).

Limited knowledge of oral health

Refugees were found to have poor knowledge and oral health habits when compared to immigrants (Zimmerman, Bornstein & Martinsson, 1995; Willis & Bothun, 2011). Many of the refugees perceived their oral health to be good, despite the presence of a high rate of untreated tooth decay (Angelillo et al, 1996; Singh et al, 2009; Ghiabi et al, 2014). Unfortunately, that misconception also extends to the perception of the health of their child's teeth (Angelillo et al, 1996; Riggs et al, 2016). The majority reported that they only visit the dentist if they are in pain (Lamb, 2009; Angelillo et al, 1996; Mattila et

al, 2016; Ghiabi et al, 2014; Riggs et al, 2016). Refugees were also reported to brush their teeth less frequently (Mahajan, 2013; Matilla et al, 2016), and use unconventional tooth cleaning methods like the twig brush (Willis and Bothun, 2011; Adams et al, 2013).

Limited awareness of the health system

Refugees often come from countries with different healthcare systems, and their access may be affected by their unfamiliarity with how to navigate the health system. Among Tibetan refugees residing in India, only 44% were aware of any dental health services in their area (Mahajan, 2013). Surprisingly, this extended to the health care professionals themselves, were some refrained from referring refugees in need on oral care due their own limited knowledge of the existence of such services within their own organizations (Lamb, Michaels & Whelan, 2009). Among the various structural issues, Davidson et al (2006; 2007) reported refugees had trouble accessing public dental care due to long waiting times.

Fear and Mistrust of Dentists

Refugees often have terrifying experiences at the dental office (Matilla et al, 2016). Also, torture survivors were shown to be wary of dentists and their instruments, especially since some dentists were among the individuals performing the torture (Singh et al, 2008; Lamb, Michaels & Whelan, 2009). The most common reasons for dental pain were tooth extractions, needles and drilling. Afghan refugees (Lamb et al, 2009) reported using homeopathic treatments like herbs, cloves and salt water rinses to reduce 'temporary' pain and prolong the time before they are 'forced' by severe tooth pain to see a dentist, as they commonly associated dentists with tooth loss. Several voiced their concerns that fillings do no work, and that a 'healthy tooth' was extracted due to dentists' mistakes (Lamb et al, 2009). Singh and colleagues (2008) reported that 20% of their tortured refugee study sample had not been to a dentist in more than 5 years, while 23% never visited a dentist. Refugees were also wary of dentists due to their own past and often traumatic experiences (Matilla et al, 2016). Some also mentioned that more pressing issues such as survival and safety kept them from focusing on their oral conditions (Lamb et al, 2009).

Chapter 5.

Discussion

One of the major reasons for poor oral health among refugee population was limited access to dental care. Linguistic barriers, cultural factors and inadequate health literacy all play a role in determining the oral health among the refugee population. Refugees have the additional burden brought on by their history and experiences prior to arriving in Canada. Skilled immigrants and those with relatively stable economic circumstances, whilst also facing challenges settling in their new country, tend not to experience similar vulnerabilities associated with torture and trauma that people with refugee backgrounds often do. Refugees are often considered a hard population to reach for health services (Riggs et al, 2016). Vulnerable populations such as those are at high risk of developing oral disease and have limited oral health literacy. While refugee children under 18yrs are fortunate enough to be covered by the various child oral care oriented programs provided in every province, adult refugees face additional difficulties accessing dental services that meet their needs. Studies have shown a decline in the number of newcomers, refugees included, accessing health care within the first 6 months of arrival to Canada (McKeary & Newbold, 2010), which contradicts their increased health needs.

Many of the barriers facing refugees in accessing dental care were similar to those experienced by immigrant and marginalized communities in Canada (CAHS, 2014). But it is important to note the differences between health care systems and coverages, especially since most of the studies take place in Europe, US or Australia. Legislations also play a part in the extent of treatment a refugee may receive (King, 2012). Furthermore, barriers like long waiting times may not be significant as they do not normally apply to dental offices in Canada (Canadian Dental Association, 2017). A more practical potential barrier to accessing dental services in Canada would be the limited number of dentists and clinics participating with the IFHP. For example, only 9 dental clinics currently accept the IFHP in Greater Vancouver (Refugee Health-Vancouver, 2017).

How and when an individual accesses oral health care services is generally determined by the healthcare system, society, and their personal oral health beliefs and behaviors (Keboa et al, 2016). Matilla et al (2016) reported that refugees were willing and had the time to take good care of their oral health, however, they lacked the knowledge to do so. Studies demonstrate that accessing preventative dental care is a new concept for people of refugee backgrounds, even though the need for treatment is high (Adams et al, 2013; Riggs et al, 2016). These findings support that a change in attitudes to these services is an important concept toward increasing the utilization of dental preventive services by refugees. Emergency rooms are not a place for oral health care, and refugees must be fully educated on the importance of having a family dentist who is able to chart their progress. In Canada, refugees have approximately 12 months to become economically independent before their IFHP services are terminated. Timely access to preventative and restorative dental services would be very favorable toward improving refugee oral health status.

Dental health among refugees varies depending on their country of origin, dietary habits and the dental resources available to them before their arrival in the hosting country. While some newly arrived refugees, like Somalis and Tibetans , were found to have good oral health and practices (Mahajan, 2013; Geltman et al, 2014) that was not the common case with other refugee populations (Smith & Szuster, 2000; Davidson et al, 2006; King, 2012; Ghiabi et al, 2014). These findings further reinforce that refugees are not a homogenous group, and factors related to their backgrounds and culture must be taken into consideration.

Access to dental insurance does not always guarantee the refugee a reduction in oral health disparities (Ismail & Sohn, 2001). While dental coverage may be an essential prerequisite for ensuring access to care, it may not be sufficient by itself, as there exists other important determinants of oral health status and dental care access (Zimmerman, 1995; Millar & Locker, 1999; Garcia et al, 2008). Bhatti and colleagues (2007) determined that dental insurance seems to enhance access, but not frequency of use of dental care. These findings seem to be congruent with the literature on refugee oral health (Zimmermann et al, 1995; King, 2012). While the suggestion that all newly settled refugees should be entitled to receive full dental treatment without charge sounds like a perfect solution (Hjern & Grindefjord, 2000), that may inversely affect and overburden the Canadian Healthcare system. Nevertheless, a subsidized dental

coverage plan like the Dental Care Benefit (Forsakringskassan, 2013), which Sweden introduced in 2008, may provide relief for the whole vulnerable population in Canada, not just refugees. Under this plan, a hassle free dental subsidy is issued to every individual aged 20 and over - mainly for use in preventive oral care and dental checkups. The Interim Federal Health Program currently provides very limited and temporary coverage for refugees, which means that the financing for refugee oral care must change to match the increased need of this diverse population.

To improve access, culturally relevant programs, collaborative networking approaches, and policies that focus on addressing the social determinants of dental health are needed. Campaigns that rely on individuals to take the initiative and written materials have been found to not be effective forms of interventions (Watt, 2012). Interventions must aim to promote and facilitate long-term sustainable improvements in order to improve the oral health status of refugees and change the environment that promoted their poor oral health. Evidence points out that education alone does not sufficiently improve patient compliance and outcomes, but it must be combined with health promotion tactics to achieve optimum results (Fisher-Owens et al, 2008). The community needs to be engaged in order for interventions to be effective. Comprehensive implementation of dental care requires responsiveness to the needs of specific ethnic refugee groups. Utilizing a CRFA through the use of participatory action research may prove to be useful in providing a framework and reorienting preventative and educational efforts. It may also be used by integrating oral health into general health programs (Moysés, 2012; Emami et al, 2016). A successful example are the recent efforts to implement primary care with oral healthcare to improve the oral healthcare of the indigenous Cree population residing in rural and remote communities in Quebec (Emami et al, 2016).

The integration of dental health services with primary healthcare was included as a recommendation in the Canadian Oral Health Framework (Federal, 2013). The Integration of Oral Health and Primary Care Practice (IOHCP) was developed in the US (US Department of Health and Human Services, 2014), and “focuses on frontline primary care health professionals, specifically nurse practitioners, nurse midwives, physicians, and physician assistants”, since they are most likely treat the underserved population with limited access to dental services. The IOHCP aims to improve early detection and prevention of dental diseases, while also improving the oral health clinical

competence of the frontline medical staff (US Department of Health and Human Services, 2014). A closer look at the inclusion of dental therapists and hygienist offices in community health centers and first points of contact with health services must be considered, as evidence points to the success of their services in serving vulnerable communities (Chi et al, 2017). That would facilitate a comprehensive dental screening, relative oral hygiene information and a chance for preventive care to be administered to the refugees. Refugees may also be given a supply of oral hygiene tools to further motivate them and encourage them to maintain biannual dental appointments.

It has been established throughout the literature that refugees have specific and complex health needs. After arriving in Canada several factors affect refugees' oral health including changes in diet and lifestyle, difficulty navigating the healthcare system and accessing oral care and limited income. Proper access to dental services for refugees may ensure that dental problems will not lead to further deterioration of their social status, and will facilitate social integration and insertion in the workforce. While some limitations to the integration of refugees exist based on their past experiences of torture or ritualistic customs in their native countries (Singh et al, 2008), there is a positive impact on refugees when they choose to integrate with their new culture (Geltman et al, 2014). Acculturation would be easier and less stressful without the added burden of oral pain, and with proper dental care and education that fit their needs. It is of utmost importance that these interventions, especially educational ones, be framed in a culturally informed manner, while ensuring issues like diversity, language and culture are properly reflected in the health promotion programs.

Studies suggest refugee families are not totally isolated from the mainstream population, but they often form early connections with cultural, social and religious groups of their own ethnic backgrounds (Geltman et al, 2014). These groups may be approached to provide an opportunity to deliver health education and health information that would improve their access to health services. An individual's culture plays a role in how they understand, negotiate, and make decisions around their personal oral health care practices. Some refugees may choose to retain traditional oral practices that do not use fluoride products within the settlement country. For example, some cultures promote the use of the twig brush or *miswak* to clean the teeth (Lamb et al, 2009; Adams et al, 2013). The *miswak* is a stick harvested from the *Arak* tree, and is popular in regions of Africa, the Middle East and Asia not only due to accessibility, but because it is also

deeply embedded within their religious culture. In the Western culture, the *miswak* is often not accepted by dental professionals because evidence of its effectiveness is spotty (Darout et al, 2002; Sofrata et al, 2008). That may affect the refugee in terms of loss of their cultural identity, and discourage dental visits, as Canadian providers often consider refugees and immigrants "cultural concept of medicine" and their use of homeopathic remedies as a barrier (Morris et al, 2009). Culturally competent care will help providers recognize the connection between refugees and their traditional oral care beliefs and behaviors and understand why motivations for personal oral care may have been diminished during conflict and refugee flight. Introducing effective cross - cultural health care programs often involves identifying a common objective, like incorporating the miswak with other traditional practices for oral health promotion for certain refugees. This will in turn create a gateway to introduce refugees to concepts and procedures of professional preventative dental care that may be unfamiliar to them (Adams et al, 2013).

Preventive prophylactic services and practices may not be the norm for refugees in their home countries and refugee camps, this may negatively affect their utilization of dental services when they arrive in the host country due to their lack of knowledge (Adams et al, 2013). Health literacy is defined as "*The degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions.*" (Ratzan & Parker, 2000) It represents the skills that determine the ability and motivation of an individual to understand, gain access to and use the information in ways which promote and maintain good health (Horowitz & Kleinman, 2012). Insufficient health literacy has been linked to limited access and utilization of healthcare (Paasche-Orlow & Wolf, 2007) as well as poor health outcomes (DeWalt et al, 2004). Oral health literacy has also been associated with the social determinants of health (Tellez, Zini & Estupiñan-Day, 2014). However, while looking at oral health literacy and preventive care visits among Somali refugees living in the US, Geltman et al (2014) found that English language skills were not associated with the use of preventive care. Even though the sample had a poor proficiency in English and low functional health literacy, the study concluded that as refugees stay for longer in the US, preventive care becomes more important to them. The authors found that acculturation; which is best defined as a complex process that occurs as a result of a group's continuous exposure to a cultural system that is significantly different from the

original (Redfield et al, 1936); and health literacy appeared to interact to influence Somali refugees' use of dental care. These findings coincide with authors who have found that the longer refugees live and interact with a culture, the more influenced they become to take better care of their teeth and have better access to healthcare (Locker et al, 1998; Mariño et al, 2001; Cruz et al, 2004). The findings of Geltman et al (2014) also suggest that a refugee with low literacy skills may be able to effectively access care with the help of a strong community and social support network.

The impact that an individual's culture, practices and beliefs have on their oral health behaviors cannot be overlooked. Many refugees see dentists as 'repairers'. The literature has shown that in the absence of any visible oral health issues, refugees do not usually seek care (Angelillo et al, 1996; Ghiabi et al, 2014; Riggs et al, 2016). Even with improved financial access, that may in itself may be the most significant barrier. The refugees' misguided perception that their oral health was good because they had no pain undermines the importance of preventive care. This barrier, along with rooted health concepts require time and training to overcome. Increasing the oral health literacy skills will help to enable refugees to understand the importance and value of good oral hygiene, and encourage them to seek timely preventative care.

While not only limited to refugees, language has been identified as a barrier to accessing dental services in countries like Sweden, USA and Australia, and the same would be expected here in Canada. It has been determined that language barriers interfere with health literacy and contributes to unsatisfactory levels of care (Rootman & Ronson, 2005). The lack of interpreter services may also be a hindrance in Canada, as refugees commonly have a high reliance on multilingual interpreters and health professionals for communication (Davidson et al, 2007). The integration of modern technology, like *MediBabble Translator* for example, may significantly improve communication when traditional interpreter services are not available (Rahman, 2017).

Transportation to and from dental clinics may be a significant accessibility barrier for those with no vehicle, knowledge of the transportation system or live in isolated communities. It has been shown to make up anywhere from 3% to 67% of barriers to healthcare access regardless of distance (Syed, Gerber & Sharp, 2013). Patients with lower socio-economic status were more affected than those in the higher brackets and those with access to vehicles (Syed, Gerber & Sharp, 2013). Future interventions and

policies should be designed with targeted approaches to assist refugees and the vulnerable population in navigating these barriers. The inclusion of dental clinics within community and public health centers could act greatly in improving access as it would contain and limit the number of places an individual would have to travel to, and allow them to visit needed medical services like mental, medical, and dental under one roof and in one day. This integration will also serve to remove the individual's burden of going out and seeking care in a separate clinic after referral.

Efforts to build community capacity through a regulated, sustainable multicultural volunteer peer based intervention network may aid in introducing and strengthening relationships between refugees and dental teams in their area, and providing safe but accessible dental care, while allowing them to give back to their community. A refugee may me enrolled in the program for up to a year or until they find gainful employment, whichever comes first. During that time, they will receive regular preventive and restorative procedures as well as oral health care supplies. Volunteering clinics may be incentivized by having the costs of the materials used covered. This program would not only provide dental care to those unable to pay, but it will also heighten the importance of maintaining regular contact with dental personnel and encourage the refugee to retain that contact, hopefully with the same dentist.

Limitations

Only published studies with full-text, SFU university access and in English were included in this review; and important studies may have been missed.

Implications and Future Research

A better understanding of the health needs and prospective barriers to utilization of dental services is needed to improve the allocation of healthcare funding for refugee health. Furthermore, this paper highlighted the limited availability of research exploring the oral health of refugees, not just worldwide, but especially in Canada. With Canada admitting approximately 11,000 refugees per year since 2000, the scarcity of Canadian research into refugee oral health and medical issues and needs was truly disturbing. The large number of Syrian refugees recently resettled in Canada alone is a cause for concern and their presence should act as motivation to improve the health system and the IFHP. More importantly, research needs to differentiate between the

needs of immigrants and refugees, as both populations are here under very different circumstances and backgrounds. A systematic collection of epidemiological data to define refugees' dental history, treatment needs and dental services utilization is needed to chart any progress or deficiencies in the system. Dental colleges, which often have excellent resources and commonly treat refugees, should be encouraged to take part in this process. This may also help in improving and broadening areas of research and comparisons of findings nation-wide, as well as unite and reduce defragmentation of dental health schools and organizations at the provincial level. Dental personnel should also be encouraged to actively take part in volunteering and advocacy measures for the underserved Canadian population.

More research is warranted to further explore oral health related barriers in adult refugees and asylum seekers residing in Canada. With a clearer understanding of how and why cultural beliefs and practices act to form barriers, will come greater success at breaking down obstructions to accessing oral health care services. Qualitative studies provide valuable data upon which future assessments and health promotion activities can be built. Research that answers questions like *"What role does the length of time spent living in Canada play in influencing refugees' oral health behaviours?"* may help provide a clearer picture of the effect that long-term adaptation to life in Canada has on their oral health status; while also paving the way for introducing new tactics that improve their oral health. Other areas of research that would be beneficial are: considering the presence of barriers at the dental care setting; the effect of the lack of 4 years of IFHP coverage on the oral status of refugees; the effect of the burden of the transportation loan on refugees accessing dental services, and the effect of the type of sponsorship (e.g. GAS vs PSR) on the oral health status and behaviours of refugees.

Chapter 6.

Conclusion and Recommendations

Conclusion

The needs of refugees are not being sufficiently met, nor do they coincide with the limited services currently offered by IFHP. Based on the overall poor oral health status and limited access, dental services should be considered under primary health care for refugees, and efforts should be made to provide comprehensive dental screening either during the IME or at first point of contact with primary health services in Canada. To improve utilization and accessibility of dental services, simultaneous improvements in health literacy of the public, health care providers, policy makers and population-specific research would likely improve care, along with effective dental public health programs. Successfully recognizing these issues and working to minimize barriers will improve the health outlooks for future arrivals.

Recommendations

The following recommendations aim to improve accessibility by refining the delivery of preventative care models in Canada.

National and Provincial Levels

- Revise, restructure and evaluate the dental services provided by the IFHP to coincide with current evidence-based needs of refugees and asylum seekers
- Introduce a (Provincial) systematic mechanism of data collection concerning newly arrived refugees' oral health
- Integrate oral health services with primary health services through including dental clinics within community and public health centers
- Retain providers by introducing tax cuts and credits to dentists who accept IFHP in order to encourage enrollment

Local / Community Level

- Implement culturally appropriate oral hygiene education and training programs with preventive support to meet the specific needs of refugees
- Provide dentists and their dental teams with culturally sensitive information to increase cultural competence as well as training in trauma-informed care to allow them to provide diversity and culturally responsive care
- Introduce culturally competent oral hygiene programs in the areas where there is a heavy population of refugees
- Implement accessible interpreter services to dental units in collaboration with settlement organizations and volunteers
- Development of a regulated, sustainable multicultural volunteer peer based network of dentists and dental personnel to build community capacity, assist in delivery of care and promote safe but accessible service
- Build community capacity by collaborating with local communities and community leaders to develop oral health outreach services
- Introduce accessible, culturally sensitive language-specific oral health promotion information/ material in clinics that see a large amount of refugees. e.g. Bridge Community Health Clinic, New Canadian Clinics
- Encourage evidence-based screening processes by trained personnel at first point of contact (e.g. using dental tools, oral indexes, as well as bitewing x-rays) to determine presence of oral disease; as well as the provision of basic preventive services (e.g. scaling, fluoride applications). Services of dental hygienists and dental therapists are recommended if no dental physician is available

Reflections

As a recent Newcomer to Canada, this topic hit close to home. I was taken back by the lack of affordable dental care in Canada, when compared to the Middle Eastern countries I had worked in. As a practicing dentist, I have always enjoyed interacting with

my patients, especially the children, and making a game of teaching them about the importance of their teeth, and why they should take care of them. This capstone represents a milestone for me, as I have always focused on and advocated for early childhood interventions and the importance of children's oral health. I felt that focusing this paper on adults, provided me with a richer insight into the state and plight of oral healthcare in Canada, as well as an advantage in research dentistry, as it is not commonly discussed. It also made me take a step back and look at the bigger picture, and how the lack of legislative action was hindering progress in attaining affordable dental care for the Canadian public. I specifically chose to focus on refugees because I felt that a lot of attention was directed towards providing housing and language proficiency, but not enough was directed towards oral healthcare.

I felt that this paper highlighted many population health concepts I had learned throughout my degree. It explored the epidemiology of dental diseases among refugees; the effect that being a refugee plays in accessing care (along with the effects of the refugee's culture and sometimes gender); and it calls for collaboration between Federal and Provincial governments, dental organizations, health authorities, and the community in an effort to improve oral health outcomes among the vulnerable. The importance of cultural competence in practice, which I explored during my practicum, was further highlighted through the capstone.

This degree will prove to be crucial in securing my future in the area that I am most passionate about, oral health. I am hoping to put the knowledge and experience I have gained throughout this program and my summer practicum to good use toward decreasing oral health inequities for all vulnerable and underserved populations living in Canada. Even more, I am hoping to use my status as an immigrant and a visible minority to bring attention within the communities of immigrants and refugees to these issues.

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Appendix 1.

Medline Search strategy

1. Oral health/
2. Oral diseases/
3. Dental Caries/
4. Tooth decay/
5. Dental health/
6. Dental Health Services/
7. Refugees/
8. Asylum seekers/
9. Migrants /
10. Refuge*/
11. Asylum* /
12. exp Culture
13. exp “Transients and Migrants”/
14. exp Ethnic Groups/
15. exp Minority Groups/
16. exp Acculturation/
17. 1-6 and 7-16

Appendix 2.

Summary of Data from reviewed papers

Author	Study Location	Population	Oral Health Status	Barriers to Care	Study type
Adams, M. J. H., Young, M. S., Laird, L. D., Geltman, P. L., Cochran, M. J. J., Hassan, M. A., ... & Barnes, L. L. (2013).	USA	83 Somali Refugees		- Cultural Beliefs	Quantitative
Angelillo, I. F., Nobile, C. G. A., & Pavia, M. (1996)	Italy	252 Moroccan, Yugoslavian and Senegalese refugees and immigrants over the age of 18	High caries rates, poor oral hygiene and periodontal health, and unmet needs for dental treatment for Moroccans and Yugoslavs	- Lack of oral health education (Perception that nothing was wrong with their teeth) - Financial	Mixed methods
Davidson, N., Skull, S., Calache, H., Murray, S., & Chalmers, J. (2006).	Australia	Records of Refugee's dental health upon arrival and DMFT scores were compared with groups that are considered vulnerable	Poor oral health status of Australian refugees, especially from Iraq and Yugoslavia, when compared to Indigenous and special needs population in Australia		Quantitative/ cross-sectional
Davidson, N., Skull, S., Calache, H., Chesters, D., & Chalmers, J. (2007).	Australia	Refugee-based dental public health data was used		- Limited interpreter services - Long waiting times - Variations in assessment	Review of services

				criteria for eligibility - Limited priority access to general dental services for refugees.	
Geltman, P. L., Adams, J. H., Penrose, K. L., Cochran, J., Rybin, D., Doros, G., ... & Paasche-Orlow, M. (2014).	USA	439 adult Somalis	Oral health status was good	- Oral health illiteracy	Quantitative
Ghiabi, E., Matthews, D. C., & Brillant, M. S. (2014).	Canada	41 Bhutanese refugees and 45 recent immigrants over the age of 18yrs	Oral disease among the study sample was higher than the Canadian average	- Misconception on the actual status of their teeth - Lack of dental insurance	Mixed methods
King, C. C. (2012)	Canada	115 Government assisted refugees in lower mainland Vancouver from 14 countries of origin	Very poor, even though they had dental coverage, most haven't visited a dentist since arrival	- Language Barriers - Financial Barriers	Mixed methods
Lamb, C. E. F., Michaels, C., & Whelan, A. K. (2009)	Australia	6 Afghan Hazara refugees and two dentists who had worked in Afghanistan. All come from a torture background	All participants had poor oral health status, multiple tooth extractions, and had placed a low priority on their oral health.	- Health beliefs - Fear of dentists/ procedures - Lack of oral health education (Preference of waiting until the pain is severe or the tooth is extremely damaged, and preferences for extractions)	Qualitative descriptive
Mahajan, P. (2013)	India	712 Tibetan refugees over 12 yrs old	Dental caries were highest in the 35-44	- Lack of understanding of the	Quantitative/ Cross-sectional

			year age group	healthcare system	
Mattila, A., Ghaderi, P., Tervonen, L., Niskanen, L., Pesonen, P., Anttonen, V., & Laitala, M. L. (2016).	Finland	30 asylum seekers and immigrants ranging in age from 17-53yrs	The participants reported a high need for dental treatment		Qualitative
Riggs, E., Yelland, J., Shankumar, R., & Kilpatrick, N. (2016)	Australia	26 Afghan and Sri Lankan refugee men and women, as well as midwives and staff		- Health beliefs - Fear of effect of dental treatment on unborn child - Mixed messages from healthcare providers - Navigating the health system (cost, waiting times, awareness of services and difficulties making and getting to dental appointments)	Qualitative
Selikowitz, H. S. (1984).	Norway	200 Vietnamese refugees over the age of 12	Only 9% of the sample were caries free. DMFT ranged from 8.7 to 11.5, resulting in a high treatment need for this population		Quantitative
Singh, H. K., Scott, T. E., Henshaw, M. M., Cote, S. E., Grodin, M. A., & Piwowarczyk, L. A. (2008).	USA	216 refugee torture survivors	Results showed that patients' dental health ranged from poor to fair; 76% had untreated cavities, and approximately 90% required immediate dental care.	- Fear of dentists and their instruments	Quantitative / Observational

Smith, D. K., & Szuster, F. (2000)	Australia	86 refugees aged 15-44 years from Iraq and the former Yugoslavia and random, age-matched social security recipients attending for emergency dental care	Refugees had significantly more untreated decay than emergency care recipients and a similar distribution of untreated decayed teeth		Quantitative / case-control
Willis, M. S., & Bothun, R. M. (2011)	USA	34 adults of the Dinka or Nuer tribes of Sudan	Few had visited a dental facility more than once, and none were using biannual checkups to maintain dental health.	- Lack of knowledge of Western dental practices - Financial issues - Communication issues	Qualitative
Zimmerman, M., Bornstein, R., & Martinsson, T. (1995)	Sweden	Dental Public Health data from 101,191 refugees over the age of 16	Only 38% of the refugees had visited a dentist at all in Sweden. Refugees had low utilization rates of dental services even though treatment is free.		Quantitative/ Cross-sectional