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Research Article

Home Dental Care Education for Refugee Background Adults in the United States

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ABSTRACT

Objective: The purpose of this study was to provide and evaluate oral health care education programs for refugees resettled in the US.

Methods: This project consisted of six sessions, which were held from February to April 2017. Each session included the following components: 1) a short survey that included demographic questions and oral health-related questions; 2) a class on oral health home care; 3) a focus group; and 4) a post-class survey on class satisfaction. Participants were individuals who had a refugee background and were ages 18 and older at the time of the session.

Results: Twenty-seven refugees from diverse ethnic backgrounds participated in this study. Refugees that have resettled in the US may not have had opportunities to learn about oral health care, but seem to be interested in oral health education, and find the information useful. While brushing teeth seems to be commonly practiced (though their methods of brushing may not be appropriate), flossing teeth is not. Before resettlement, participants had poor oral health practices and habits, lacked resources, and maintained cultural norms that negatively affected their oral health.

Conclusion: It is important to develop and provide educational programs to promote proper oral health practices for refugees. The changes in their environment after migration to the US such as unfamiliarity to dental health practice and the addition of sugary food/drinks to their lives should be considered in oral health education.

Keywords: Refugees; Oral health; Health education; Resettlement; USA

Key Points

What is known about this topic?

- Oral health is one of the most common areas of health-related issues among refugees resettled in the US.
- Poor diet and/or nutrition during resettlement processes increases stress and the related side effects on oral health.
- Language, cultural barriers, and a lack of knowledge about proper oral health practices are significant factors that can affect oral health amongst refugees.
- Levels of acculturation are predictors of utilization of oral health care among refugees.

What the paper adds?

- Although refugees may have strong interests in oral health, they may not have opportunities to learn about how to take care of their teeth on a daily basis.
- It is important to develop and provide educational programs to promote proper oral health maintenance practices for refugees.
- The changes of environments after migrating to the US such as unfamiliar dental health practice and sugary diet/drinks should be considered in oral health education for adults with refugee backgrounds.

Introduction

Oral health is a significant public health issue in the United States (US) that is often overlooked in the national discussion about expanding health insurance coverage to low income, uninsured adults [1,2]. Refugees are one of the populations at a particularly high risk of poor oral health. For example, in a survey conducted by the World Health Organization (WHO), eighty percent of Liberian refugees resettled in Ghana had dental disease and/or mouth pain [3]. In 2014, there were more than 11 million refugees in the world, and the United States (US) accepted a large number of resettlement cases [4]. Many refugees spend prolonged periods of time in refugee camps before being resettled in the US. These camps do not have enough resources to adequately provide for the well-being of the residents. For example, common problems in refugee camps include malnutrition, the spread of infectious diseases, and violence. Additionally, overcrowding and poor access to clean water contribute to higher risk of contracting communicable diseases [5]. Refugees may come to the US with torture related

injuries to the mouth and face. Dental and other medical services in their home countries or regions may be disrupted due to war/unrest.

Oral health is one of the most common areas of health-related issues among refugees resettled in the US [6]. Poor diet and/or nutrition during resettlement processes increases stress and the related side effects on oral health [7]. Language, cultural barriers, and a lack of knowledge about proper oral health practices are significant factors that can affect oral health amongst refugees [8]. Levels of acculturation are also predictors of utilization of oral health care services among refugees [9]. Previous experiences with oral health care services, beliefs about teeth and oral habits, traditional nutrition practice, poverty, lack of knowledge and understanding about oral care, the overall burden of resettlement, and difficulties in obtaining information about dental services were all found to negatively affect oral health in refugee populations [10]. For example, the knowledge gap between traditional oral hygiene practice and US oral hygiene practice was found among Sudanese refugees [11]. While the majority of refugees had untreated dental caries, gingivitis and periodontitis, approximately half of them believed their oral health was good, very good or excellent based on the study of recent Bhutanese refugees in Canada [12].

Previous studies that implemented oral health education programs for refugees mainly focused on children or newly arrived refugees [13,14]. Research and practice on oral health care among adult refugees resettled in the US is lacking. Refugees often do not receive sufficient health care services after the initial resettlement period [15]. To ensure their oral health well-being, it is important to develop long-term oral health care education programs for adult refugees as well as for child refugees. Thus, the purpose of this study was to provide and evaluate an oral health care education program for refugees resettled in the US.

Methods

Setting

This project was approved by the University's Institutional Review Board (IRB) prior to data collection, and was conducted at a community college which offers its classrooms without cost to the refugee community on Saturdays (the Refugee Education and Training Center). Groups and organizations use the classrooms for educational opportunities and meetings. Resettlement agencies also host health fairs and offer introductory health classes (e.g., navigating US healthcare systems) at the center. Individuals of refugee background can also pick up donations (e.g. food and/or clothing) at the center. The center is located in one of the preferred cities for refugee resettlement. The state where the center is located accepts approximately 1,200 refugees a year and has over 60,000 refugee residents. Refugees utilizing the center's services come from a variety of ethnic backgrounds, including but not limited to, Bhutanese, Burmese, Iraqi, Karen, Nepalese, Somali, Sudanese, and Swahili.

Data collection and participants

This project consisted of six sessions, which were held from February to April 2017. Each session included the following components: 1) a short survey that included demographic questions and oral health-related questions; 2) an oral health home care class; 3) a focus group; and 4) a survey on class satisfaction. Participants were individuals who had a refugee background and were ages 18 and older at the time of the session. Refugees who were under the age of 18 were allowed to attend the class for their own benefit but did not participate in the surveys or focus groups. Participants were fluent or somewhat proficient in English, but interpreter assistance was available for those who needed it. Approximately half of the participants received language assistance. Participants were recruited at the lobby of the center by research assistants, and through the networks of the research assistants who have a refugee background. Informed consent was obtained from each participant. Participants received a toothbrush, toothpaste, mouth wash and/or dental floss at the end of the session.

The research team consisted of two faculty members and nine students. The areas of expertise of one faculty member include immigrant health, minority health, and community-based research. The other faculty member is a dentist with a public health degree. The students have relevant backgrounds to carry out this project: one pre-dental student; two students with refugee-background from the Thai-Myanmar border; two students who are non-refugee immigrants and are US permanent residents (one from Taiwan and the other from Ukraine); one student who is an asylum seeker from Iraq; one student who is an American and previously conducted fieldwork in Myanmar; one student who was an American and grew up outside the US; and one pre-medical student. The students also provided language assistance for the following languages: several languages spoken by those from the Thai-Myanmar border (i.e. Karen, Poe Karen and Burmese), Arabic, Somali, and French. The students were responsible for conducting the classes, facilitating the focus groups, collecting the data, and/or transcribing audio-recordings.

Survey and focus group questions

Pre-oral health class survey: The pre-class survey included demographic questions such as the participants' sex, age, educational attainment, the number of adults and children living in the household, whether participants were recipients of any government assistance programs (e.g. food stamps, Medicaid, Medicare, social security), experience residing in a refugee camp, years lived in the US, country of origin or birth, primary and secondary languages, and ethnicity. In addition, the survey asked participants to rate the overall health of their teeth and gingiva, whether they chew betel nuts which can negatively affect oral health [16], whether they had dental insurance, obtained preventive dental care in the past 6 months, or had any dental visits in the last year, and whether they felt the need for dental treatment. Finally participants were asked the frequency of brushing their teeth (more than once a day, once a day, or less than once a day), and of flossing their teeth (at least once a day, 3-6 times a week, or less than 3 times a week).

Home oral health care class: A pre-dental student gave a 30 min class which covered plaque removal (brushing

and flossing) and foundational knowledge about oral health including the anatomy of the tooth, common oral diseases and how to recognize them (dental caries and periodontal disease), the role of plaque biofilm in oral diseases, control of risk factors (fermentable carbohydrates and plaque), and common interventions to manage oral disease (e.g., restorative dentistry, periodontal and endodontic therapies). Emphasis was placed on strategies to prevent oral disease including effective plaque removal, the importance of a healthy diet (limited frequency of fermentable carbohydrates and the prevalence of sugar in US cuisine), the value of fluoride and the importance of preventive visits to the dentist. A short video was shown to illustrate effective sulcular brushing and flossing teeth. Furthermore, a large model of the dentition was utilized to demonstrate the proper way of brushing. Participants received a list of low-cost subsidized dental care resources available in the community as well as oral health information packets. The classes were largely discussion based and interactive. During each class, a field note taker took notes on questions asked to or by participants, the surrounding class environment, group dynamics, concerns expressed by participants, and the following constructs based on the Health Belief Model (HBM): perceived susceptibility; perceived severity; perceived benefits; perceived barriers; cues to action; self-efficacy; and cultural norms [17].

Focus group: After each oral health class, a focus group (approximately 20 min long) was conducted to obtain in-depth opinions and perceptions about oral health from participants. Like the field notes from the classes, information gathered was based on the HBM. All focus groups were audio-recorded and transcribed.

Post-oral health class survey on class satisfaction: Participants were asked to rate their level of interest in the topic of the class, the appropriateness of lecture time, their satisfaction with the lecture content and material, as well as the instructor (excellent, good average, poor, very poor-except for the time rated by far too much, too much, just right, too little, far too little). In addition, participants were asked whether they planned on using what they had learned from the class, and whether they felt confident that they could do something they learned from the class.

Data analysis: The survey data were analyzed using SPSS version 22 for descriptive statistics. Data from field notes and focus groups were analyzed based on themes (thematic analysis). Codes were developed and organized based on the constructs of the HBM. AK conducted the initial data analysis based on the codes. After the initial data analysis, all other team members checked the analysis and reached agreement.

Results

Participant characteristics from the pre-class survey

This study had 27 participants in total. The characteristics of 27 participants is described (Table 1). The participants had a wide variety of backgrounds including 10 different ethnicities. More than half of the participants lacked dental insurance. Only one-third of the participants had received preventive dental care in the past six months. While brushing teeth is commonly practiced, flossing is not.

Table 1: Characteristics of participants (Pre-class survey).

	Frequency
Female	13
Educational attainment	
Less than high school	13
High school diploma	11
Some college or higher	3
Student	7
Work full-time	11
On a government assistance program	11
Lived in a refugee camp	13
Ethnicity	
Sudanese	12
Bajani (Kenyan/Somali)	3
Rwandese	2
Congolese	2
Nepalese	2
Other (Ethiopian, Karen, Moroccan, Somali, Togolese)	6
Self-rated health	
Excellent/very good	4
Good	13
Fair/poor	10
Chew betel nuts once a week or more often	3
Has dental insurance	11
Preventive dental care in the past 6 months	8
Dental visit during the last year	12
Need for dental treatment	16
Brush teeth more than once a day	24
Floss teeth at least once a day	8
	Mean
Age	38.08 (range 19-65)
# of adults in the household	2.92 (range 1-7)
# of children in the household	1.92 (range 0-6)
Years in the US	8.56 (range 0.5-20)

N=27

Results of the post-class survey

The results of the post-class survey is presented (Table 2). Overall, participants expressed high levels of interest in the topic and positively rated the class and the instructor. Nearly three-quarters of the participants reported they would use what they learned from the class in the future.

Questions asked or concerns expressed by participants

During the class, the participants asked questions and expressed concerns regarding a number of topics, including tooth anatomy, dental treatment resources, gingival and periodontal health, candies and their role in cavities, flossing (benefits of flossing, how to floss), brushing (timing of brushing teeth, how often to brush).

Table 2: Post-class survey.

	Frequency
Level of interest in the topic of the class	
Very high	15
High	3
Average/very low	5
Amount of lecture time	
Just right	20
Rating of the class	
Excellent	12
Good/average	11
Rating of the instructor	
Excellent	12
Good/average	10
Plan on using what learned from class	19
Confident to do something learned from class	19

N=27

Perceived susceptibility, severity, and benefits

The majority of participants believed that brushing one's teeth was important for good oral health. For example, one of the participants said "The teeth will be damaged, if you didn't brush it." Some participants were aware that oral health can affect one's overall health and social life: "some people don't brush their teeth, and that why they got sick, and it related to your whole health," and "It's hard to get a job when your mouth doesn't smell good." There were participants who indicated their oral health practice became worse after they migrated to the US- for example, one participant said, "In my country, I sometimes, I brush three times. When I come here I started to have problem and brush two times."

Perceived barriers

Not surprisingly, the most common barriers to dental treatment were cost and lack of dental insurance. One participant said, "I have teeth problems, but then I go to a doctor and I don't have insurance, and it is too expensive. Even if you have insurance, it is expensive." Common barriers to plaque removal include unfamiliarity with and/or lack of skills of flossing and forgetting to brush teeth, especially in the evening. One participant said, "It is hard for me to floss my teeth, but I brush my teeth twice a day." Another participant said, "Honestly, sometimes we are lazy and we can't wait to go to bed [and so do not brush teeth]."

Self-efficacy

The majority of participants struggled to maintain oral health habits, but they seemed eager to diligently care about their oral health more after the class. Participants gave positive feedback on the oral health class: For example, one participant said "We think it's very helpful to teach refugees about oral hygiene and how to consult dentists," and "Nobody taught us before." They expressed that the information which they learned from the class was useful for their future practice: "We just know things but we don't practice regularly, which can affect us in the future, but as we get those information from you (the instructor of the class) maybe we can just have more practice," and "if I follow the right way, I don't have any problem in the future because I have learned how to do some because I didn't know how to do before."

Cultural norms and experiences before migrating to the US

Participants explained their oral hygiene practices before migrating to the US. Some participants mentioned that they did not use a toothbrush: "In Sudan, you don't use toothbrush, you use sort of a stick. And then you come to the city, and toothpaste – you eat it because it tastes like candy," and "Back home we had other problems, paste, and brushes is not available or unaffordable." Participants also indicated that they did not learn how to brush their teeth properly. One participant who resided in Egypt said "And if you don't have health advice, like some people don't know how to brush their tooth, and they, some people is not good. Like where I came from, in Kenya, you take your breakfast before brushing and you can stay all day without brushing. (laughs) It is not good." One participant stated that there were cultural norms regarding brushing teeth: "they believed that girls shouldn't brush their teeth until she got married." Some participants explained the cultural ideas surrounding gender and tooth brushing. One female participant from South Sudan mentioned that back home she had heard that single girls shouldn't brush teeth as that is considered as a bad omen. Another Sudanese participant mentioned that they check girls' teeth before men proposed to them. The majority of participants did not floss their teeth before migrating to the US. For example, one participant said "I brush mostly, but I don't use it (floss) up…When I was back home we using the, like a small uh what they call... the white sand you put to your teeth...Then you wash it out. And then you take another wood to again and clean your teeth."

Discussion

This study provided and evaluated an oral health care education program for refugees who had resettled in the US and has three main findings. First, refugees that have resettled in the US may not have had opportunities to learn about oral health care, seem to be interested in oral health education, and find the information useful. Second, while brushing teeth seems to be commonly practiced (though their methods of brushing may not be effective), flossing teeth is not. Third, before resettlement, participants had poor oral hygiene practices, had a lack of resources, and also had cultural norms that negatively affected their oral health such as "girls should not brush teeth before marriage."

While oral health is one of the main health concerns among refugees that have resettled in the US [18], there is a lack of oral health education opportunities for adult refugees. Oral health care for refugees tends to focus on the provision of care from dental health professionals or students. Access to dental care and treatment with dental health professionals are important to prevent oral health problems [19]. Medicaid only covers dental care for children and pregnant women in the state where this

study was carried out [20]. This means, even while receiving Medicaid benefits, adults and elders lack access to professional preventive care and treatment of oral diseases. The overall oral health of refugees may be improved with increased awareness of the importance of effective oral hygiene and the availability of oral hygiene resources and materials. As indicated by the results of this study and based on the HBM, learning oral health maintenance strategies may be related to improved self-efficacy and may have an impact on future actions taken to improve oral health.

The results of this study suggest that refugees tend to brush teeth regularly but do not often use dental floss. Research on dental floss use among refugees or any immigrant population is extremely limited. As regular dental floss use is very important to improve oral health [21], providing dental floss to refugees would not be enough because they may not know how to use it. According to the HBM, knowledge is one of the modifying factors that affect individual beliefs [17]. More attention on dental floss use and education of how to use dental floss for refugees is needed to promote better care of oral health. Furthermore, future oral health classes should consider including participants of all ages because oral health practices are likely to be habitual. Understanding the proper way of brushing teeth and flossing from a younger age may foster beneficial practices that are long-term.

Refugees resettled in the US experienced poor oral health maintenance practices, lack of resources, and cultural norms that negatively affected their oral health before migrating to the US. Dental health screening is a part of medical screening for newly arriving refugees in the US [22], but it is also necessary to provide long-term oral health services. A longitudinal study on non-refugee immigrants' oral health conducted in Canada shows that oral health problems remained for years among the population [23]. Given that refugees experienced poor oral health before migration, it is possible that oral health problems among refugee immigrants are also persistent long-term. In addition, oral health beliefs from home/residing country need to be openly discussed to encourage behavior change in the resettled country as acculturation is a significant predictor of oral health care use [9].

While this study provides new insights on oral health education for refugees resettled in the US, there are limitations. The number of participants was small despite conducting six sessions. There were other events such as computer classes, scholarship opportunities, resume workshops, donation pick-ups, youth groups, job fair, and tabling events from organizations (e.g., free health assessments), at the same time. Oral health education is not necessarily the first priority for refugees because they have many other challenges and interests. As a result, the participants of this study were more likely to be more interested in oral health compared to those who chose other classes. However, as a qualitative study, this study had an enough number of participant to capture in-depth voice of individuals with refugee backgrounds. Future studies should include people who are not necessarily interested in oral health. People who do not show interests may be at higher risk for oral-health related issues. Although participants indicated that they would use what they learned from the oral health class in the future, this study did not include follow-ups. Future research should evaluate long-term effectiveness of oral health education for refugees.

Conclusion

This study adds some new insights about oral health education for refugees resettled in the US. Future studies should include actual oral health assessment in education programs so that participants can have a better understanding of their individual oral health status. In addition, inter-generational influences on oral health practice among refugees should be examined. Refugees who spent most of the times outside the US are more likely to carry their traditional health beliefs and influence younger generations on how to take care of their teeth.

Ethical Approval

The University of Utah Institutional Review Board (IRB) approved this study.

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