Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

HHS Public Access

Author manuscript

Dent Clin North Am. Author manuscript; available in PMC 2018 July 01.

Published in final edited form as:

Dent Clin North Am. 2017 July ; 61(3): 549–563. doi:10.1016/j.cden.2017.02.006.

Acculturation and Pediatric Minority Oral Health Interventions

Tamanna Tiwari, BDS, MDS, MPH and

Clinical Instructor, Department of Applied Dentistry, School of Dental Medicine, University of Colorado Anschutz Medical Campus, 13065 East 17th Avenue, Room 104T, Aurora, CO 80045

Judith Albino, PhD

President Emerita and Professor, Director, Center for Native Oral Health Research, Director, CCTSI LITeS Program, University of Colorado Anschutz Medical Campus

Synopsis

Immigrant populations are growing at a fast pace in the United States. Cultural variations can have implications on oral health of children form immigrant households. Length of stay in the US and language spoken at home, proxies for measuring acculturation, are some of the crucial factors determining the level of acculturation in families. Higher acculturation generally has a positive impact on oral health utilization. Improving cultural competency of the dental team and involving the stakeholders in intervention design and implementation are some strategies that may increase the trust of ethnic minority patients and reduce barriers to access to care.

Keywords

Acculturation; Oral Health Behaviors; Immigrant Communities; Access to Care; Cultural Beliefs; Dental Care Utilization

Introduction

Acculturation can be a critical factor in efforts to maintain the oral health of immigrant populations, particularly children. Although oral health disparities are often associated with these populations, acculturation remains poorly understood in the context of oral health. The purpose of this paper is to evaluate the impact of acculturation on the oral health of ethnic minority children and the delivery of oral health care and oral health interventions to minority children.

“Acculturation as a term in anthropology comprehends those phenomena when groups of individuals having different cultures come into continuous first-hand contact with subsequent changes in the original culture patterns of either or both groups” (1).

Correspondence to: Tamanna Tiwari.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Disclose Statement: The authors have no conflict of interest to disclose

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Acculturation reflects a shift in behaviors and lifestyle of people as they move from one culture and acclimate to another culture (2). As a result of exposure to a new culture, some immigrant populations may experience rejection or, alternatively, may reaffirm their culture. In other cases, individuals may experience marginalization, which is alienation from both cultures (1). The speed and extent of acculturation vary among individuals and has practical implications for one's health.

The effects of acculturation have been studied on systemic health since the late 1960s. Mixed effects have been seen on general health, healthcare utilization, and health-affecting behaviors (3,4). In the earliest study to investigate the association of acculturation with oral health, the authors reported that Mexican-Americans with low acculturation levels had higher levels of untreated dental caries and periodontal disease than those with higher acculturation status (5).

How is acculturation measured?

Acculturation is a multidimensional and multidirectional process and thus can be measured in several ways (4, 6,7). Scales commonly used by investigators include the 12-item, Marin short acculturation scale (8). This scale focuses on the language skills, preferences, and ethnicity of friends in the participant's network. The Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) measures the degree to which participants are culturally tied to Anglo and Hispanic communities (9). This 13-item scale asks about individual preferences for thinking, reading, writing, speaking and watching television in English or Spanish.

Acculturation can also be measured by a proxy variable, which most often has used questions related to English language usage by the individual. Other approaches have included questions related to individuals' preferred ethnic identity, place of birth, or residence pattern and sometimes may include questions on family values and gender roles (6, 7). Nativity status and length of stay are commonly used as proxies for acculturation measures and responses to these questions show high correlations with other standardized scales and language-based measures (6). Proxy acculturation measures are most often used compared to standardized scales because proxies are easier to measure and less time consuming.

Immigrant children in the U.S

In the United States, 17.5 million children under age 18 were a part of an immigrant household in which at least one parent was an immigrant (10), accounting for 25 percent of the 70 million children in the U.S. (10, 11). Hispanics and Latinos are the largest and fastest growing group of immigrants entering the U.S. In 2014, about 55 percent of all first- and second-generation[1] immigrant children were of Hispanic origin (12). According to the 2010 census data, Hispanic children accounted for most of the minority child population growth. The number of Hispanic children grew by 39 percent between 2000 to 2010 (11). About 21 percent of the U.S. households speak a language other than English, and within these households, 62 percent households speak Spanish (10).

Author Manuscript
Author Manuscript
Author Manuscript
Author Manuscript

The other significant immigrant group in the US is the Asian population. According to the 2014 Child Trend Data Bank report, 17 percent of immigrant children are of Asian descent, and they are mostly first generation (12). The top five countries of Asian immigration are India, China, the Philippines, Vietnam, and Korea (10). According to the Pew Research Center, although Hispanic immigrants represented the largest community of immigrants living in the United States in 2015, Asian immigrants are growing at a faster pace and are predicted to become the largest immigrant group by 2055 (13).

This article will discuss the effects of acculturation on oral health behaviors, oral health status and dental health utilization for Hispanic and Latino children in greater detail than other immigrant populations. The focus is on Hispanic and Latino children because of the demographic significance of this group, which has implications for dental care delivery (14).

How Acculturation Impacts Oral Health of Immigrant Children

Living in a multicultural environment can affect both children's general health and their oral health when parental or familial attitudes, beliefs, and knowledge, are different from those of the mainstream or general population. The influence of cultural beliefs is evident among immigrant communities and is strongly associated both with the length of stay and with the strength of social networks in the community (15). Cultural processes allow individuals to become exposed to different ways of thinking about the world that may contribute to decision-making ability for their children (15). As a function of intracultural variation, however, individuals will vary in the manner and the speed with which they adopt attitudes, values, customs, beliefs and behaviors of a new culture (4). Children of ethnic minority and immigrant communities are exposed to a fluctuating environment with respect to cultural change. Such an environment of change may put them at a higher risk of developing dental caries since it may influence the family's and child's ability to cope with a potentially stressful situation such as undergoing dental procedures and visiting a dental office.

The other common cultural component seen in ethnic minorities is a fatalistic attitude towards health (16, 17, 18). It has been seen that ethnic minority parents who believe dental caries is unavoidable for their children may not actively seek preventive care and may not follow preventive recommendations because they think caries is the inevitable outcome for their children (16).

Latino Children - Oral health knowledge and behaviors

In Latino communities, acculturation frequently has been shown to predict oral health behaviors. The literature supports the concept that acculturation is a transition to a new lifestyle (19). This transition can cause a shift in health behaviors, which may not always lead to healthier choices. In the case of oral health, acculturation may impact the adoption of a more cariogenic diet, due to either lack of knowledge or easier access to processed and high sugary foods and drinks. It is possible that immigrant populations may not even know the consequences of adopting these new diets. Horton and Barker (2010) have demonstrated this scenario in their study of Mexican immigrant farmworker mothers. These mothers were attracted to infant formula provided by WIC, which turned out to be cheaper than breastfeeding when they considered that it allowed them to work on the farms all day.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

However, because the mothers were mostly first-generation bottled milk users, they were unprepared and lacked the knowledge of the oral health consequences of prolonged bottle feeding. They put sugary drinks in the bottle; gave the bottle to the child for prolonged periods during the day and sometimes during the night time, were unable to wean the child off the bottle by year one. Additionally, they were unaccustomed to the oral hygiene requirements of this new cariogenic diet. The amalgamation of all these behaviors led to high risk of dental caries in the children of these immigrant farmworker population (20).

This pattern shows some similarities with urban-dwelling Mexican-American mothers, although access to care is better in urban settings. A study looking at the oral health impact of maternal acculturation in a population of urban Latinas reported that strongly Anglo-oriented Mexican mothers were breastfeeding their children for longer periods, supervised their children during tooth brushing, and gave fluoridated water to their children. Also, Anglo-oriented Mexican-American mothers enrolled their children in Medicaid. However, exposure to sugar-sweetened drinks and higher consumption of candy also were seen in children of Anglo-oriented mothers (21). Similarly, Hoeft et al., (2010) reported on urban Mexican-American mothers' beliefs about caries. The study indicated Latina mothers had limited knowledge of dietary and oral hygiene practices. Although the mothers knew about some of the causes of dental caries, such as the use of bottle, juice consumption and poor oral hygiene, they were uncertain about how these things were detrimental to their child's teeth and did not perform recommended oral hygiene routines (22).

Tiwari et al., (2015) conducted a study to understand the oral health knowledge and behaviors of urban Latina mothers living in Denver, Colorado. Oral health knowledge and behaviors were similar to those reported in the Hoeft et al. (2010) study; Latina mothers had limited knowledge about caries development and oral hygiene practices. However, in the focus group interviews, Latina mothers discussed cultural differences and variations related to oral hygiene practices and prevention visits. Most of them reported that children in Latino families might have multiple caregivers. Thus, maternal oral health knowledge and related preventive activities may not be practiced as consistently or efficaciously in Latino households. Also, mothers mentioned that they struggled to overcome peer and familial pressure when they took their children to the dentist for preventive visits. They said their family and friends suggested to visit the dentist if the child has pain and that preventive dental visits were unnecessary (23).

The behaviors and beliefs mentioned above, whether multiple caregivers in a family or the uncertainty of how sugary foods were harmful to children's teeth have a cumulative effect in deteriorating the oral health of Latino children. We speculate that exposure of the Latino population to a new culture and their partial acculturation – that is, alienation from their traditional culture and incomplete integration into the mainstream culture, may put them at greater risk for poor oral health related behaviors (19, 24).

Latino children - Oral health utilization

Acculturation also may impact the ability of an individual to navigate the dental health care system (2, 6, 26, 27). Linguistic and cultural factors can play important roles in determining access to oral health services, as well as personal oral hygiene practices. Cultural

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

competency of healthcare professionals and the demands associated with living in a monolingual community may heighten the impact of acculturation on access to and utilization of care (2). For example, Latinos who predominantly spoke English at home were more likely to use dental health services than those who spoke Spanish. Insufficient English skills may cause considerable difficulties and fears for Latino families, making them less willing and trusting toward dental care professionals (18).

Valencia et al. (2012), reviewed reports of Latino children's oral health utilization in Iowa. They found that less-acculturated Latino children were least likely to have a dental checkup in the past year and were less likely to be insured. The odds of having a dental checkup for less-acculturated Latino children were 75 percent lower, and for more-acculturated Latino children were 40 percent lower than for White children. Also, the odds of having a dental home for less-acculturated Latino children and more-acculturated Latino children were 87 percent and 77 percent lower than White children, respectively. The odds of being insured for less-acculturated Latino children were 58 percent lower than for White children (26). Use of English vs. Spanish was the differentiating factor between more-acculturated and less-acculturated families. Parents who responded to the questionnaire and interviews in English were considered more-acculturated.

Another study reporting on dental utilization by children in Mexican-American agricultural worker families in California produced similar results. Overall, the study participants had a high orientation to Mexican rather than Anglo culture; in other words, the caregivers were less-acculturated. Acculturation was measured by ARSMA-II scale. Twenty-seven percent of the children had not visited the dentist in the past year, and 23 percent had never visited the dentist. Children who had visited the dentist in the past year had caregivers with higher U.S.-oriented acculturation levels (28).

Similar results were seen in a study of Latina mothers whose children were attending public schools and Head Start centers in three communities in Chicago. Acculturation was measured by, Marin short acculturation scale. It was seen that mothers who had a longer length of stay in the United States and had higher levels of acculturation took their children for the first dental visit at a younger age than did mothers who were less-acculturated (29).

Mejia et al. (2011), reviewed the family level factors associated with lack of sealants in a California population of third-grade public school children. They found that 75 percent of Hispanic children did not have sealants. When the use of English language was used as an acculturation indicator, they found that children who spoke a language other than English at home did not have dental sealants as frequently as children who spoke English at home (30).

These studies have also provided some characteristics for the less-acculturated Latino families. They are mostly first generation immigrants or recent immigrant, with shorter residency periods in the U.S. (26, 29, 31). Parents of the less acculturated children had lower education and income (26, 31). Moreover, lower levels of acculturation and length of residency in the U.S., appeared to act as a mediating factor in influencing the mother's beliefs about the importance of their child's first dental visit at a younger age (29, 10).

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

An interesting relationship of healthier oral health habits was seen with less-acculturated Latino children, who were reported to have better brushing habits (26). Another study demonstrated that immigrant Latinos enjoyed a considerable oral health-related quality of life advantage over the White Non-Latino population (32). This benefit was limited to first generation or recent Latino immigrants (33). Another study demonstrated that within a parent-child dyad, children who were U.S.-born and more acculturated than their parents had the lower oral health-related quality of life than their parents (33). As suggested by Sanders (2010), Mejia et al. (2008), and Acevedo-Garcia and Bates (2007), this paradox may reflect social protective factors operating within the Latino community. Latinos have high socio-centric values, and they value interdependence and readily internalize group norms (14, 32). The transition associated with acculturation represents a move from interdependence towards greater individualism, which may erode the protective effect of these socio-centric values on oral health quality of life and healthy behaviors, such as tooth brushing habit and consumption of low cariogenic food (20, 32).

Despite some interesting findings to the contrary, less-acculturated Latino families experience multiple and additional disparities in oral health utilization than more-acculturated Latinos. These differences within the Latino population suggest that less-acculturated families comprise a particularly vulnerable subgroup that will require greater attention in increasing access to dental care.

Asian Children

There are not many studies in the literature that have studied cultural beliefs and levels of acculturation in Asian children and their families. A few that have dealt with these issues have revealed the influence of social networks in healthcare decision making and cultural beliefs related to traditional medicine.

Hilton et al. (2007) examined the effects of cultural beliefs that could influence access to preventive oral health care for young children. They interviewed participants from several immigrant communities, including Chinese and Filipino communities. Lack of knowledge and beliefs that primary teeth are not important created barriers to early preventive care in all groups. Additionally, the concept of routine, preventive oral health visits was not widely understood, especially among older Chinese caregivers. Participants' fears of dental treatment also influenced attitudes regarding accessing preventive care for their children. The social networks of these communities also were found to play a significant role in healthcare decisions; grandparents, aunts, and uncles – as well as parents – were found to be involved in deciding when to take children to the dentist (35).

Wong et al., (2005) examined the perceptions of Chinese parents regarding oral hygiene and dental care utilization. Parents' fear of the dentist, lack of knowledge about best feeding practices, and cultural beliefs contributed to dental caries in their children and delay in seeking dental care. They were also highly influenced by their peers, who may oppose dental treatment or advice on seeking care in response to pain. Some parents also used herbal medicines and home remedies to treat the child before they took them to the dentist (36). Similar beliefs were reported by Butani et al. (2008) that Chinese communities tend to use a combination of traditional and western medicine for oral diseases (37). Wong et al., (2005)

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

also mentioned that some Chinese parents might have trust issues with the dentist and consider Western medicine more aggressive.

Vietnamese adolescents reported that oral health was important for social reasons; their appearance affected their confidence levels and ability to make friends. They were aware that sugar caused cavities and the associations between oral and general health. They valued dental treatment but still had some dental fear and anxiety (38). Because the qualitative interviews in this study were conducted in English, the participants may have had higher acculturation. Therefore, a different set of approaches may be needed to educate parents vs. the adolescent in these communities.

African Refugee children

Children of other refugee groups that have been studied include those from a variety of African countries, although few of these have reported on the impact of acculturation on the oral health of these African immigrant children. One study reporting on dental caries status in African refugees demonstrated that African refugee children had only half the dental caries experience of either White or African-American children. The authors argued that these children had not been exposed to high amounts of refined sugars in their home countries. As these families undergo the process of acculturation, they may, unfortunately, adopt less healthy behaviors such as consuming more foods high in refined sugar content. As a result, these children may be placed at higher risk of developing dental caries (39).

Another study examined African immigrant parents' views on dental caries and dental health utilization of oral health care services. The study concluded that participants' cultural backgrounds influenced their decisions about their children's oral health. Respondents indicated that dental caries was viewed as a "harmless disease," because it is not life threatening, compared to malaria or HIV, for example. Consequently, it was not considered worthwhile to see a dental health professional. The more acculturated parents in the study placed higher importance on the oral health of their children and were more motivated to use oral health services (40).

Acculturation has some common effects on Latino, Asian and African children that have emerged from the literature. Lower dental care utilization rates are seen in all three groups. The reasons for this can be varied; language can be a significant barrier in Latino and Asian communities and parent perceptions and cultural beliefs can be common factor for all the three groups (Box 1).

Delivering Oral Healthcare to Children of Ethnic Minorities

From the ethnic minority patient's perspective, use of dental care services can be a complex process involving insurance coverage and affordability, accessibility of providers, provider availability, and acceptance of various types of insurance plans, as well as provider interest in treating certain subpopulations (41). Adding language and cultural barriers to this list further reduces the likelihood that members of ethnic minority and immigrant communities will use dental care services. These factors can then lead to reduced trust in dental health

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

care providers, which in turn may result in ethnic minority patients' not accessing care and not having dental homes (41, 42).

Language barriers heavily influence the patient-doctor interaction in dentistry. Use of interpreter services can improve provider-patient communication. Although dental researchers have reviewed the impact of language barriers on seeking/accessing dental treatment and preventive services, there is little research defining the benefits of interpreter services in dental care delivery (43). Lessons learned from medical healthcare delivery suggest that interpreter services should be provided throughout care delivery and not just at the clinical encounters (44). Further, bilingual staff should be thoroughly assessed, and language proficiency assessments should be conducted before they provide services to any patients. Patient feedback should be collected periodically to access the quality of service provided by bilingual staff (44). The medical literature also has shown that professional interpreter services have a positive impact on changing behaviors and improving uptake of preventive services by patients with limited English proficiency (45).

Dental healthcare delivery is improved when dentists increase their awareness of patient values and beliefs because this awareness can positively impact the effectiveness of doctor-patient communications related to preventive recommendations and treatment plans. (11, 46). Overlooking the cultural and traditional beliefs of patients can lead to a lack of trust in treatment plan provided and further reduce the chance of compliance by patients (47). To be effective, delivery of dental care, including preventive dental services, should use a culturally sensitive approach (47). Cultural competence is not limited to gaining information about the ethnic minority patients. Rather, it is defined "as an understanding of the importance of social and cultural influences on patients' health beliefs and behaviors, considering how these facts interact at multiple levels of health care delivery system" (47). It is important for the dental team to keep the cultural context of the child in view while providing recommendations to immigrant parents and also to avoid stereotyped decisions. Cultural competency should be a critical component of dental education, and some dental schools have incorporated effective teaching approaches to address this goal. For example, using service-learning opportunities for dental students can help to increase clinical interactions with ethnic minority patients (48). Service learning also has been shown to improve cultural competency in dental students and may expose them to patients with different levels of acculturation within a culture. This early exposure of dental students to multiple cultures may help to improve the understanding, knowledge, and respect for various immigrant populations and also impact their awareness of the role of the family and community in shaping the oral health of immigrant children.

The challenge of cultural competency is heightened by the lack of diversity in the dental workforce. According to the American Dental Association, there are about 196,000 dentists working in the U.S (49). Only 3.4 percent of the dentist are Hispanic/Latino, 3.4 percent are African-American, and seven percent are Asian/Pacific Islander (49). The profiles for other members of the dental team reflect slightly more diverse. Six percent of dental hygienists are Hispanic, and four percent are Asian//Pacific Islander, while about 23 percent of dental assistants are Hispanic (50). Current efforts to improve diversity in the dental workforce include improving funding and scholarships for students from underrepresented groups and

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

efforts to support recruitment and retention of ethnic minority dental faculty (42, 47). However, we also should pay attention to the cultural competency training of other members of the dental team, such as dental assistants, who are slightly more diverse. These team members are sometimes the first point of contact in dental care delivery and might be able both to create trust in the dental team and bridge language gaps.

Acculturation and Oral Health Interventions for Children and their Families

Although providing linguistic or translation services is an excellent method of reducing language barriers; the dental team has to go beyond this and pay attention to social and cultural determinants of health for immigrant families, however (46). This includes developing culturally tailored oral health messages and oral health promotion to cater to the different levels of acculturation within the community. One critical component of oral health interventions for immigrant children is to involve the family, the community and social networks in efforts to create better acceptance of interventions and to bring about sustainable change.

Cultural background can affect the motivation-orientation of individuals, their responses to health messages, and ultimately their adoption of new behaviors. Tailoring health messages in ways that integrate cultural norms and underlying psychosocial characteristics of the group can prove to be highly effective. Brick et at. (2015), reported on the importance of framing oral health messages based on the exposure of the patient to mainstream culture. Their study demonstrated that immigrants who have greater exposure to the U.S. culture, based on length of residency in the U.S. and whether one of the parents were U.S.-born, were more responsive to “gain frame” oral health messages. Participants who had a lower exposure to the U.S. culture were more responsive to “loss frame” oral health messages. Gain-framed messages communicate the advantages of engaging in a health behavior, whereas loss-framed messages talk about the costs of failing to engage in a health behavior. The authors speculated that greater exposure to the U.S. culture may drive more individualistic and approach-oriented ideologies and thus gain frame messages are more appealing to these people. Individuals who were less exposed to the U.S. culture may have more collectivistic and avoidance-orientation approaches and may respond more effectively to loss frame oral health messages (51). As discussed earlier, many Latino cultures are associated with group norms and interdependence (20, 31), and the less-acculturated individuals within the Latino community lean heavily towards these ideologies. Additionally, we have seen that second generation immigrants – that is, children born in the U.S. – may be more acculturated their first generation immigrant parents. Therefore, it may be critical to think about oral health message framing when providing pediatric oral health interventions to less-acculturated vs. more acculturated communities. Oral health researchers may want to include questions such as length of stay and if either of the parents were first or second generation immigrants, to determine the level of acculturation of the parent before they design and deliver oral health messages.

Other methodologies that seem to work well with immigrant families are community-based participatory research (CBPR) and participation action research (52). Interventions using these research methods enable the immigrant populations to become partners in research.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

These methods allow them to shed more light on challenges and barriers faced by immigrant populations in accessing oral healthcare and also to assist in the design and delivery of oral health prevention interventions that will be culturally sensitive and thus more effective and sustainable (52). Involving stakeholders from immigrant community in action research increases the cross-cultural understanding and thus provides an opportunity for both the investigator and community to work together to implement prevention intervention successfully. Recent oral health interventions have successfully used CBPR methodologies to involve stakeholders in research design and implementation of research and in recruiting and retaining study participants in longitudinal studies (53–55).

Using community lay people who are trained to deliver oral health intervention, promote behavior change and assist in navigating the dental health care system can help to reduce the barrier for disparities population. These individuals are slowly becoming a part of the dental team and have various names, such as community health worker (CHWs), *Promotora*, or patient navigators. They have been used extensively to reach some groups, such as migrant farm workers, Latino and some Asian communities (47, 56, 58). Several studies have successfully used community health workers or lay community members (who have been trained to deliver interventions) to engage immigrant parents in dialogue about accessing oral health prevention services, providing oral health counseling, and helping in initiating oral health behavior change through Motivation Interviewing (54, 55–59). A study that used a Vietnamese lay health counselor to provide oral health counseling to Vietnamese mothers of preschool children, emphasized that similar cultural background of the counselor was an essential part of adoption of healthy oral health behaviors (58).

In the Latino community, *Promotora*-based pediatric interventions for oral health prevention are readily accepted and have been shown to ease recruitment of participants in oral health interventions, increase attendance for intervention activities, and retain the participants for a longer period of time (55, 56, 59). Participating parents seem more comfortable in these setting and, therefore, may ask more questions than in a dental clinic setting, which in turn may help increase the understanding of oral health of their children and could also transform some cultural beliefs that do not support oral health. The success of these CHW-based interventions lies in the fact that these individuals are familiar with the culture of the population in which they are working, speak the language, and are sensitive to the families' circumstances, and thus are better able to meet the needs of that population (53, 54). CHWs can meet the parents/families outside of the dental clinic, or even do home visits. This is a critical piece in engaging these families, as it reduces the travel cost for the patients and takes the conversation about oral disease prevention outside of the dental clinic, where time constraints and other factors such as language barriers could limit this conversation.

Motivational Interviewing (MI) that is successfully being used in several oral health-related interventions is a methodology that holds promise for improving the oral health of immigrant children (60). The first successful MI intervention to reduce dental caries in children was done in a South Asian Punjabi-speaking immigrant population in British Columbia, using lay community women to deliver the intervention (57). Another recent study reported on the sustained effectiveness of a culturally sensitive, peer-led caries prevention intervention for Spanish-speaking Latino parents (59). The intervention included

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

components of MI, such as goal setting and participant-driven education. However, it also included the elements of social and group support which were appreciated by study participants (59). It has been speculated that MI can help to bridge the gap between the requirements of the Western Dental culture and the cultural beliefs of the immigrant population (57). MI's success may be attributed in part to the fact that is respectful and complementary to the cultural values of the participant and creates space to include spirituality and religious practices (60).

Interprofessional collaborations between dentists, primary care providers, pediatricians, and public health programs such as Women Infants and Children (WIC) can be an innovative method to deliver oral health interventions to immigrant parents. These collaborations can assist to reduce barriers to accessing care, train ancillary staff such as nursing staff and WIC nurses to provide preventive oral health care, and conduct oral health promotion activities (61). Immigrant parents utilize medical services at a higher rate than they use dental services. Providing some dental care, which may include oral screening for dental caries and preventive care at pediatricians' offices can help immigrant families to access initial dental care, develop trust in the dental team, and hopefully develop a continuum of dental care.

The "Vermont's Tooth Tutor program" was a good example of an interprofessional partnership to deliver preventive and restorative services to refugee children from Somalia and Southeastern Asian countries in Vermont. The program was designed by a collaborative team including dental hygienists, community dentists, representatives from the Vermont department of health, local hospitals and school of nursing, and a pediatrician from the School District. The implementation of the study was within the schools; preventive services were delivered to 60 percent of all the participating school children by the second year (62).

Another program for co-location of dental and primary care providers has been implemented in Los Angeles County. This program is not aimed exclusively at immigrant children but is intended to overcome barriers to care for low-income populations. As a result of this co-location program, the participating Federally Qualified Health Centers reported increasing preventive visits by three-fold; oral health education and fluoride varnish were provided during these visits. A significant increase was seen in treatment visits as well (63). Such a model of care can be used to improve dental care utilization in immigrant populations (Box 2).

Summary

The population demographics of the United States are changing rapidly and at a pace that is faster than ever. With about 25 percent of children now belonging to immigrant households, it is imperative that dental teams update their cultural competency and that delivery of care uses culturally and linguistically sensitive approaches. A critical point in delivering dental health care and conducting prevention interventions with immigrant children is to include the families, the community, and their social networks so that interventions are readily accepted, and trust is established with the dentist.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

Acculturation is rarely absolute, but rather reflects a continuum. Exposure of immigrant families to a new culture can lead to different levels of adoption of the new culture; it may be influenced by the length of stay in the U.S., language spoken at home, living in urban vs. rural surroundings, income, education and social networks. Acculturation can be measured either using a standardized scale or by proxy measures such as length of residency and preference of language. The most common approach to measurement is the use of a proxy.

The extent of acculturation impacts oral health behaviors and oral health utilization. Higher acculturation increases the likelihoods of utilizing dental health services and can positively affect the oral health of children. Children of less acculturated parents may have poor oral health outcomes and lower healthcare utilization. More research is needed to understand the different levels of acculturation and why some families are more acculturated than others. As for now, we speculate that income and education play a significant role in deciding how acculturated a family is, but we need to understand other underlying reasons for these differences as well.

This article describes several approaches that have been used to successfully deliver oral health interventions to immigrant communities. The oral health research community will be well served if we increase our awareness of the cultural beliefs and backgrounds of these communities, and design and deliver the prevention interventions tailored to their needs.

Acknowledgments

The authors are grateful for the ongoing support of their work by the National Institute of Dental and Craniofacial Research (U54DE019259, 1K99DE024758).

References

1. Redfield R, Linton R, Herskovits MJ. Memorandum for the study of acculturation. Am Anthropol. 1936; 38:149–52.
2. Stewart DC, Ortega AN, Dausey D, et al. Oral health and use of dental services among Hispanics. Journal of public health dentistry. 2002; 62:84–91. [PubMed: 11989211]
3. Henry JP, Cassel JC. Psychosocial factors in essential hypertension. Recent epidemiologic and animal experimental evidence. Am J Epidemiol. 1969; 90:171–200. [PubMed: 4899564]
4. Abraído-Lanza AF. Social support and psychological adjustment among Latinas with arthritis: A test of a theoretical model. Annals of Behavioral Medicine. 2004; 27(3):162–71. [PubMed: 15184092]
5. Ismail AI, Szpunar SM. Oral health status of Mexican-Americans with low and high acculturation status: Findings from southwest HHANES, 1982–84. J Public Health Dent. 1990; 50:24–31. [PubMed: 2295999]
6. Abraido-Lanza AF, Chao MT, et al. Do healthy behaviors decline with greater acculturation?: Implications for the Latino mortality paradox. Social science & medicine. 2005; 61(6):1243–55. [PubMed: 15970234]
7. Hunt LM, Schneider S, Comer B. Should "acculturation" be a variable in health research? A critical review of research on US Hispanics. Social science & medicine. 2004; 59(5):973–86. [PubMed: 15186898]
8. Marin G, Sabogal F, Marin BV, Otero-Sabogal R, et al. Development of a short acculturation scale for Hispanics. Hispanic Journal of Behavioral Sciences. 1987; 9(2):183–205.
9. Cuellar I, Arnold B, Maldonado R. Acculturation rating scale for Mexican Americans-II: A revision of the original ARSMA scale. Hispanic journal of behavioral sciences. 1995; 17(3):275–304.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

10. Zong, J., Batalova, J. Frequently Requested Statistics on Immigrants and Immigration in the United States. Migration Policy Institute; 2016. http://www.migrationpolicy.org/article/frequently-requested-statistics-immigrants-and-immigration-united-states#Top. Assessed August 24, 2016
11. O'Hare, W. The Changing Child Population of the United States: Analysis of Data from the 2010 Census. The Annie E Foundation; 2016. http://www.aecf.org/m/resourcedoc/AECF-ChangingChildPopulation-2011-Full.pdf. Assessed August 24, 2016
12. Child Trends. Immigrant children. 2014. http://www.childtrends.org/?indicators=immigrant-children. Accessed August 24, 2016
13. Pew Research Center. Modern Immigration Wave Brings 59 Million to US, Driving Population Growth and Change Through 2065. Washington, DC: Pew Research Center; 2015. http://www.pewhispanic.org/files/2015/09/2015-09-28_modern-immigration-wave_REPORT.pdf. Assessed August 24, 2016
14. Mejia GC, Kaufman JS, Corbie‐Smith G, et al. A conceptual framework for Hispanic oral health care. Journal of public health dentistry. 2008; 68(1):1. [PubMed: 18248341]
15. Scrimshaw SC. Our multicultural society: implications for pediatric dental practice. Pediatric dentistry. 2003; 25(1):11–15.
16. Ng MW. Multicultural influences on child-rearing practices: implications for today's pediatric dentist. Pediatric dentistry. 2003; 25(1):19–22. [PubMed: 12627696]
17. Petti S. Why guidelines for early childhood caries prevention could be ineffective amongst children at high risk. Journal of Dentistry. 2010; 38:946–955. [PubMed: 20837088]
18. Patrick DL, Lee SY, Nucci M, et al. Reducing Oral Health Disparities: A Focus on Social and Cultural Determinants. BMC Oral Health. 2006; 6
19. Gao XL, McGrath C. A review on the oral health impacts of acculturation. Journal of Immigrant and Minority Health. 2011; 13(2):202–213. [PubMed: 21082253]
20. Horton S, Barker J. Stigmatized Biologies: Examining the Cumulative Effects of Oral Health Disparities for Mexican American Farmworker Children. Medical Anthropology Quarterly. 2010; 24(2):199–219. [PubMed: 20550093]
21. Farokhi MR, Cano SM, Bober-Moken IG, et al. Maternal Acculturation Could It Impact Oral Health Practices of Mexican-American Mothers and Their Children? Journal of primary care & community health. 2011; 2(2):87–95.
22. Hoeft KS, Barker JC, Masterson EE. Urban Mexican‐American mothers' beliefs about caries etiology in children. Community dentistry and oral epidemiology. 2010; 38(3):244–55. [PubMed: 20156233]
23. Tiwari, T., Sharma, T., Gutierrez, K., et al. Learning about Oral Health Knowledge & Behavior in Latina Mothers. IADR/AADR/CADR General Session & Exhibition; Boston, MA: 2015.
24. Choi H. Cultural marginality: a concept analysis with implications for immigrant adolescents. Issues Compr Pediatr Nurs. 2001; 24(3):193–206. [PubMed: 12141837]
25. Flores G, Tomany-Korman SC. Racial and ethnic disparities in medical and dental health, access to care, and use of services in US children. Pediatrics. 2008; 121(2):e286–98. [PubMed: 18195000]
26. Valencia A, Damiano P, Qian F, et al. Racial and ethnic disparities in utilization of dental services among children in Iowa: the Latino experience. American journal of public health. 2012; 102(12): 2352–9. [PubMed: 22698039]
27. Cruz GD, Chen Y, Salazar CR, et al. The association of immigration and acculturation attributes with oral health among immigrants in New York City. American journal of public health. 2009; 99(S2):S474–80. [PubMed: 19443820]
28. Finlayson TL, Gansky SA, Shain SG, et al. Dental utilization by children in Hispanic agricultural worker families in California. Journal of dental, oral and craniofacial epidemiology. 2014; 2(1–2): 15.
29. Kim YO. Reducing disparities in dental care for low-income Hispanic children. Journal of health care for the poor and underserved. 2005; 16(3):431–43. [PubMed: 16086006]
30. Mejia GC, Weintraub JA, Cheng NF, et al. Language and literacy relate to lack of children's dental sealant use. Community dentistry and oral epidemiology. 2011; 39(4):318–24. [PubMed: 21198761]

Author Manuscript
Author Manuscript
Author Manuscript
Author Manuscript

31. Telleen S, Kim R, Young O, et al. Access to oral health services for urban low-income Latino children: social ecological influences. Journal of public health dentistry. 2012; 72(1):8–18. [PubMed: 22316105]
32. Sanders AE. A Latino advantage in oral health-related quality of life is modified by nativity status. Social science & medicine. 2010; 71(1):205–11. [PubMed: 20434250]
33. Cubas YP, Orellana MF. The effect of acculturation in the concordance of oral health related quality of life in Latino children and their parents.
34. Acevedo-Garcia, D., Bates, LM. Latino Health Paradoxes: Empirical Evidence, Explanations, Future Research, and Implications. In: Rodriguez, H.Saenz, R., Menjivar, C., editors. Latino/as in the United States: Changing the Face of America. Springer; New York, NY:
35. Hilton IV, Stephen S, Barker JC, et al. Cultural factors and children's oral health care: a qualitative study of carers of young children. Community dentistry and oral epidemiology. 2007; 35(6):429–38. [PubMed: 18039284]
36. Wong D, Perez-Spiess S, Julliard K. Attitudes of Chinese parents toward the oral health of their children with caries: a qualitative study. Pediatric dentistry. 2005; 27(6):505–12. [PubMed: 16532893]
37. Butani Y, Weintraub JA, Barker JC. Oral health-related cultural beliefs for four racial/ethnic groups: assessment of the literature. BMC Oral Health. 2008; 8(1):26. [PubMed: 18793438]
38. Pham K, Barker JC, Walsh M. Oral Health Care of Vietnamese Adolescents: A Qualitative Study of Perceptions and Practices. Journal of Dental Hygiene. 2015; 89(6):397. [PubMed: 26684998]
39. Cote S, Geltman P, Nunn M, Lituri K, et al. Dental caries of refugee children compared with US children. Pediatrics. 2004; 114(6):e733–40. [PubMed: 15574605]
40. Obeng CS. Culture and dental health among African immigrant school-aged children in the United States. Health Education. 2007; 107(4):343–50.
41. Graham MA, Tomar SL, Logan HL. Perceived social status, language and identified dental home among Hispanics in Florida. The Journal of the American Dental Association. 2005; 136(11): 1572–82. [PubMed: 16329424]
42. Mouradian WE, Berg JH, Somerman MJ. Addressing disparities through dental-medical collaborations, part 1. The role of cultural competency in health disparities: training of primary care medical practitioners in children's oral health. Journal of Dental Education. 2003; 67(8):860–8. [PubMed: 12959159]
43. Riggs E, Gussy M, Gibbs L, et al. Hard to reach communities or hard to access services? Migrant mothers' experiences of dental services. Australian dental journal. 2014; 59(2):201–7. [PubMed: 24861395]
44. De Jaimes FN, Batts F, Noguera C, et al. Implementation of Language Assessments for Staff Interpreters in Community Health Centers. Journal of Health Care for the Poor and Underserved. 2013; 24(3):1002–1009. [PubMed: 23974375]
45. Jacobs EA, Lauderdale DS, Meltzer D, et al. Impact of Interpreter Services on Delivery of Health Care to Limited–English-proficient Patients. Journal of general internal medicine. 2001; 16(7): 468–74. [PubMed: 11520385]
46. Mariño R, Morgan M, Hopcraft M. Transcultural dental training: addressing the oral health care needs of people from culturally diverse backgrounds. Community dentistry and oral epidemiology. 2012; 40(s2):134–40.
47. Garcia RI, Cadoret CA, Henshaw M. Multicultural Issues in Oral Health. Dent Clin N Am. 2008; 52:319–332. [PubMed: 18329446]
48. Formicola AJ, Stavisky J, Lewy R. Cultural competency: dentistry and medicine learning from one another. Journal of Dental Education. 2003; 67(8):869–75. [PubMed: 12959160]
49. Valachovic, RW. Current demographics and future trends of the dentist workforce 2009. US Oral Health Workforce in the Coming Decade: A Workshop. http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/Workforce/oralhealthworkforce/2009-Feb-09/1%20-%20Valachovic.ashx. Assessed August 24, 2016
50. US Department of Health and Human Services. Sex, race, and ethnic diversity of US health occupations. 2010–2012. http://bhpr.hrsa.gov/healthworkforce/supplydemand/usworkforce/diversityushealthoccupations.pdf. Accessed on August 1st 2016

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

51. Brick C, McCully SN, Updegraff JA, et al. Impact of Cultural Exposure and Message Framing on Oral Health Behavior Exploring the Role of Message Memory. Medical Decision Making. 2015 0272989X15570114.
52. Nicol P, Al-Hanbali A, King N, et al. Informing a culturally appropriate approach to oral health and dental care for pre-school refugee children: a community participatory study. BMC oral health. 2014; 14(1):1. [PubMed: 24383547]
53. Tiwari T, Sharma T, Harper M, et al. Community Based Participatory Research to Reduce Oral Health Disparities in American Indian Children. Journal of family medicine. 2015; 2(3):1028. [PubMed: 26090520]
54. Tiwari T, Casciello A, Gansky SA, et al. Recruitment for Health Disparities Preventive Intervention Trials: The Early Childhood Caries Collaborating Centers. Preventing chronic disease. 2014; 11:E133. [PubMed: 25101490]
55. Garcia RI, Tiwari T, Ramos-Gomez F, et al. Retention Strategies for Health Disparities Preventive Trials: Findings from the Early Childhood Caries Collaborating Centers. Journal of Public Health Dentistry. in press.
56. Ramos-Gomez FJ, Gansky SA, Featherstone JD, et al. Mother and youth access (MAYA) maternal chlorhexidine, counselling and pediatric fluoride varnish randomized clinical trial to prevent early childhood caries. International Journal of Pediatric Dentistry. 2012; 22:169–179.
57. Weinstein P, Harrison R, Benton T. Motivating parents to prevent caries in their young children: one-year findings. The Journal of the American Dental Association. 2004; 135(6):731–8. [PubMed: 15270155]
58. Harrison RL, Wong T. An oral health promotion program for an urban minority population of preschool children. Community dentistry and oral epidemiology. 2003; 31(5):392–9. [PubMed: 14667011]
59. Hoeft KS, Barker JC, Shiboski S, et al. Effectiveness evaluation of Contra Caries Oral Health Education Program for improving Spanish-speaking parents' preventive oral health knowledge and behaviors for their young children. Community Dentistry and Oral Epidemiology. 2016
60. Albino J, Tiwari T. Preventing Childhood Caries A Review of Recent Behavioral Research. Journal of Dental Research. 2016; 95:35–42. [PubMed: 26438210]
61. Biordi DL, Heitzer M, Mundy E, et al. Improving access and provision of preventive oral health care for very young, poor, and low-income children through a new interdisciplinary partnership. American journal of public health. 2015; 105(S2):e23–9.
62. Melvin CS. A collaborative community-based oral care program for school-age children. Clinical Nurse Specialist. 2006; 20(1):18–22. [PubMed: 16569945]
63. Crall JJ, Illum J, Martinez A, Pourat N. An Innovative Project Breaks Down Barriers to Oral Health Care for Vulnerable Young Children in Los Angeles County. Policy Brief UCLA Center for Health Policy Research. 2016; (B2016-5):1–8.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

BOX 1

Impact of Acculturation on oral health of immigrant children

- Higher acculturation, measured by longer stay in the US or speaking English at home, increases the chances of utilizing dental health services and can positively affect the oral health of children.
- Less-acculturated Latino families are an especially vulnerable group within the Latino community and may require greater attention.
- More research is needed especially with Asian and African communities to better understand their attitudes and beliefs related to oral health and utilization of dental services, including prevention services for their children.

Author Manuscript Author Manuscript Author Manuscript Author Manuscript

BOX 2

Oral Health Interventions for Immigrant Families

- Understanding the motivation-orientation at the individual and community level. Design oral health messages accordingly.
- Developing interventions using community-based participatory research methodologies.
- Delivery of interventions using trained lay community members – similar cultural background of the health worker could be central in adopting new health behaviors.
- Using respectful and non-confrontational approaches such as Motivational Interviewing.
- Interprofessional collaboration to bring all health care providers together to improve the overall health.

Author Manuscript
Author Manuscript
Author Manuscript
Author Manuscript

Key Points

1. For immigrant children, acculturation can be a major factor impacting their oral health.
2. Acculturation can be measured using standardized scales, but more often is measured using a proxy such as the length of stay and preference of English language.
3. Improving the cultural competency of the dental team can reduce barriers to access to care for immigrant families and built trust in dental healthcare.
4. Involving community members in oral health research design and implementation of research can be a crucial factor in the adoption of recommended oral health behaviors.