

Cultural factors and children's oral health care: a qualitative study of carers of young children

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Abstract – Objective: This qualitative study sought to identify cultural beliefs, practices and experiences that influence access to preventive oral health care for young children from different racial and ethnic groups. **Methods:** Four to six focus groups in each of the African-American, Chinese, Latino and Filipino communities in San Francisco, California were included in the study.

Participants were carers of children aged 1–5 years. The 22 groups ($n = 177$ participants) were stratified by carer's age and, except in the African-American community, by whether US or non-US born. Sessions were conducted in different languages as needed. **Results:** Lack of knowledge and beliefs about primary teeth created barriers to early preventive care in all groups. In Chinese groups more than others, health beliefs regarding disease causation and prevention influenced access to preventive dental care. In all groups, multiple family carers, especially elders, influenced access to preventive care. Dental fear, whether derived from prevailing community beliefs or personal negative dental experiences, greatly influenced attitudes regarding accessing preventive care. **Conclusion:** There are both similarities and differences between racial/ethnic groups in how cultural beliefs and experiences influence young children's access to dental care and how it might be improved.

Key words: culture; dental health perception; disparities; early childhood caries; oral health; quantitative research

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The United States has witnessed an overall decline in the amount of caries experienced by children within the last 30 years (1). However, racial and ethnic minority children continue to suffer disproportionately from early childhood caries (ECC) (2). Moreover, when income status is factored in, the disease disparities are even more pronounced (3). In California, Latino and other minority children have more caries experience, more untreated caries, and more urgent dental care needs than non-Latino white children, demonstrated most recently in a statewide survey of Kindergarten and third grade children (4).

Designing effective ECC prevention programs has been problematic because the etiology of ECC is multifactorial (5). Prevention programs have included educational interventions regarding oral hygiene, diet and feeding practices and programs

that encourage early access to professional preventive dental care.

Early access to dental care is hampered by multiple barriers. These include lack of dental insurance or ability to pay, isolated or difficult location, language, lack of providers, and lack of cultural competency among providers (6), as well as other barriers related to the dental care delivery system. Modfidi et al. (7) described barriers identified by carers of Medicaid-insured children during use of dental services. Carers from some racial and ethnic groups described excessive waiting times, demeaning interactions with front office staff and negative interactions with dentists.

Barriers to accessing preventive dental care can also be individual, social or cultural, for example, educational level, perceived need, health literacy level, and fear (8). Culturally influenced factors that

affect dental care utilization include behaviors, beliefs, attitudes, and values, such as diet, infant feeding practices, care of primary teeth, concern for oral health, and dental knowledge. For example, belonging to a group in which preventive oral health is not the norm or belonging to a population in which a condition such as tooth decay is endemic and may not be defined as an illness (9) are ways in which cultural issues can affect oral care.

Culture, in this context, is defined as the shared system of values, beliefs, traditions, behavior, verbal and non-verbal patterns of communication that hold a group of people together and distinguish them from other groups (10, 11). Studies in other countries show that cultural beliefs regarding health and disease can influence accessing dental care. For example, in China, the existence of the traditional Chinese health care provider, is congruent with the holistic view, where the oral cavity is an integral part of the whole body. In this cultural context, home remedy would be the first modality for dental disease management and 'professional' treatment from dentists would be delayed or avoided unless the home remedy was ineffective (12). The concept of prevention is also culturally influenced. Not all groups believe that people can control in any way future events, which conflicts with the idea of acting now, in the present, to avoid or reduce possible undesirable outcomes. If carers are not predisposed to introduce their young child to non-urgent preventive dental care because of cultural norms and beliefs, solutions which address the issue of access for children aged 1–5 years solely by modifying the dental care delivery system may not be successful.

There is little research on ethnic minority groups in the United States and the possible influence of their cultural practices and beliefs on access to preventive dental care, especially for very young children. Therefore, this research was undertaken. The investigation focused on African-American, Chinese, Filipino and Latino carers. African-Americans and Latinos are the largest minority groups in the USA. California had a population of 33.8 million at the 2000 census. After Latinos and African-Americans, Chinese, and Filipinos comprised the largest minority populations in California, at 2.9% and 2.7% of the total population (13). This study aimed to explore if, what and how cultural factors affected access to preventive oral health care among these four ethnic/racial groups.

Methods

A qualitative research methodology, focus groups, was used to ascertain carer beliefs, practices and experiences, related to accessing preventive oral health care for children between 1 and 5 years of age. This method of systematic research based on interview techniques is especially useful when exploring new topics or developing a deeper understanding of the process – the how and the why – of specific behaviors (14–17). A small number of participants are selected for their knowledge or experiences relevant to the topic under consideration, in this case, oral healthcare beliefs and experiences of carers of young children. Several group meetings, each comprised of different people, are usually held in order to insure that the full range of opinions and experiences are expressed, and that data saturation has occurred, i.e. new data no longer arise.

During focus group sessions, participants are asked, in as conversational a fashion as possible, to describe their experiences or to discuss their knowledge and opinions on the topics of interest. A small set of pre-selected topics or questions are presented by the group's facilitator. These are chosen on the basis of the researcher's knowledge or experience of the issues under study, and are presented to each group in the form of open-ended questions. Initial questions are followed up using a 'tell me more about ...' technique for eliciting further detail, along with 'what, who, when, where, why, how' probing questions. Discussion between the respondents is encouraged rather than a question-answer format between respondent and facilitator. The main aim is to uncover the degree of consensus in the opinions and experiences of participants in the group as well as a full range of viewpoints, experiences, unusual circumstances, and reasons for dissent from the consensus. In this study, carers were asked to recount their own experiences with seeking or having dental care, their beliefs and knowledge about teeth and oral care for young children, and their preferences with respect to services.

Community Advisory Boards

Prior to conducting the focus groups, a Community Advisory Board (CAB) was convened for each ethnic/racial group. As the preliminary research activities progressed, the CABs became an invaluable and integral part of the research process. Composed of community leaders in the childcare, social service and healthcare fields, each advisory

group provided insight into, expertise and experience relating to culturally appropriate recruitment strategies, input on research questions, translations and other materials, and gave feedback regarding the research results and suggestions for practical applications.

Population sample

When considerable variation in response can be expected, research design techniques used in quantitative research become appropriate. Younger carers may encounter different barriers to care because of differences in beliefs, decision-making strategies, past experiences and present opportunities compared with older carers. US-born and non-US-born carers can be expected to have different experiences and beliefs. Hence, as displayed in Table 1, the sampling framework adopted in this study was complex. It aimed, first, at holding separate focus group sessions for each ethnic/racial group and then within each ethnic group, stratifying participants into distinct age groups. When appropriate, separate sessions were held for US and non-US-born participants.

Eligible participants thus had to be: (i) primary carers of a child between 1 and 5 years of age; (ii) self-identified as African-American, Chinese, Filipino or Latino; and (iii) age 18 years and older. Participants who met these criteria were then classified by age (≤ 44 years of age versus ≥ 45 years old) and place of birth (US-born versus non-US-born). Economic status, education, religion, and duration of stay in the US, other possibly important factors affecting carer perceptions and responses to oral health issues, were allowed to vary freely. Prior to initiation, the study received approval by the University of California, San Francisco's Institutional Review Board.

Recruitment and focus group procedures

All recruitment activities, screening, focus group sessions, transcriptions and translations were con-

ducted by the project sub-contractor, Polaris Research and Development, Inc. Polaris is an organization experienced in conducting a wide variety of behavioral science research, program design, development and evaluation, training and technical assistance for the public and private sectors. Polaris specializes in accessing and working with ethnic/racial minority communities. Polaris did not perform the data analysis. Once transcripts of the focus group meetings were prepared and checked for completeness and accuracy, all data were given to the research team which then conducted the analysis.

Participants in the focus groups were recruited by language-appropriate flyers posted in community-based organizations providing health care, child care, and other services. Other recruitment sites included laundromats, beauty parlors, barbershops, grocery stores, libraries, and churches. Articles and advertisements were printed in language-appropriate neighborhood newspapers. Recruitment materials listed a telephone number which potential participants could call to be screened for study eligibility.

Focus group sessions, each lasting 1–2 h, were held in community locations. Child care and food were provided. Each participant was provided \$50 at focus group completion along with a list of community dental resources and oral hygiene supplies. This sum was approved by the CABs who felt that it was sufficient to compensate people for their time, transportation costs, and willingness to assist, without being coercive.

Each focus group meeting was conducted by a facilitator of the same ethnic/racial group as the participants, and was conducted in the language participants preferred. Each facilitator worked with an assistant who insured that the necessary paperwork was complete. One of the project investigators was present at each focus group session. Consent forms and demographic questionnaires were completed prior to starting the focus group sessions.

Table 1. Number of focus groups (FG) and FG participants (*n*) by age, place of birth and race/ethnicity

Age	Place of birth	Race/ethnicity			
		African-American no. FG (<i>n</i>)	Chinese no. FG (<i>n</i>)	Filipino no. FG (<i>n</i>)	Latino no. FG (<i>n</i>)
≤ 44 years	US-born	2 (23)	2 (11)	2 (16)	2 (11)
	Non-US-born	–	2 (24)	2 (13)	2 (18)
≥ 45 years	US-born	2 (13)	–	–	–
	Non-US-born	–	2 (22)	2 (12)	2 (14)
Total FG	22 (177)	4 (36)	6 (57)	6 (41)	6 (43)

Table 2. Interview guide

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1. When you were a child, who made dental care decisions (e.g. when to go to the dentist) in your family?
 2. Now that you are a carer of a child up to 5 years of age, who makes the dental care decisions?
(e.g. when to go to the dentist)?
 3. Are there other people or things that influenced your dental care decisions?
 4. What have been some of your personal experiences going to the dentist?
 5. How have your experience(s) influenced your decision to take your youngest child to the dentist?
 6. How do you feel about your child's first set of teeth?
 7. What is the purpose of the first set of teeth?
 8. Are there things that you know of that can prevent your child from getting cavities?
 9. When do you feel is the best time to take your youngest child to the dentist?
 10. If the recommendation for the first full check of the mouth, teeth, and gums is age one, what health professional would you feel most comfortable taking your child to for this checkup?
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Focus group questions, shown in Table 2, were developed based on the research team's experiences and observations of diverse carers of 1- to 5-year-old children receiving services at several county-funded dental clinics and a review of scientific literature on oral health, culture, and access.

Data collection

Data consisted of the verbal responses of carer participants to the focus group questions. Each session was audio-taped while the assistant took notes and observed the participants. Each session was immediately followed by a de-briefing between the research personnel, facilitator and assistant. These sessions identified questions that were difficult for respondents or that generated lots of comment, new knowledge presented, and an initial cataloging of the range of opinions present and degree of consensus present within each group.

Tapes from the Spanish-speaking focus groups were transcribed in Spanish and then translated into English. Tapes from the Cantonese (Chinese) and Tagalog (Filipino) language focus groups were directly translated into English text by the transcriber.

Data analysis

A variety of standard techniques for analyzing qualitative data have been developed (18–20). Text-based qualitative data analysis is an iterative process that involves reading and re-reading transcripts to reveal successively more abstract, fine-grained ideas about domains of interest or themes. Initially, domains of interest or themes are those contained within the research questions themselves but after each reading these expand to include fine-grained distinctions within a particular theme or to encompass ideas not previously encountered. This discovery of new ideas or unexpected associations between factors is a major strength of qualitative

research. Codes are developed to identify the basic domains or themes and are attached to the text in order to facilitate search-and-retrieval. Coding and search/retrieval often uses a software package to assist these processes. In this study, analysis was undertaken in three phases.

Phase 1

Initial coding and themes were developed by a single consultant reviewing all English transcripts using Atlas.ti[®], a qualitative data management and analysis software (21). Following initial coding of the entire data set, the study team reviewed key results, categorizing preliminary findings and providing questions for additional analysis, including within-group analysis. Data were then stratified by participant's age, country of origin, and major ethnic group, with each subset examined for theme and codes. This process of alternating disaggregated and whole-group analysis was repeated several times until all underlying research questions had been addressed.

Phase 2

African-American, Latino, Chinese, and Filipino consultants, independently reviewed the data for their specific ethnic group. Each consultant was a graduate-trained public health professional. The reviewers systematically worked through each tape and transcript, identifying statements, ideas, or underlying concepts offered by participants and confirming initial codes. This phase not only provided confirmation and commentary on the basic results but also comprised an indication of validity of findings through an essential step in qualitative research known as 'member checks,' where a member of the same group as the participants reviews the data (18, 19).

Each consultant had been trained in and was familiar with Airhihenbuwa's PEN-3 model (22), a

conceptual framework that has been used in the development, implementation, and evaluation of health promotion programs throughout the world. This model, a useful variant and extension of the Health Belief Model that underlies so many public health education, prevention and intervention programs, specifically incorporates cultural codes and meanings in its design. Although Airhihenuwa's model did not explicitly guide this research, it proved to be a highly compatible approach that facilitated and insured examination of the focus group data in a culturally sensitive and appropriate manner. Inter-rater reliability between the consultants was established by initial training in dental issues and the intent of the study and by a mid-analysis de-briefing, problem-identification/resolving session. Once the analysis of each of the four cultural groups was complete, the four independent sets of results were reviewed together, searching for commonalities and differences.

Phase 3

The research team then reviewed all the focus group transcripts, the results of the Atlas.ti[®] coding and the independent consultants' analysis. The team then integrated the results and observations. The major findings are reported here.

Results

Study records show that 934 people contacted Polaris and asked about participation in the study. Of these, a total of 226 (24%) agreed and were screened. Of those screened, 206 (91%) were eligible and were recruited to the study. From this pool of eligibles, a total of 177 people (86%) actually attended and participated in the focus group discussions.

Twenty-two focus groups were conducted, as shown in Table 1. The original study design planned for focus groups to be conducted with older US-born carers in all ethnic groups. The study was unable to recruit enough participants for older US-born carers in the Latino, Chinese, and Filipino groups in the allotted time. Therefore, those categories were eliminated from the study. The number of participants for each focus group ranged from five to 12, with a mean of eight participants per group.

The majority of participants, 84% ($n = 148$), were female carers. Two-thirds of participants ($n = 116$) were aged ≤ 44 years and one-third

were older. Non-US-born participants outnumbered the US-born, 103 (58%) to 74 (42%). All participants were carers of a child aged 1–5 years. Of these children, 108 (61%) were covered by public-funded health insurance for low-income children, 38 (21%) had private health insurance, 16 (9%) had some other type of insurance coverage, six (3%) had no health insurance and nine (5%) carers declined information.

Themes emerged that were common to participants in all focus group sessions regardless of ethnicity, age, and acculturation. These themes are presented here along with other observations that more commonly occurred within certain groups such as immigrant carers or younger carers. The quotations provided reflect typical responses from carers.

Beliefs affecting access

Beliefs about the first set of teeth

Most carers in these focus groups were not aware of the long-term importance of primary teeth. Carers' knowledge that primary teeth would fall out seemed to validate for them that these teeth did not have long-term importance. This belief was articulated in most focus groups across ethnicity, age, and immigrant status. The notion that primary teeth will 'just fall out anyway' was widely shared and contributed to the belief that preventive care was not a priority for primary teeth. The majority of carers made no connection between the presence of caries in the primary teeth and caries in the permanent teeth. In fact, the opposite belief was more frequently articulated, that even if there were cavities in the primary teeth, those teeth would fall out, giving a 'second chance.' Additionally, carers had difficulty describing functions of primary teeth other than for eating.

I have five, four boys and one girl, and that girl's front teeth came out with cavities and I didn't pay too much attention I just said well, they'll fall out soon and the other ones will come out, and I didn't pay a lot of attention, and when they came out again, they had cavities, they came out black already and I thought, how strange, the other ones fell out already... (Older immigrant Latino female carer)

Differences in attitude regarding a child's first oral health check-up

While general health care for young children was an accepted priority, some carers believed that

dental care was something separate and should only be accessed when there was an obvious problem. The concept of routine, preventive visits for teeth, similar to the medical well-child visit, was not widely articulated. This view was especially, but not exclusively, stated among older Chinese carers. These carers expressed the belief that personal preventive practices could render visits to the dentist unnecessary.

If people can take good care of their teeth by themselves, there is no need to see a dentist, but they should see a dentist once there are problems. (Older immigrant Chinese male carer)

Acceptability of receiving oral preventive care in the medical setting

When carers were asked which healthcare provider they would select for their child's oral health check-up at 1 year of age, a majority stated that they would choose their child's pediatrician. Carers expressed the notion that pediatricians were trained to assess the oral cavity and articulated the expectation that if there were any oral health problems present, the pediatrician would refer them to an appropriate dental provider. US-born carers were more likely than non-US-born carers to state that they would feel comfortable with a pediatrician performing an oral health assessment, as were younger carers compared with older carers.

Her doctor, her physician...I trust him and I feel comfortable with him. And then if there was something wrong and he recommended a dentist then I would go to a dentist after. But I ask for his opinion first because one is like, small to just choose a dentist. There's a lot of dentists that don't take one year olds. A lot. Most don't take them. (Younger US-born Latino female carer)

Practices affecting access

Extended family involved in healthcare decisions

Mothers from all groups participating in this study most often took the lead and generally were the decision makers regarding oral health care for their children. However, fathers, grandparents, aunts, and uncles and other family members are also involved in deciding when to take a child to the dentist and which one is selected to be the provider.

The wisdom of elders is highly respected among all four ethnic groups in this study. When an elder (usually a grandparent) is the primary carer for a young child, decisions surrounding health care, including oral health, rest with the elder carer, even when the parent is present. Additionally, many adults rely on an informal network of friends and family to recommend particular dentists.

Family members, especially grandparents, exerted a wide influence on accessing dental care, ranging from non-parent carers making dental appointments and selecting providers, to facilitating access by reminding parents to schedule dental appointments. However, some carers described receiving confusing or contradictory advice from family members regarding dental care. For example, some relatives or spouses discouraged dental care for young children or questioned preventive practices.

I want to add something. When my kids start to have tooth decay, I usually ask for advice from my relatives. They always say that bad teeth would fall off by themselves and extraction would not be needed. I really cannot make up my mind as to whether I should take my kids to a dentist or not. (Younger immigrant Chinese female carer)

Experiences affecting access: culture of dentistry

Fear resulting from personal experience

Caregivers' personal experiences with dental care affected their orientation toward and enthusiasm for dental care for young children. Most participants in these focus groups described negative experiences when receiving their own dental care, mostly during treatment visits, but occasionally during preventive visits too.

Older and immigrant carers were most likely to express having negative dental experiences. Both older and younger immigrant Filipino carers described particularly painful experiences, and stated that extraction was the routine treatment they had encountered for dental problems in their home country. Older African-American carers mentioned historical institutionalized racism in the healthcare system along with their personal dental experiences.

Even though no specific questions were asked regarding dental fear, the issue was spontaneously mentioned in every focus group. Participants described their own fears associated with dental visits

and articulated how this impacted their attitudes toward their children's dental care. For some carers the fear resulting from previous experiences had been mitigated by subsequent positive experiences, but most were unable to separate past experiences from their child's potential experience.

Because one experience with a dentist, he didn't know what he was doing. And he was hurting my mouth. So what I did is politely go up, took his hand, moved it out the way, took the table, moved it out the way, took the little thing off and told him that I was leaving. So dentists are really scary for me so I can imagine how my grandkids feel... (Older US-born African-American female carer)

On the basis of previous experiences or beliefs, some carers articulated the expectation that even the first preventive visit for their child would be traumatic.

The first time I took my child to the dentist, he's OK cause he didn't know; I didn't tell him that it's painful. (Younger immigrant Filipino female carer)

Perceptions of dentists' clinical and business practices

Some non-US-born carers felt they had received questionable treatment from dentists in the USA. They expressed the perception that these dentists were unethical and either performed or suggested unnecessary treatment, had billed insurance for treatment not rendered, or were over-charging. All these perceptions could influence the decision to bring a child to the same environment.

This dentist told me that I have a lot of cavities, one, two, three, four, five. He said, he either put fillings on all or extract them. I just arrived and got worried. I just had a check up six months ago...I did not go back to him, I saw another dentist and he told me, "My daughter, among my patients today, you have the healthiest teeth." So my trust in dentist returned. So when I have to see a dentist now, I chose carefully because I know there are some dentists that are involved in scam activities so they can get money from insurance. (Younger immigrant Filipino female carer)

Discussion

The focus group method has several strengths as well as some limitations (14, 15, 17). Among the strengths is the ability to gauge degree of consensus of opinion and to discover previously unknown

beliefs or practices pertinent to understanding the topic of investigation. Despite this, generalizations to entire populations should not be made from the data generated by these focus groups. Every population group has variations in beliefs and practices by socioeconomic status, education, religion, etc. Those differences were not subject to analysis in this study. There were no focus group meetings with Caucasian participants so it is unknown whether similar issues would be revealed by those carers. As the study was conducted in San Francisco, results may be more valid for urban centers that have large numbers of immigrants as well as a relatively large number of dental practitioners. Results could be different in other cities, in areas with fewer migrant populations or dental resources, or be different in other geographic regions of the USA. Nevertheless, for these four ethnic/racial minority groups, important insights and cultural beliefs were identified, findings that were less likely to be uncovered in traditional written or multiple-choice surveys.

Findings across all groups

The similarities across African-American, Latino, Chinese, and Filipino groups as well as older/younger and US-born/non-US-born participants are as important as any differences identified between groups. For many participants across all groups, beliefs about the limited function and low importance of primary teeth, and carer fear resulting from their previous dental experiences acted as barriers to individual carers accessing early preventive oral health care for their young children.

Both Casamassimo (23) and Ng (24) have noted that some cultures place little value on primary teeth and that caries and early loss of the primary dentition is an accepted occurrence. A qualitative study of carers in Saipan, including Filipino carers, found that the low value attributed to baby teeth was an obstacle to developing effective prevention programs (25). In another qualitative study, Finnish carers of pre-school children made comments relating the lack of importance of the primary teeth, compared with general health (26). A quantitative survey of Vietnamese carers of pre-school children in Canada suggested a lack of parental belief in the importance of primary teeth (27). In a United Kingdom study, of mothers of pre-school children who regularly attended dental visits, only 47% expressed a preference for having a decayed primary tooth filled, while 28% preferred having the tooth extracted and 15% wanted the tooth left

alone (28). Interviews with immigrant Chinese parents of children under age 12 years needing dental care in New York City, showed that the majority of parents did not believe that baby teeth were as important as adult teeth, and this was one of the reasons they declined dental treatment for their children (29).

Fear has long been known to adversely affect dental utilization. In 1988, Milgrom et al. (30) surveyed residents of Seattle, a large American city, and found that women were 1.8 times more likely to report high dental fear than males, that there were no racial/ethnic differences in levels of fear and that persons with high fear utilized dental services less than persons with low fear. Recent studies continue to show that dental anxiety negatively influences regular dental visits among dentate adults (31).

In our study, carers expressed their own fear of dental treatment and many were reluctant to expose their children to possible pain and trauma in the dental setting. These results confirm the findings of Milgrom et al. (32), in which maternal fear was a factor in not accessing routine dental care for their children. In Northern Ireland, there was an association between maternal anxiety and dental registration, with pre-school children of mothers who were relaxed about dental treatment more likely to be registered for care (33). In a recent study of African-American and White carers of Medicaid-insured children, African-American carers who had not accessed preventive dental services for their child expressed high levels of personal fear (34).

Respondents in this study preferred to have oral health assessments on their young child performed in the more familiar setting of the medical office. Carers expected a level of competency in the doctor's ability to assess and diagnose oral pathology, and provide proper referral to the dentist that may not currently exist in the majority of practicing physicians. Programs are being developed at the local and state levels to train medical staff in ECC assessment and management. North Carolina has implemented the 'Into the Mouths of Babes' program, based in physician's offices (35). Several pediatric residency programs are incorporating oral health training into their curriculums (36).

Differences between groups

The influence of cultural beliefs is most evident among non-US-born Chinese. Older immigrant Chinese carers articulated beliefs that preventive

self-practices should control disease. They would not seek care unless a problem became obvious. These beliefs preclude accessing preventive care in the western model. Chinese immigrant elders utilize dental services at low rates (37). Kwan and Williams (38) in their study of Chinese residing in Yorkshire, England, found that adult and elderly participants did not believe dental advice and treatment could prevent disease. The dentist was seen as a repairer. Furthermore, these traditional health beliefs appeared to be held by the Chinese worldwide, particularly among the adults and the elderly. Any education targeting these carers must work within the framework of their existing health belief system.

Immigrant status played a role in several areas. US-born carers were more likely to bring their child to the dentist at an earlier age for a preventive visit and receive support from their family sphere for this activity. Younger US-born Chinese carers, were able to ignore the divergent health beliefs of their elders regarding preventive dental care, and so were able to take their young children to a dentist for preventive care.

Non-US-born carers were more likely to wait for their child to be older to take him/her to the dentist, probably based on their own experience. Immigrant status was also a factor in perception of experiences with dishonest or unethical dentists.

Conclusions and recommendations

There are similarities across all four racial/ethnic groups in how beliefs and experiences influence accessing dental care for young children. If carers are not predisposed to introduce their young child to non-urgent preventive dental care because of cultural norms and beliefs, solutions which address the issue of access for children ages 1–5 years *solely* by modifying the dental care delivery system may not be successful. Culture-specific health beliefs and carers' immigrant status created barriers to accessing preventive care for children that were not present in their US-born peers.

Educational interventions to change attitudes or beliefs that create barriers to access should not only target the primary carer or parent. The role of the extended family in influencing decisions must also be considered when discussing potential barriers or facilitators to accessing preventive oral health care.

Conducting preventive activities for young children in different settings besides the traditional

dental office could begin to mitigate carer experiences by removing negative associations with their own previous dental treatment. Such settings could include day care facilities and medical offices, which carers in this study already preferred as the location for oral health assessment of their young child. Dental provider empathy and acknowledgment for carers' previous experiences and educating carers about current preventive dental techniques that minimize discomfort, could also begin to break the cycle of trauma resulting in fear.

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 healthcare services. These results provide the basis for further study to validate these findings in larger, representative groups through quantitative methods.

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