Perspectives of Maryland women regarding oral health during pregnancy and early childhood

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Abstract

Objectives: The objective of this qualitative study was to obtain information on low-income women's knowledge, beliefs, and practices regarding oral heath during pregnancy and for infant care.
Methods: A professional focus group moderator conducted four focus groups ($n = 34$) among low-income women in Maryland who were either pregnant or had children aged two and younger. Purposeful sampling and qualitative content analysis were employed.
Results: Women were reasonably well informed about oral health practices for themselves and their children; however, important myths and misperceptions were common. Several themes emerged; a central one being that most women had not received oral health information in time to apply it according to recommended practice.
Conclusions: The focus groups with low-income women provided rich and insightful information and implications for future communication strategies to help prevent dental diseases among pregnant women and their infants.

Introduction

Awareness and research have increased regarding the importance of oral health during pregnancy and early childhood. Evidence of a causal relationship between periodontal disease in pregnant women and adverse birth outcomes is inconclusive. The safety and importance of dental care during pregnancy, however, is confirmed. The impact of a mother's oral health on her child's oral health also has been documented. Dental caries and periodontal disease in women of childbearing age are prevalent, and dental care utilization among pregnant women is low (1).

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Significant disparities exist in oral health status and access to dental care for many US populations. Eighty percent of tooth decay is found in 25 percent of children, mostly from low-income backgrounds (2). Children from low-income backgrounds and minority groups experience the highest rates of dental disease but have the lowest rates of accessing dental care (3). In 2004, children in low-income homes were half as likely to receive a dental visit as those in higher income homes, despite having a higher caries experience (4). Although children enrolled in Medicaid, a US entitlement program that provides health care for low-income and other eligible individuals, are entitled to dental services; use of these services is low for this population (5).

A study of Pregnancy Risk Assessment Monitoring System data in four states found that women's reports of accessing dental care during pregnancy ranged from 22.7 percent to 34.7 percent. Most respondents did not access dental care during pregnancy, and among women who reported having dental problems, one-half did not access care (6). Studies have found that periodontal disease can be detected in 37–46 percent of women of childbearing age, and can be found in up to 30 percent of pregnant women (7). Low-income women,

women enrolled in Medicaid, and women who belong to racial or ethnic minorities are half as likely to access oral health care during pregnancy compared with women who have higher incomes, women with private insurance, and women who are white (8). Some studies indicate that improving oral health during pregnancy may reduce adverse birth outcomes and associated costs, and may decrease perinatal morbidity and mortality (9). Additionally, improving women's oral health during pregnancy may decrease costs associated with treatment for early childhood caries.

Numerous barriers affect women's awareness and knowledge of appropriate oral health care and practices as well as impact women's ability to access dental care for themselves and their children. These include lack of insurance (public or private), lack of awareness of the importance of oral health to overall health, provider's reluctance to refer or treat women during pregnancy, challenges related to transportation, and arranging for time off from work to access care, among others (10). In the state of Maryland, dental care is provided by Medicaid for children up to age 21 as well as for pregnant women. Once a woman gives birth, she is no longer eligible for dental care.

Given the importance of accessing dental care during pregnancy and the role of a mother's oral health in that of her children, we conducted a series of focus groups with low-income pregnant women and new mothers to gather information on their oral health knowledge and behaviors, to identify barriers to accessing care, and to obtain their recommendations for improving efforts to communicate oral health information to this population.

Methods

The focus groups were conducted in 2009 in urban and rural locations in Maryland with low-income pregnant women and mothers with children aged 2 and younger. For the purposes of this study, "low-income" participants were designated as such by their eligibility to participate in publicly funded programs sponsored by the recruiting agencies such as the Healthy Start program, or health programs for women insured by Medicaid. This study was not reviewed by an ethics board or an institutional review board (IRB) because these focus groups were conducted under the auspice of a nonprofit organization that does not have an internal IRB. However, the study was conducted in an ethical manner in consultation with experienced focus group facilitators. One team member worked closely with community-based organizations and health departments to recruit participants who were briefed on the study's objectives and on their role in the study (both during the recruitment phase and immediately prior to the conduct of the focus group). Employees of the hosting organizations recruited women by inviting those who were currently or had formerly participated in programs offered by the organizations. However, for one focus group, women were recruited from a list of those who had declined services from the health department, in an attempt to recruit women who had not been exposed to oral health information. Each participant gave verbal consent to participate before the session. During the sessions, only first names were used. Participants were provided a light meal and each received a gift card for a local store in the amount of $35.00. Urban groups were held at a Healthy Start program and a church. Rural groups were held at county health departments. Healthy Start and local health departments provide services for income-eligible women. Criteria for participation included being pregnant or having a child aged two or younger. Each session lasted 90 minutes and was conducted by a professional focus group moderator with extensive experience working with low-income participants. All sessions were audiotaped and back-up notes were taken by a team member. Of the 34 participants, 22 were African-American and 12 were White people. Between 7 and 11 women participated in each session.

A semi-structured focus group discussion guide was developed by the team and modified slightly after the initial focus group. Topics included: what women know and do to promote health during pregnancy; past and current use of the dental care system; current oral health practices for their children; personal oral health practices; what women know about preventing tooth decay; and reactions to brochures and messages about oral health, including women's suggestions for promoting oral health for mothers and their infants. Following the focus groups, participants were debriefed on the session with an aim to correct any misinformation expressed, and were provided with toothbrushes and toothpastes for themselves and their children. The focus group moderator drafted a summary report based on the recorded transcription and notes taken by a team member and using selected quotes from participants. Team members then analyzed the summary and determined that there were several themes evident throughout the four focus groups.

Results

Theme 1: oral health knowledge

Many participants had been exposed previously to oral health information and exhibited a fair degree of knowledge about oral health care for themselves and their children. For example, many knew not to put an infant to bed with a bottle, the need to clean an infant's mouth after feeding, and the importance of limiting sugar intake. Some women were aware of the American Academy of Pediatric Dentistry recommendation to take their infant to the dentist by age one. However, the advice they had received from health professionals (dental and otherwise) varied, and many

women had taken their infant to the dentist much later than age one.

Despite previous exposure to information, there were numerous myths and misperceptions about appropriate oral health practices. Examples of common comments include:

> I give my kids Juicy Juice instead of Kool-Aid because it has less sugar. If I give my kids Kool-Aid, I put extra water in it so it's less sweet.
>
> When I was pregnant, my teeth hurt so bad, during all my pregnancies. So I actually went to the dentist at eight months . . . it was terrible . . . after I had my son, I had two teeth pulled because all of the calcium was gone.
>
> This is hard [limiting sweets] because my daughter will eat a whole honey bun by herself, but it's OK because she drinks water with it.

Women were mostly unaware of the role and importance of fluoride in caries prevention. A few knew that it was important in preventing dental caries, but they were confused about the appropriate age for and amount of exposure to fluoride toothpaste and water. One participant asked:

> Fluoride tablets . . . when I was growing up, they would give me a chewable tablet that turned your mouth pink or red and showed how much decay you had. Is that what that was?

When asked if they used tap water, participants, especially in urban areas, often felt very strongly that tap water should be avoided due to contaminants such as lead. Comments included:

> I don't want [to drink] this dirty city water. We live in the projects; we probably have the worst water.
>
> I've always heard that [our] water is really bad for bacteria. It might have fluoride, but it has other stuff that is really bad. It has chlorine and bacteria and they tell you to boil it.
>
> Water stinks to me. I can only drink it if I add sugar, and then I might as well add Kool-Aid.

Many participants noted that they had not received information early enough to enact it appropriately. For example, as one mother commented, "*My daughter had cavities because of drinking juice. The doctor said the juice gets down in the teeth and decays them- and you can't see them so you don't know. They're going to put caps on some teeth and said if they can save the front teeth, they will try. I never knew . . .* " This theme also emerged related to the timing of the first dental visit; many women were unaware of the age one recommendation in time to arrange a visit for their infant by the first year of age.

Theme 2: dental care experiences

It was common for women to have had negative experiences accessing dental care, both as children and as adults. Women often recounted personal experiences with dental treatment that involved pain and fear. Personal experiences appeared to be an important deterrent, along with cost, to obtaining consistent, if any, dental care between childhood and adulthood. Most women had gone to the dentist as children, but many had not been since childhood. Few women knew that it was important to see the dentist during pregnancy, and confusion over the safety of accessing dental care during pregnancy had led some women to avoid treatment during the perinatal period. Common themes included:

> I am Petrified of going to the dentist. I hate going and I've had really bad experiences.
>
> We didn't have dental insurance so I [only] went three times all through school.
>
> I haven't been since middle school . . . I probably should have gone, but I just didn't. We didn't have insurance and it's hard to pay for . . . I only ever had one job where I had insurance. It's hard to pay for until now-until I got the insurance [Medicaid] card.
>
> I remember going about [age] nine or ten, and it was the worst experience ever. After that, I probably didn't go until I was like almost 20. I just didn't want to go back after that, because they pulled my teeth.

Many of the women told stories about having teeth pulled or needing teeth pulled currently, suggesting that they had not received dental care even for specific problems. They often described these dental problems in a very matter-of-fact manner, even when commenting about losing their permanent teeth. Comments included:

> I have six teeth that need to be fixed right now.
>
> I'm waiting for [my teeth] to get pulled so I can get dentures. I had some pulled when I was younger because of cavities. I tried to open a water bottle with my teeth and broke my two front teeth, so I want to get my plates in.

Women's experiences in accessing care for their children varied. Some participants noted that fear of what would happen to their infant if separated from them in the exam room was a concern. Other comments included:

> It's important for the dentist to talk to the parent and let them know what to expect in case they don't know.
>
> Like most people, it's hard to find someone who will take medical cards.

Most urban mothers did have positive things to say about corporate dental clinics. Participants appreciated the convenience of these practices, and were pleased with their experiences there, both in their role as parents arranging appointments and receiving information on caring for their child's teeth as well as with the care provided to their children. For example:

> They came to Healthy Start and gave toothbrushes to the kids. And for some parents who didn't have a dentist, the Kool Smiles lady called and set up an appointment.

Another mentioned that "*It's a real kid-friendly environment, so they feel comfortable back there with other kids, without their parents.*"

Theme 3: women's current oral health practices

Toothbrushing was the most common oral health practice mentioned. Other oral hygiene practices were mentioned such as flossing, using mouthwash or peroxide, but infrequently. Flossing was mentioned only after the moderator specifically asked about the practice. Comments included:

I try to brush my teeth but sometimes I'm too tired.

I spend too much time on my kids' teeth to floss mine.

Theme 4: responses to brochures and other oral health messages

After discussing what they had read was important for taking care of babies' mouths, women looked at one or both of two brochures about oral health that were presented as well as short messages about oral health topics. Some women asked questions after reading the brochures or made comments that suggested the brochures had enhanced their oral health knowledge. For example, women said:

Periodontal disease – I haven't heard of it before. What is it?

What's this word [periodontal]? [I also read somewhere] if you drink from other people it can cause gingivitis.

I've noticed when I brush at night my gums are sore. If you floss and they bleed, that means you need to floss more. So I thought the blood was from flossing too much, now I see that maybe my gums bleed because I am pregnant.

All of the information [in the message] is new. The third one [chewing food and passing it to babies] is disgusting.

Some women were aware that they can transmit harmful bacteria to babies. However, there were questions and comments about this concept.

That can't be the only way (to cause tooth decay).

Babies can put toys in their mouth too (intimating that there are other avenues of acquiring bacteria).

A woman noted that, "my daughter's pediatrician said it was ok (for me) to chew up her food because of building her immune system, but I never thought it was ok to do that."

Many participants indicated that their primary source of health information was not print materials, but rather Internet searches, advice from family and friends, and participation in social and health programs. Women suggested that outreach strategies to educate pregnant women and mothers use e-mail, advertisements sent by text message to cell phones, blogs, and social media such as Facebook. Women suggested that information be incorporated in school materials that children bring home, along with being posted in places where parents may notice information such as at retail stores. The need to develop resources that are tailored to audiences with limited reading skills was reinforced. Women would benefit from short and very visual media. Participants discussed the need for brochures to utilize pictures and diagrams to convey content without text, and suggested that print materials include hands-on, illustrated instructions.

Discussion

The importance of maintaining oral health during the preconception period is critical. However, most participants described a large gap in their inclination and ability to access care between childhood and adulthood. While insurance and cost of treatment were factors, women were also unaware of the importance of maintaining oral health during preconception and pregnancy. Limited, inconsistent use of dental care may contribute to low awareness of the importance of oral health and appropriate oral hygiene practices for women and their children. It is important to note that in Maryland, dental care is available through Medicaid for children through age 20 as well as for pregnant women. Once a woman gives birth, she is no long eligible for dental care. It is challenging to convince women that oral health is important when they know they are not eligible to continue to receive dental care through Medicaid after pregnancy. Thus, it is of even greater importance that women have the knowledge and adopt the necessary practices to prevent and control oral diseases.

Women need to receive information earlier. Many participants had not received oral health information as early as needed to take appropriate action before and during their pregnancies, or with their infants. Often, women did not receive information on how to promote oral health until seeking care for dental problems or pain. It was evident that women are willing to implement the oral health advice they receive, but often are not exposed to information early enough to do so.

Communication strategies must address underlying causes that inhibit women from seeking care. Many existing messages and materials are prescriptive in nature; they provide specific instructions on when and how to access care, but they do not address underlying fears and concerns that may play a role in seeking care such as some mothers' fear of being separated from her child during the dental visit, or her own fear of dental care.

Plain language, a cornerstone for increasing oral health literacy, must be used to explain concepts. Specific and easily understood examples of practices to avoid and promote should be incorporated in health messages. Additionally, conflicting messages must be addressed. For example, messages promoting consumption of tap water for its fluoride content created confusion and were ineffective, because many participants believed that tap water is to be avoided due to its lead content. Marketing messages for some food and beverage

products also created confusion over whether "all natural" products were always acceptable choices, or should be limited because of sugar content.

Limitations and recommendations

Many of these participants had been exposed to oral health information through their participation in the recruiting agencies' health and social programs. Therefore, our sample likely exhibited a higher level of oral health knowledge than other women from similar economic and social backgrounds possess. Future studies would benefit from recruiting women who have not been enrolled in health or social programs, but have only been exposed to health messages through traditional means. Additionally, many participants self-selected to participate in programs offered by the hosting organizations; therefore, they may have been more highly motivated to seek out and adopt health, including oral health, information, and services. It is also possible that women who could demonstrate higher levels of knowledge about oral health were more heavily recruited for participation by the partnering organizations.

Overall, most participants had basic knowledge of maintaining oral health for themselves and their children. However, there was a great variance and confusion related to specific behaviors and practices. Participants appeared to be highly motivated to implement recommended health behaviors for their children, but they often had not received accurate information early enough to implement it sufficiently. This study revealed that even women who had been exposed to oral health information exhibit important knowledge gaps that are reflected in their oral health practices. Women from similar backgrounds without exposure to oral health information may be less informed and less likely to follow recommended practices. The focus groups provided candid, in-depth information from mothers of young children and pregnant women concerning oral health during pregnancy and for their infants. Their responses indicate a need for creative, consistent, and comprehensive public health communication strategies that promote oral health to at-risk women in accessible and timely manners.

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