Barriers to Utilization of Dental Services during Pregnancy: A Qualitative Analysis

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ABSTRACT

Purpose: Dental services during pregnancy can improve maternal oral health, reduce mother-child transmission of cariogenic bacteria, and create opportunities for anticipatory guidance. The purpose of this study was to understand why low-income women did or did not utilize dental services in a pilot program to promote dental visits during pregnancy in Klamath County, Ore.

Methods: Women were selected randomly from the pilot program. 51 women were asked to participate in semistructured telephone interviews regarding utilization of dental services during pregnancy. 45 women (88%) utilized dental services and 6 did not. Transcripts were content analyzed using a mixed method qualitative approach—grounded theory and stages of change model—to identify themes.

Results: Most women overcame stress or dentally related barriers to obtain care. Stressors included poor domestic relationships, personal finances, and employment. Dentally related factors included perception of dental experience, attitude toward dental providers, importance/valuing of oral health, perceived ability to pay for care, time constraints, and dental providers' and office staff attitudes toward clients.

Conclusions: Pregnancy stressors and dentally related issues were identified as barriers to utilizing dental services. Identifying barriers that prevent women from taking action to access dental care may provide essential information for enhancing programs to promote dental visits during pregnancy.

(J Dent Child 2009;76:46-52)

Received January 10, 2008; Last Revision May 16, 2008; Revision Accepted May 16, 2008.

KEYWORDS: ORAL HEALTH DISPARITIES, DENTAL SERVICES, UTILIZATION, PREGNANCY, MEDICAID

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Mothers who have a regular source of dental care are more likely to take their child to the dentist and to develop attitudes and behaviors that promote good dental health.[1,2] Acting on the link between mother's and children's oral health, Milgrom and colleagues have reported on the development of a pilot community program to promote care for pregnant women served by Medicaid in Klamath County, Ore.[3] According to this report, pregnant women in the program received home or Women Infant and Child center visits by a trained counselor and were assigned

a dental home under a dental managed care program. Emergency, preventive (topical fluoride, chlorhexidine rinse), and restorative care was provided. The evaluation reported that 56% of eligible women in this pilot program chose to use care (235/421). By contrast, in 2001 only 9% of pregnant women served by Medicaid in Oregon received care. The missed appointment rate was 9%.[3]

Overall, the percentage of pregnant women who utilize dental care is low (<50%).[4-7] While dental pain may compel pregnant women to seek dental care for routine, or health maintenance issues, pregnant women are much less likely to seek care if they don't get regular dental care prior to pregnancy.[8] Many women fail to see the importance of oral care during pregnancy, while others experience barriers to care,[9] such as not having dental coverage and access to care.

The purpose of this study was to understand why women in Klamath County in the Oregon pilot program did not use the dental services offered and to provide a basis for planning an expansion of the program in this and other counties in the future and thus address the needs of mothers and eventually their children.

METHODS

In 2006, Klamath County in rural southeast Oregon had a population of 66,438. The racial and ethnic profile of the county in 2006 was 91% Caucasian (9% were of Hispanic or Latino origin), 4% Native American or Native Alaskan, 1% Asian, less than 1% African American, and less than 1% Native Hawaiian or other Pacific Islander.[10] Approximately 3% reported two or more races.

SUBJECTS

In Klamath County, between February 2004 and January 2006, 503 pregnant women enrolled in Medicaid were identified and 421 women were eligible for services under the pilot community program.[3] Of these, 408 women were attempted to be contacted for this study. Selection criteria included women who had delivered their baby and were caring for it and had not moved out of Oregon. The women were divided into 4 strata based on dental utilization (used or not dental services) and parity status (primiparous vs multiparous). The names within each stratum were randomized and then individuals were contacted in order by telephone to obtain interviews. An interview guide was developed with a series of open-ended questions (Table 1) based on the existing literature.[5,8,9] The interviewer was instructed to call no less than 4 times in an attempt to reach the person. The interviews were conducted as part of an ongoing evaluation of the pilot program by the Klamath County Department of Public Health. The Institutional Review Board of the University of Washington, Seattle, WA, approved the evaluation protocol. A Klamath County Department of Public Health program staff member was trained to conduct the interviews over the phone. Subjects were offered a $10 incentive to participate. The interviews were audio-recorded, transcribed, and stripped of any identifying information. Transcripts were reviewed and checked against the audio files for accuracy.

DATA ANALYSIS PLAN

The purpose of the analysis was to identify barriers to dental visits guided by the stages of change model[11] that describes the propensity of a person to take action on a specific health problem. This model posits that a person changes behavior by passing through a defined sequence of distinct stages (Figure 1): precontemplation (not thinking about changing the behavior); contemplation (intending to change; weighing the "pros" and "cons"); preparation (planning to change); action (making health-relevant changes in the behavior); and maintenance (having made behavioral changes).[11] The importance of this model lies in the fact that strategies and activities to promote change may differ across stages. Individuals in different stages utilize different processes of change and decision making.[12]

The interview's content analysis was transcript based. Transcripts were reviewed and coded independently by 2 individuals prior to undergoing detailed analysis. Coding used both inductive (grounded theory approach)[13] and

Table 1. Semi-structured Telephone Interview Questions

Question
Tell me about your pregnancy.
What were some good/bad things about being pregnant?
Tell me about the stress in your life when you were pregnant.
Give me a number from 1 to 100 (100=the most stress you have ever had in your life; 1=the least). What stressed you the most?
How is this baby impacting/changing/influencing your life?
Tell me about your teeth.
What do you think baby's teeth will be like when (s)he gets older (teenage years)?
Tell me what it is like when you have gone to the dentist.
What could help you get to the dentist or keep you away?
Tell me about any concerns about the safety of dental care during pregnancy.

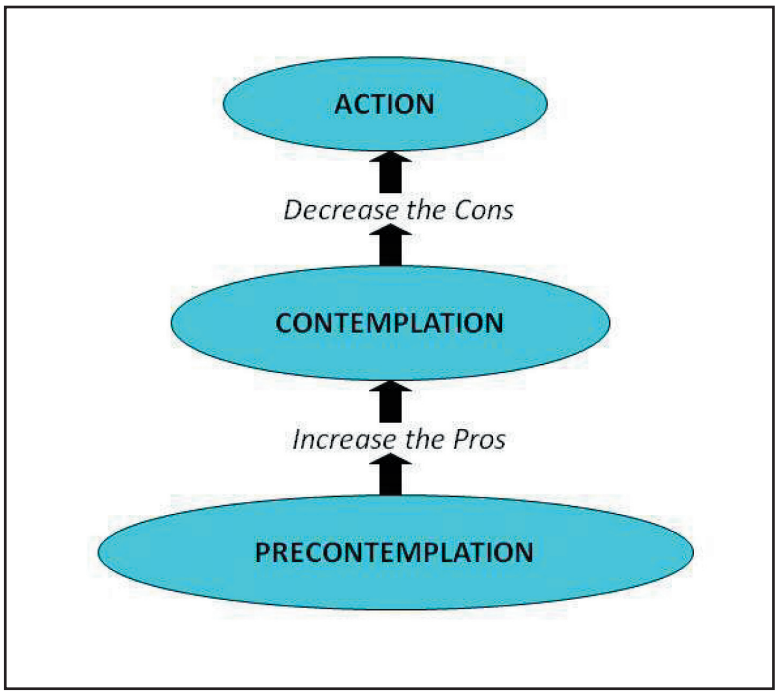

Figure. Stages of Change Model

theory-driven (based on the stages of change model) approaches.[14] Grounded theory was selected for the analysis so that data could be approached without preconceived notions and to ensure that the truth emerge from the data. Codes emerging from data were used to generate themes and subthemes. The a priori themes were based on the stages of change approach: precontemplation; contemplation; and action. After the coders had developed their coding schemes independently, their schemes were compared. Disagreement was resolved through discussion. After the coding scheme framework had been established, the transcripts were coded line by line. Both coders remained blind to the participant's group.

RESULTS

Of the 408 attempted contacts, 81% were unreachable (busy/no answer=145, disconnected=92, wrong number=50, call blocker=43, and deceased=1), 5 refused the interview, 11 were non-English speaking, and 1 was still pregnant. Sixty interviews were completed and transcribed. Nine were excluded from the study because: their transcripts didn't match the demographic data (n=3); the mothers were currently pregnant (4); they had miscarried (1); and their child was not living with them (1). Upon analysis of the transcript content, some misclassifications in the program data were identified where some women had utilized dental services during pregnancy that were not reflected in the original selection of interviewees. The adjusted response rate is shown in Table 3. Of the 51 women interviewed, 39 were Caucasian, 9 were Hispanic, 2 were Native American, and 1 was not identified. Most of the first-time (primiparous) mothers were younger than 25 years old, while 50% of the mothers who had given birth 2 or more times (multiparous) were younger than 25 years old. There were 45 women classified in the action stage and 6 women in the contemplation stage.

Two broad barriers to dental care utilization were identified: (1) stress; and (2) issues related to the dental care. Stress was caused by problems internal to the individual, including physical and emotional issues as well as external factors such as relationship issues, financial concerns, employment, and living condition/environmental factors. Dental factors also were divided into internal and external factors. Internal factors included perception of dental experiences, attitudes toward the dentist, perceived value of oral health, and understanding the importance of oral health. External factors included financial concerns, time constraints, logistics, and attitudes of the dentist and dental staff members toward clients.

STRESS-RELATED ISSUES

Stress was experienced by all the expectant mothers irrespective of whether or not they utilized the dental services offered. Internal causes had both physical (ie, the discomfort of hot weather) and emotional (ie, mood swings) determinants. Most, but not all, mothers were affected by the external factors of limited financial resources and difficulty in paying bills.

> "It seemed a little bit more stressful because you're worrying about what was going to happen when the baby was born, and if we could afford clothes and stuff and diapers and all that other stuff" (response from primiparous mother who utilized dental care).

In most cases, pregnancy strengthened the women's relationship with their spouses. If, however, the relationship was new or unstable, pregnancy added to the stress. Family and social support was needed.

> "I think (stress) was mainly brought on because my ex-husband kind of emotionally and physically abused me, and I was having a really hard time. He hurt me when I was pregnant with her, and he let his friends do things to me when I was pregnant with her. I was about probably 3½ or 4 months pregnant when I finally just left him and went and lived with my parents because he was smoking crystal meth and doing pot, and I was trying to get away from him" (response from primiparous mother who utilized dental care).

Most of the mothers who were in school or employed reported difficulties because of the need to manage school and work. Some also had difficulty with transportation, such as the lack of a car or a driving license or money for gas.

Table 2. Adjusted Response Rate of the Interviews

Categories of utilization by parity	Interview response rate			Adjusted response rate
	Completed interviews	Excluded interviews	Qualified interviews	
Utilizing primiparous (N=88)	16	2	14	16
Utilizing multiparous (N=111)	30	2	28	29
Nonutilizing primiparous (N=99)	7	2	5	2
Nonutilizing multiparous (N=110)	7	3	4	4
Total	**60**	**9**	**51**	**51**

> "We go to town as a family because gas is so expensive, and so that's one of those things [going to the dentist] that's got to be a family friendly time period" (response from primiparous mother who utilized dental care).

Relocation also brought about stress with the many problems associated with moving and finding new doctors and dentists.

DENTALLY RELATED ISSUES

Many internal factors related to dental care served as barriers to obtaining care ("cons"). Negative past dental experiences, anxiety associated with pain, and long waiting times in the dentist's office affected both those who utilized the care and those who did not.

> "The only thing that really, you know, gets on my nerves is you usually have to wait for like 2 hours until you're seen" (response from multiparous mother who did not utilize dental care).

Some of those who utilized the care reported previous positive experiences ("pros").

> "I actually like going to the dentist, because since I was a little girl I've been going to the dentist. They're always friendly and they're nice, so I guess that's why I like going to the dentist a lot" (response from primiparous mother who utilized dental care).

Only those who utilized care commented on their attitude toward the dentist. Most, particularly multiparous women, were satisfied, although some felt the dentist was not attentive to their concerns and that some dental staff members were unpleasant.

> "At the dentist that I'm currently supposed to be seeing, it's the receptionists in the front office. They're just extremely rude. I don't think they're completely honest, and they treat people who don't have private insurance, who are like on OHP or some other sort of assisted insurance, they treat them differently than they do their other patients" (response from primiparous mother who utilized dental care).

All the mothers who were interviewed made positive comments about the value of oral health, but based on different criteria. Those who did not use the care valued it because of its effect on appearance and symptoms, particularly pain. Those who did use the service provided greater acknowledgement of its health value for themselves and their children. They overcame fear and discomfort to access the service.

> "You're laying there with your mouth wide open, and you kind of get self-conscious that they have to look at your nasty teeth. But the more that I go to the dentist and get them cleaned, the less self-conscious I am. I'm more confident when I'm laying there with my mouth wide open" (response from primiparous mother who utilized dental care).

Dental care was paid for by Medicaid, and there was no out-of-pocket expense; the financial barrier identified was the cost associated with accessing the service. Financially related barriers (ie, costs of transportation, gas, child care, and opportunity costs) and time constraints (ie, time taken to visit the dentist and waiting times at the dentist) were encumbrances to care for women in both utilization categories.

> "…someone to come watch the kids when I have to be at the dentist because I used to do a lot of my appointments on my husband's lunch hour and when the kids were napping, but sometimes it takes a few hours" (response from multiparous mother who utilized dental care).

Most mothers who utilized the service reported satisfactory experiences when the dentists and office staff had positive and caring attitudes. When a dentist was not comfortable treating pregnant women, the patient felt uneasy and reluctant to proceed.

> "When it comes to dental work, I tried to get my teeth done during my pregnancy, but the dentist wanted me to sign this waiver that if anything happened to my baby during my delivery that he wouldn't be

responsible, and I wasn't comfortable with that because he really freaked me out" (response from multiparous mother who utilized dental care).

Most of the time, the patient perceived the dental professionals' competency through how the dentist communicated and related to the patient more than his/her clinical skills. The dental staff and its ability to communicate had a great influence on the success of the dental encounter.

> "The experience has been really good. I mean I like my dentist. She explains to me before she does anything, what she's going to do, and what she's going to use" (response from multiparous mother who utilized dental care).

DISCUSSION

A collaboration between the Klamath County Department of Public Health, Klamath Falls, Ore, dental managed care programs, and other community partners has developed an outreach program to encourage low-income pregnant women to utilize dental services and put strategies in place to improve maternal oral health, reduce transmission of cariogenic bacteria, and provide anticipatory guidance.[15] In this program, each of the women has a dental home for herself and for her new baby. Some women have taken advantage of the free dental services, while others have not. The purpose of this study was to understand factors influencing why eligible pregnant women in the Klamath population have or have not utilized the free dental care available and to identify barriers to care.

The stages of change model provides a theoretical basis for understanding these findings. Those who do not express much understanding of the benefit of dental care during pregnancy are considered to be in the precontemplation stage. They do not have a backlog of positive dental experiences to draw from and tend to seek out only symptomatic care. There are few "pros." People who have not had regular positive contacts with dental health providers have the commonsensical belief that when their teeth do not hurt them, there are no problems that require attention.[16,17] None of the women interviewed fell into the precontemplative stage. The women in the contemplation stage understood and valued the benefit of dental care ("pros"). They identified barriers, however, as a deterrent to accepting care ("cons") and did not move to the action stage to accept care.

Women who utilized the service recognized and managed to overcome barriers or "cons" (dental fear, lack of child care) progressed to the action stage to accept care. These women appeared to have had previous positive dental experiences that impacted their choice to expend scarce resources to access care.

Pregnancy presents prominent stressors.[18] Social supports are important protective factors against the effects of stress[19] and relate to positive health practices in pregnant women.[20] Without this support, stress may block progression from the contemplation to the action stage. Discussion of the advantages of dental care ("pros") can encourage individuals to progress from the precontemplation to contemplation stage, but decreasing/eliminating barriers to change ("cons") is more likely to move individuals from the contemplation to action stage. Stages of change are dynamic and depend upon environmental as well as personal changes. A person in the action stage at one point of time may fall back into the contemplation stage if the environment is not supportive. Motivational interviewing, an approach congruent with the stages of change theory, has been used to promote the use of dental care for the parents of preschoolers and can be readily used with pregnant women.[21-23]

LIMITATIONS

This qualitative study uncovered rich information from the participants. While it is impossible to generalize from this self selected population, the information gleaned from these interviews should nevertheless be useful for program planning. This study was based on interviews about a past time period, therefore the participants' responses to the questions may not be as accurate. As this study population was not very diverse, the findings may not reflect any culture-related issues and cannot be generalized to other ethnic groups. A lack of information about education level gave a limited sociodemographic profile of these women, since education level is known to be correlated with dental knowledge as well as with recognizing and problem-solving skills. And lastly, there were a limited number of interviews from mothers who did not utilize the dental services. Disconnected phone numbers were the main reason for unsuccessful phone contacts. It is likely that these women have more unstable lives. Future research using other methods may allow investigators to reach this group more effectively to learn more about them and their needs.

CLINICAL IMPLICATIONS

Motivating mothers to-be to make positive changes and to practice optimum health behaviors can enhance the long-term benefits for both mother and child. The program described in this brief report has taken its first steps to realize this goal. This study has identified barriers to care that mediate against moving toward action regarding dental visits. Diminishing these barriers requires: providing women in the precontemplative stage with a better understanding of the benefits of dental visits; lowering barriers ("cons") for women in the contemplative stage by providing supportive services such as support groups for mothers, transportation, and child care (the latter 2 are especially necessary for multiparous mothers); developing training for participating dental offices to increase cultural competence and improve interpersonal communication skills for the entire dental team; and offering participating dentists continuing education courses on treating pregnant women so that they can provide dental services with full knowledge of women's sensitivities and needs.

CONCLUSIONS

Eliminating the barriers to care identified in this study can influence mothers to move from the contemplation stage into the action stage. Offering free dental services removes the financial barrier for those who could not afford it. Providing other supportive services such as child care and transportation in the community can also make it easier for the women to get to the dentist. Positive encounters at the dental office, either with staff or dental providers, can encourage women to accept dental care as well as to return for subsequent care. The interpersonal interactions and communication between women and dental providers are crucial to establish a trusting relationship at the time that care is rendered and influence the acceptance of subsequent care. Furthermore, dental providers' knowledge of and confidence in treating pregnant women can positively influence the dental encounter.

The work begun in Klamath County will be extended in several ways in the county and in other Oregon counties. First, Klamath County has developed an approach to ensure sustainability of the initial effort without the need for grant funding. Second, a recently funded intervention study to encourage pregnant women to utilize dental services through a brief motivational interviewing approach will be undertaken in other Oregon counties. And third, a large-scale randomized community trial using a brief motivational interviewing approach is being planned for several Oregon counties which will not only promote the utilization of dental services among pregnant women and better oral health, but will also assess children's dental utilization.

ACKNOWLEDGEMENTS

The authors wish to thank: the Klamath County Department of Public Health, Klamath Falls, Ore, and its director Marilynn Sutherland; Dr. Mike Shirtcliff of the Advantage Dental Plan, Redmond, Ore; and Stefanie Hamamoto for their participation in the study. This study was supported in part by Advantage Dental Plans, under intergovernmental grant agreement no. 105709 as part of a grant to the Oregon State Health Department from the Robert Wood Johnson Foundation, and by grant no. U54 DE 14254 from the NIDCR/NIH.

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