Original Article

Iranian Women and Health Care Providers' Perception of Oral Health in Pregnancy: A Qualitative Research

Fatemeh Ahmadi-Motamayel[1], Deniz Safabakhsh[2], Mansoureh Refaei[3]

[1]Department of Oral Medicine, Dental Implants Research Center and Dental Research Center, Hamadan University of Medical Sciences, Hamadan, Iran, [2]Department of Oral Medicine, Hamadan University of Medical Sciences, Hamadan, Iran, [3]Department of Mother and Child Health, Mother and Child Care Research Center, School of Nursing and Midwifery, Hamadan University of Medical Sciences, Hamadan, Iran

Abstract

Background: Periodontal diseases during pregnancy are associated with adverse outcomes. This study aimed to explain the perception of healthcare providers and pregnant women about oral health during pregnancy. **Materials and Methods:** This qualitative study was conducted with the approach of conventional content analysis in health centers of Hamadan, Iran, in 2020. To collect the data, semi-structured in-depth interviews with sixteen pregnant women and eight healthcare providers (gynecologist, midwife, and dentist) were used. Pregnant women with a singleton fetus, lack of chronic diseases and complications of pregnancy, willingness to participate in the study, and the ability to communicate properly were included in the study. Sampling was done purposefully with maximum variety. Data analysis accomplished according to the proposed steps by *Graneheim and Lundman* using MAXQDA 10 software. **Results:** "Belief in the importance of oral health in pregnancy," "Lack of a coherent structure for oral care," "Accepting the negative effect of pregnancy on oral health," and "The dilemma of treatment and non-treatment in pregnancy" were four categories extracted from the data. The theme of "Ignoring the mother for the fetus" was obtained as the main theme of the present study. **Conclusions:** The findings suggest that although mothers and healthcare providers have recognized the importance of oral health in pregnancy, underlying factors in society have led them to understand the mother's oral health should be neglected because of the fetus. This perception can have a negative impact on their behavior, performance, and the oral health of mothers.

Keywords: *Oral health, perception, pregnancy, pregnant women, qualitative research*

Introduction

Hormonal as well as physical changes in pregnancy affect the oral cavity. Pregnant women are prone to problems such as gingivitis and periodontal infection[1] that can cause unintended consequences such as preterm delivery and low birth weight.[2] During the pregnancy, the prevalence of dental service attendance has been reported as 16%–83%.[3] A study in Iran reported 35.80% of pregnant women visited the dentist before pregnancy, 29.10% brushed twice or more a day, and 59.40% had inadequate oral health literacy.[4] One in five pregnant women has dental problems, and 34.50% of them do not visit the dentist.[5]

Seeing a gynecologist and getting oral health-related feedback increases the number of dental visits during pregnancy.[6] A collaborative effort between dentists and medical professionals is needed to prevent adverse oral health outcomes.[7] Healthcare providers often do not provide oral health care to pregnant women. Pregnant women with obvious symptoms of oral disease often do not receive or seek oral care.[1] The gynecologists and midwives are less aware of the importance of oral hygiene in pregnant women.[8,9] Only 37% of dentists perform restorative services during all stages of pregnancy.[10] Factors such as referrals from healthcare providers, personal perceptions, and beliefs about oral health are associated with the use of dental care.[3]

Due to the role of perception in the individual's performance and lack of enough studies on this area, the researchers conducted this study to answer the question of how healthcare providers and pregnant women perceive oral health during pregnancy.

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Address for correspondence:
Dr. Mansoureh Refaei, Department of Mother and Child Health, Mother and Child Care Research Centre, School of Nursing and Midwifery, Hamadan University of Medical Sciences, Hamadan, Iran.
E-mail: mansourehrefaei@yahoo.com

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Materials and Methods

This qualitative content analysis was conducted in 2020 in the health centers of Hamadan. Sampling was done purposefully with maximum diversity in terms of age, gestational age, employment, education, number of children, and socioeconomic status and continued until data saturation.

The study involved 16 pregnant women, two midwives, two gynecologists and four dentists. Pregnant women with a single fetus, no chronic medical illness or pregnancy complications, willingness to participate in the study, and the ability to communicate appropriately and care providers with at least one year of work experience were included in the study. If the participant refused to continue during the interview, she/he would be excluded from the study.

Semi-structured in-depth, face-to-face interviews (between 20 and 30 minutes) were used to collect data by an oral medicine resident. Women were interviewed in one of the rooms of the comprehensive health centers, while observing privacy. Interviews with caregivers were conducted at their workplace (dental clinic and private office). Examples of interview questions for all participants include the following: What do you think about oral health during pregnancy? How do you think pregnancy affects oral health? How do you think oral health affects maternal and fetal health? Do you think there is a need for special oral care during pregnancy? What are the barriers and facilitators of oral health?

Conventional content analysis was used for data analysis based on the steps proposed by Graneheim and Lundman.[11] In qualitative content analysis, a large amount of text becomes a very organized and concise summary of key results.[12] The coding process was performed by the first author. All interviews were converted into written texts. Each interview was considered as a unit of analysis. First, the meaning units were identified. Then, the condensed meaning units were labeled as codes. After that, more abstract sub-subcategories, subcategories, and categories were formed by comparing the codes with each other. Finally, a theme was formed. Data analysis was performed simultaneously and continuously during the data collection. MAXQDA10 software was used to analyze the data.

Guba and Lincoln criteria (validity, portability, reliability, and validity) were used to validate the data.[13] These include: allocating a long time to collect and analyze the data, selecting participants based on maximum diversity, providing a piece of text with conceptualization to participants and reviewing the codes assigned by the research team in all coding steps, reviewing the coding steps with an external observer, applying all comments after the review by the research team, and recording and reporting all research details.

Ethical considerations

This study was approved by the Ethics Committee of Hamadan University of Medical Sciences (code: IR.UMSHA.REC.1398.1086). Option participation in the study, confidentiality of information, and audio recording were explained to participants. Informed written consent was obtained from them. The principles of the Helsinki Declaration were followed in this study.

Results

In this study, 24 participants were interviewed. The mean (SD) age of women was 30.06 (5.05), and in healthcare it was 35.62 (1.01). The mean (SD) age of pregnancy was 31.31 (6.81) weeks [Tables 1 and 2].

Ten subcategories and four categories were obtained from the study. The theme of "Ignoring mother for the fetus" was obtained as the main theme of this study [Table 3].

Category 1: Belief in the importance of oral health in pregnancy

This main category emerged from two subcategories, "Care providers believe in oral health in pregnancy" and "Maternal sensitivity to oral health." Oral health is important for both healthcare providers and women, especially during pregnancy. Healthcare providers believe that a pregnant mother should be able to provide oral care and take some essential care before and during pregnancy. Self-sensitivity to dental care and oral health during pregnancy is also important. *"I go to the dentist every six months for a check-up, and I had no problem before I got pregnant. I brush my teeth at least once a day and use fluoride mouthwash. I always try to keep my mouth healthy"* (Mother 13).

Category 2: Lack of a coherent structure for oral care

This main category emerged from two subcategories, "Poor existing oral health services during pregnancy and their improper implementation" and "Lack of programs coherence and coordination before and during the pregnancy." There are programs in the country to provide dental services for pregnant and postpartum women, but this program is not coherent. Despite the oral care program, this program is not implemented properly. One dentist stated:
"One of the reasons that dentists do not work for patients is the lack of facilities to provide services in public health centers. For this reason, some of them refer the patient to private centers" (Dentist 4). "*There is no coordination and coherence between the gynecologist and the dentist. When I refer pregnant women to a dentist, many of them say that the dentist did not do anything for me and told her to bring me a letter from the gynecologist. On the other hand, the gynecologist does not write a letter. These two specialties need to interact more and solve the pregnant woman's problem*" (Midwife 2).

Table 1: Demographic characteristics of the mothers

Participants	Age	Education	Employment status	Gestational age	Numbers of pregnancy
Participant 1	31	Diploma	Housewife	35	1
Participant 2	27	Diploma	Housewife	30	1
Participant 3	31	University	Employed	39	2
Participant 4	37	Diploma	Housewife	28	3
Participant 5	29	High school	Housewife	34	2
Participant 6	34	University	Housewife	20	2
Participant 7	36	Middle school	Housewife	14	4
Participant 8	28	Diploma	Employed	28	2
Participant 9	24	Diploma	Housewife	38	1
Participant 10	28	High school	Housewife	32	3
Participant 11	33	University	Employed	31	2
Participant 12	35	Diploma	Housewife	32	3
Participant 13	38	University	Employed	28	4
Participant 14	22	Diploma	Housewife	38	1
Participant 15	18	Middle school	Housewife	37	1
Participant 16	30	University	Housewife	37	2

Table 2: Demographic characteristics of the healthcare providers

Participants	Age	Occupation	Work experience (Year)
Participant 1	28	Dentist	2
Participant 2	29	Dentist	2
Participant 3	35	Dentist	12
Participant 4	31	Dentist	4
Participant 5	58	Gynecologist	29
Participant 6	40	Gynecologist	15
Participant 7	27	Midwife	2
Participant 8	37	Midwife	12

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Category 3: Accepting the negative effect of pregnancy on oral health

This main category emerged from two subcategories, "*Misconceptions* about oral health in pregnancy" and "Complications of pregnancy." Pregnant mothers, because of the beliefs in society that pregnancy causes dental caries, and on the other hand, pregnancy complications that adversely affect dental health (e.g., due to nausea, boredom, fatigue and…), have accepted that pregnancy is a factor that endangers oral health. One of the interesting points argued by the participants was the possibility of tooth decay after childbirth. *"I heard that tooth decay after childbirth. Some people say that you should not brush your teeth till 40 days after childbirth. I do not know if it is correct or not, but in my first childbirth, my mother did not allow me to brush my teeth for 40 days"* (Mother 3).

Category 4: The dilemma of treatment and non-treatment in pregnancy

This category consists of four subcategories. "Mutual fear," "Feeling helpless," "Oral health effects in pregnancy," and "Receive service in critical condition." Both mothers and doctors fear that taking dental procedures could lead to adverse consequences for the fetus and pregnancy. *"I was very stressed during the restoration of my teeth during the pregnancy. I got a severe heartbeat because I was scared because of my baby"* (Mother16).

Most pregnant women who suffer from oral problems during pregnancy have a sense of confusion that, despite their condition, the gynecologist will refer them to the dentist, and the dentist takes no action or does an incomplete treatment. On the other hand, the mother also has a sense of regret. *"My condition would not be like this if I restored my teeth before pregnancy… I am so sad; I cannot take care of my teeth"* (Mother 2).

Due to oral problems, sometimes a pregnant mother suffers from pain that she has to endure for nine months. Also, following oral problems, a person may observe less oral hygiene, which will lead to a defective cycle and increase the person's problems. On the other hand, some participants stated that oral health is a factor in calming and reducing maternal stress. While some participants have pointed out that oral health has negative effects such as inability to have suitable nutrition and adverse effects on mother and fetus.

During pregnancy, only low-risk and minimally invasive measures such as scaling for mothers are tried, unless in special circumstances, such as the mother having an emergency, the center is equipped, the mother is in the second trimester of pregnancy, and the gynecologist approves the procedure.

Theme: Ignoring mother for the fetus

Despite perceiving the importance of oral health in society, due to accepting the negative effect of pregnancy on oral health, lack of a coherent structure for oral care during the

Table 3: Subcategories, categories, and theme

Subcategories	Categories	Theme
Care providers believe in oral health in pregnancy	Belief in the importance of oral health in pregnancy	Ignoring mother for the fetus
Maternal sensitivity to oral health		
Poor existing oral health services during pregnancy and their improper implementation	Lack of a coherent structure for oral care	
Lack of programs coherence and coordination before and during the pregnancy		
Misconceptions about oral health in pregnancy	Accepting the negative effect of pregnancy on oral health	
Complications of pregnancy		
Mutual fear	The dilemma of treatment and non-treatment in pregnancy	
Feeling helpless		
Positive effects of Oral health in pregnancy		
Receive service in critical condition		

pregnancy, and the dilemma of treatment and non-treatment in pregnancy, healthcare providers and pregnant women perceived that the health of the mother's oral health should be neglected because of the fetus.

Discussion

The aim of this study was to explain the perception of pregnant mothers and healthcare providers about oral health during pregnancy. From the data analysis, four categories including "Belief in the importance of oral health in pregnancy," "Lack of a coherent structure for oral care," "Accepting the negative effect of pregnancy on oral health," and "The dilemma of treatment and non-treatment in pregnancy" were achieved. The theme of "Ignoring mother for the fetus" was obtained as the main theme of the present study.

This study showed mothers and caregivers believe that oral health is very important during pregnancy. George *et al*.[14] reported that almost all dentists in Australia agreed that maintaining oral health during pregnancy was of paramount importance. Rocha *et al*.[15] 2018 showed women who had good oral health habits since childhood reported continuing care during pregnancy. Muralidharan *et al*.[16] stated it is also important to be sensitive; women who know such care is important are more likely to maintain good oral health during the pregnancy.

This study showed that despite having a dental care program for pregnant women, this program is not coherent. Bahramian *et al*.[17] reported the lack of interprofessional cooperation prevent a visit to the dentist. Lack of educational instructions or resources for referrals and inefficient communication between medical specialists and dentists are the reasons for not receiving oral care in pregnant women.[10,14] More theoretical and evidence-based interventions are needed to review the current prenatal oral health guidelines.[18] Marchi *et al*.[19] stated public and private providers should be corporate in promoting and referring to dental care during pregnancy.

One of the concepts in this study was accepting the negative effect of pregnancy on oral health. Rocha *et al*.[15] stated considering the oral problems as a physiological condition is an obstacle to oral care during the pregnancy. Kateeb *et al*.[20] showed that the misconception that expectant mothers can lose their teeth just because they are pregnant undermines oral care.

In this study, the dilemma of treatment and non-treatment in pregnancy was another concept. Pregnant women's concern about the safety of dental procedures is one of the most commonly perceived barriers to dental care. Advice to pregnant women about delayed post-pregnancy visits is significantly correlated with the concerns and lack of awareness of the non-treatment risks in dentists.[14] Yenen *et al*.[21] stated not paying attention to oral health during pregnancy leads to bad dental consequences and adverse consequences of pregnancy. On the other hand, poor oral health reduces the quality of life. Oral health directly affects self-esteem, speech, nutrition, and general wellness.[22] Pregnancy should not be considered an absolute reason for dental care delaying.[23]

The main theme of this study was "ignoring mother for the fetus." This study indicates caregivers and mothers prefer fetal health to maternal oral health. Horowitz *et al*.[24] stated most dentists do not treat a pregnant woman despite a letter from an obstetrician. On the other hand, some obstetricians are not aware of the adverse consequences of oral problems in pregnancy, which prevents them from taking the time to evaluate the client's oral health. The limitation of this study is that, like any other qualitative study, the generalizability of the study is low. The strength of this study was that, unlike other studies, we took a new perspective on oral health during pregnancy. Understanding the perception of women and caregivers is helpful in overcoming barriers to oral care.

Conclusion

The findings of this study showed that despite the importance of oral health from the perspective of caregivers and pregnant women, due to factors such as accepting the negative effects of pregnancy on oral health, lack of a

coherent structure for oral care for women of reproductive ages, and the dilemma of treatment and non-treatment in pregnancy, caregivers and women have come to understand that the health of the mother's oral health should be neglected because of the fetus.

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Hamadan University of Medical Sciences, Hamadan, Iran

Conflicts of interest

Nothing to declare.

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