

Exploring Knowledge Access and Social Influences on Oral Healthcare Barriers Among Pregnant Women

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Abstract

Objective

This study aimed to explore pregnant women's knowledge, perceptions, and experiences regarding oral health, with a particular focus on barriers to accessing dental care.

Methods

A qualitative phenomenological design was employed. Data were collected through semi-structured interviews with pregnant women (n = 11) selected using purposive sampling. Interviews were audio-recorded and analyzed using thematic analysis following Braun and Clarke's framework.

Results

Eight main themes were identified: (1) knowledge gaps and misinformation, (2) structural barriers to accessing dental care, (3) pregnancy-related fears and misconceptions, (4) institutional neglect of oral health in prenatal care and missed opportunities for preventive care. (5) social support and information ambiguity, (6) oral health behaviors and daily practices, (7) economic constraints, (8) risk perception and partial awareness. Participants frequently reported uncertainty regarding the safety of dental treatment during pregnancy, difficulties in accessing public dental services, and financial barriers to private care. Social influences, particularly from family members, played a significant role in shaping health behaviors. Additionally, oral health was not routinely addressed within prenatal care services.

Conclusion

Oral healthcare utilization during pregnancy is shaped by a complex interaction of individual, social, and systemic factors. Integrating oral health into antenatal care services and improving access to affordable dental care may help reduce these barriers and improve maternal oral health outcomes.

Introduction

Pregnancy is a unique physiological period characterized by significant hormonal, immunological, and behavioral changes that may influence women's overall health, including oral health. During this period, increased levels of estrogen and progesterone can lead to heightened vascular permeability and inflammatory responses in gingival tissues, making pregnant women more susceptible to periodontal diseases (Silk et al., 2008). Conditions such as pregnancy gingivitis and periodontitis are frequently reported and, if left untreated, may negatively affect both maternal and fetal health (Boggess & Edelstein, 2006).

Emerging evidence suggests a potential association between poor maternal oral health and adverse pregnancy outcomes, including preterm birth and low birth weight (Ide & Papapanou, 2013; Offenbacher et al., 2009). Oral infections, particularly periodontal disease, may contribute to systemic inflammation, which can influence pregnancy outcomes through hematogenous dissemination of inflammatory mediators (Xiong et al., 2006). Therefore, maintaining optimal oral health during pregnancy is not only essential for maternal well-being but also for fetal development (WHO,2022).

Despite the recognized importance of oral health in pregnancy, numerous studies indicate that pregnant women often have limited knowledge regarding oral health care and its implications (George et al., 2010; George et al., 2013). Misconceptions—such as the belief that dental treatments are unsafe during pregnancy or that fetal calcium demands directly cause maternal tooth loss—remain widespread (Marchi et al., 2010). These beliefs may contribute to the avoidance of dental care and delayed treatment seeking, even when symptoms are present.

Access to dental services during pregnancy is another critical issue. Structural barriers such as difficulties in obtaining appointments, limited integration between prenatal and dental care services, and inadequate prioritization of pregnant women within healthcare systems can restrict service utilization (Huebner et al., 2009). Additionally, healthcare providers themselves may demonstrate uncertainty or reluctance in delivering dental care to pregnant patients, further reinforcing access barriers (Lee et al., 2010).

Social and contextual factors also play a role in shaping oral health behaviors during pregnancy. Support from family members, particularly spouses, may encourage positive health practices; however, inconsistent or inaccurate information from social networks can lead to confusion and reinforce misconceptions (George et al., 2013). At the individual level, while many pregnant women report maintaining basic oral hygiene practices such as tooth brushing, the use of adjunctive methods like dental floss remains limited, and pregnancy-related symptoms such as nausea may hinder routine oral care (Silk et al., 2008).

In the Turkish context, studies focusing specifically on pregnant women's oral health experiences remain limited, particularly those employing qualitative methodologies to explore lived experiences, perceptions, and structural barriers. Understanding these experiences is essential for developing context-specific interventions and improving the integration of oral health into maternal healthcare services. Therefore, the present study aims to explore pregnant women's experiences regarding oral health, focusing on structural, social, and individual factors that influence their behaviors, perceptions, and access to dental care. By adopting a qualitative approach, this study seeks to provide an in-depth understanding of the challenges faced by pregnant women and to contribute to the development of more responsive and inclusive oral health services.

Methods

Study Design

This study employed a qualitative research design using a phenomenological approach to explore pregnant women's experiences regarding oral health. Phenomenology is particularly suitable for examining individuals' lived experiences and the meanings they attribute to those experiences (Creswell & Poth, 2018). In this study, the focus was on understanding how pregnant women perceive oral health, navigate access to dental services, and interpret structural and social influences during pregnancy. The study was reported in line with established qualitative research standards, particularly principles aligned with the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007).

Participants and Sampling

A purposive sampling strategy was used to recruit pregnant women who were willing to share their experiences related to oral health. Inclusion criteria were: (1) being currently pregnant and (2) being able to communicate their experiences in detail. A total of 11 participants were included in the study, and all interviews were analysed. The sample was considered sufficient to provide rich and meaningful insights into pregnant women's oral health experiences, as well as to capture a range of perspectives relevant to the research aim.

Participants varied in age (23–35 years), education level (secondary to university), pregnancy history (primiparous and multiparous), and gestational week (12–28 weeks), allowing for a diverse range of perspectives. Data collection continued until thematic saturation was achieved, defined as the point at which no new themes or insights emerged from the data (Guest et al., 2006).

Data Collection

Data were collected using a semi-structured interview form developed by the researcher based on the literature. The interview guide included open-ended questions addressing:

- Oral health knowledge and perceptions
- Daily oral hygiene practices
- Experiences with dental services
- Perceived barriers and facilitators
- Social support mechanisms
- Structural factors affecting access to care

Due to methodological rigor and to ensure accurate data capture, all interviews were audio-recorded with participants' consent. Audio recording enabled the preservation of participants' expressions in their original form and minimized the risk of data loss during the interview process. The recordings were subsequently transcribed verbatim to facilitate in-depth analysis. Audio recording is widely recommended in qualitative research as it enhances data accuracy and supports the credibility of findings (Halcomb & Davidson, 2006).

Data Analysis

The data were analyzed using thematic analysis following the six-phase framework proposed by Braun and Clarke (2008). An inductive approach was adopted, allowing themes to emerge directly from the data rather than being imposed a priori. The analysis process involved:

1. Familiarization with the data through repeated reading
2. Generation of initial codes from meaningful data segments
3. Grouping of similar codes into sub-themes
4. Development of overarching themes
5. Review and refinement of themes
6. Definition and naming of final themes

The coding process was conducted manually by the researcher. Themes identified in the analysis included structural barriers (e.g., appointment systems), economic constraints, social support mechanisms, institutional factors, and knowledge inequalities. To enhance analytical rigor, representative quotations were used to support each theme and ensure transparency between data and interpretation.

Trustworthiness

The rigor of the study was ensured using Lincoln and Guba's (1985) criteria:

Credibility: Prolonged engagement with the data and iterative analysis

Dependability: Systematic documentation of coding and theme development

Confirmability: Use of direct participant quotations to support findings

Transferability: Detailed description of participant characteristics and research context

Ethical Considerations

Ethical approval for this study was obtained from the Kahramanmaraş Sütçü İmam University Social and Human Sciences Ethics Committee (Date: December 1, 2025; Approval Number: E-480485). Participation in the study was voluntary, and informed consent was obtained from all participants prior to data collection. Participants were informed about the purpose of the study and assured of confidentiality and anonymity. Identifying information was removed and replaced with participant codes (e.g., K1, K2).

Findings

The thematic analysis of the data revealed several interrelated themes that reflect pregnant women's experiences with oral health. These themes highlight the complex interplay between knowledge, structural factors, individual behaviors, and social influences.

1. Knowledge Gaps and Misinformation

One of the most prominent findings of the study is the limited and fragmented knowledge regarding oral health during pregnancy. Although most participants acknowledged the importance of oral health, their understanding was often superficial or based on misconceptions. Some participants explicitly stated that they had not received any formal education on the topic: *"I don't really have much knowledge. I didn't receive any education."* (K1)

Similarly, others emphasized that oral health had never been addressed during their pregnancy follow-ups: *"No one told me anything. The follow-ups were always about the baby."* (K1) *"It never even crossed my mind. No one mentioned it."* (K3)

In addition, several misconceptions were identified, particularly the belief that the fetus directly draws calcium from the mother's teeth: *"They say the baby takes calcium from the mother's teeth."* (K1) These findings indicate that participants often rely on incomplete or inaccurate information, which shapes their perceptions and behaviors.

2. Structural Barriers to Accessing Dental Care

Participants frequently reported difficulties in accessing dental services, particularly within public healthcare systems. One of the most common barriers was the inability to obtain timely appointments: *"It's already difficult to get an appointment."* (K2) *"Finding an early appointment in public hospitals is very hard."* (K8)

In addition to appointment issues, logistical challenges such as transportation and time constraints were also mentioned: *"Going to the hospital requires planning, especially with another child."* (K10) These structural barriers often led to postponement or complete avoidance of dental visits, even when participants experienced symptoms.

3. Pregnancy-Related Fears and Misconceptions

Fear and uncertainty regarding the safety of dental treatments during pregnancy emerged as a significant theme. Many participants expressed concerns about potential harm to the fetus, particularly in relation to dental procedures such as X-rays: *"I was afraid they would take an X-ray. I'm pregnant, it could harm the baby."* (K2)

Some participants also reported anticipating negative attitudes or inadequate care from healthcare providers: *"I felt like they wouldn't pay attention to me because I'm pregnant."* (K9)

Moreover, there was a common perception that dental treatments should be postponed until after delivery: *"They usually say 'let's wait until after birth.'"* (K7) These fears contributed to delayed care-seeking behavior and reinforced avoidance of dental services.

4. Institutional Neglect of Oral Health in Prenatal Care

Participants consistently reported that oral health was not adequately integrated into prenatal care services. Antenatal visits were described as primarily focused on fetal development and general maternal health, with little to no attention given to oral health: *"They mostly focus on the baby. Oral health is not really discussed."* (K4) *"We have to research everything ourselves."* (K8)

Even when participants interacted with healthcare providers, oral health was rarely addressed unless explicitly raised: *"No one explained whether dental treatment is safe unless I asked."* (K6) This lack of institutional emphasis contributes to low awareness and missed opportunities for preventive care.

5. Social Support and Information Ambiguity

While many participants reported receiving emotional support from their spouses or families, informational support was often inconsistent and sometimes contradictory. For example, one participant described confusion caused by conflicting advice from different sources: *"Everyone says something different. I don't know who to believe."* (K2)

On the other hand, some participants highlighted positive support, particularly from their spouses: *"My husband reminds me to brush my teeth."* (K4) These findings suggest that while social networks play a supportive role, they may also contribute to uncertainty due to the lack of reliable information.

6. Oral Health Behaviors and Daily Practices

Most participants reported engaging in basic oral hygiene practices, particularly tooth brushing. However, the consistency and comprehensiveness of these practices varied. Many participants reported brushing their teeth twice daily: *"I try to brush twice a day."* (K5)

However, the use of additional oral hygiene practices, such as dental floss, was limited: *"I've never used dental floss."* (K1)

Pregnancy-related symptoms, particularly nausea, were identified as barriers to maintaining oral hygiene: *"Even the toothbrush makes me feel nauseous."* (K2) These findings indicate that although participants demonstrate some awareness of oral hygiene, their practices remain incomplete and are influenced by pregnancy-related challenges.

7. Economic Constraints

Although less frequently mentioned, financial barriers also emerged as a factor influencing access to dental care. One participant described the financial burden associated with dental treatment: *"It was financially difficult. Every visit was costly."* (K11) This suggests that economic factors may further limit access to dental services, particularly in private healthcare settings.

8. Risk Perception and Partial Awareness

Some participants demonstrated awareness of the potential risks associated with poor oral health, particularly in relation to pregnancy outcomes. For example: *"Infections can lead to early birth."* (K6)

However, this awareness was often partial and not supported by comprehensive knowledge.

Participants' understanding was typically based on anecdotal experiences or informal sources: *"I heard from someone that gum disease could affect the baby."* (K9) This indicates a gap between perceived importance and evidence-based knowledge.

Overall, the findings reveal that pregnant women's oral health experiences are shaped by a combination of insufficient knowledge, structural barriers, and pregnancy-related fears. While participants recognize the importance of oral health, systemic shortcomings and informational gaps hinder their ability to engage in preventive behaviors and access appropriate care.

Discussion

This study aimed to explore pregnant women's experiences regarding oral health by focusing on structural, social, and individual factors. The findings reveal a multidimensional pattern in which knowledge gaps, systemic barriers, and pregnancy-related fears collectively shape oral health behaviors and service utilization.

One of the most prominent findings of this study is the limited and fragmented knowledge among pregnant women regarding oral health. Although participants recognized the importance of oral health, their understanding was often based on misconceptions and informal sources such as social media or interpersonal communication. This finding is consistent with previous studies indicating that pregnant women frequently lack adequate knowledge about oral health and its implications (George et al., 2013; Marchi et al., 2010). In particular, the persistence of myths such as "the baby takes calcium from the mother's teeth" reflects the continuity of culturally transmitted beliefs, which may negatively influence preventive behaviors. These misconceptions highlight the need for structured and evidence-based educational interventions.

Another key finding relates to the significant structural barriers that hinder access to dental care. Participants frequently reported difficulties in obtaining appointments, especially within public healthcare systems, as well as logistical challenges such as transportation and time constraints. These findings align with the literature demonstrating that access to dental services during pregnancy is often limited due to systemic inefficiencies and organizational barriers (Huebner et al., 2009). Furthermore, the absence of prioritization mechanisms for pregnant women exacerbates these challenges and contributes to delayed or foregone care.

Fear and uncertainty regarding the safety of dental treatment during pregnancy emerged as a critical barrier to service utilization. Many participants expressed concerns about the potential harm of dental procedures, particularly radiographic imaging, on fetal health. These concerns are well-documented in previous research, which shows that pregnant women often avoid dental visits due to perceived risks

(Lee et al., 2010). The presence of uncertainty, fear, and limited knowledge observed in this study may also be interpreted in relation to prenatal distress, which has been shown to be prevalent among Turkish pregnant women and influenced by multiple psychosocial factors (Yüksel et al., 2014). Importantly, this study also highlights that such fears are not only patient-driven but may be reinforced by healthcare providers' cautious or avoidant attitudes. The tendency of some practitioners to postpone treatment until after delivery may unintentionally validate these fears and discourage timely care.

The findings also point to a significant gap in the integration of oral health into prenatal care services. Participants consistently reported that oral health was not addressed during routine antenatal visits, which were primarily focused on fetal development and general maternal health. This lack of integration has been identified as a global issue, where oral health is often treated as a separate domain rather than an essential component of maternal healthcare (Silk et al., 2008). The absence of interdisciplinary collaboration between obstetric and dental care providers represents a missed opportunity for early intervention and prevention.

Social support emerged as a double-edged factor in shaping oral health behaviors. While emotional support from spouses and family members was frequently reported, informational support was often inconsistent and sometimes contradictory. This finding supports previous research indicating that social networks can both facilitate and hinder health behaviors, depending on the accuracy of the information shared (George et al., 2012). The prevalence of conflicting advice underscores the importance of providing clear, accessible, and standardized information through formal healthcare channels.

In terms of individual behaviors, most participants reported engaging in basic oral hygiene practices, such as brushing their teeth regularly. However, the use of supplementary practices, including dental floss, was limited. Additionally, pregnancy-related symptoms, particularly nausea, were identified as barriers to maintaining oral hygiene routines. These findings are consistent with earlier studies showing that while pregnant women may be aware of general oral hygiene practices, adherence can be compromised by physiological changes during pregnancy (Silk et al., 2008).

Although less prominent, economic constraints were also identified as a barrier to accessing dental care. The cost of private dental services and limited accessibility of public services create additional challenges, particularly for women with lower socioeconomic resources. This finding aligns with broader evidence suggesting that financial barriers can significantly influence healthcare utilization (Marchi et al., 2010).

Overall, the findings of this study suggest that pregnant women's oral health behaviors are shaped by a complex interaction of individual, social, and structural factors. Addressing these challenges requires a comprehensive approach that goes beyond individual-level interventions. Integrating oral health education into routine prenatal care, improving access to dental services, and enhancing collaboration between healthcare providers are critical steps toward improving maternal oral health outcomes.

Implications for Practice and Policy

Based on the findings, several practical implications can be drawn:

- Oral health education should be systematically integrated into antenatal care services.
- Pregnant women should be prioritized within dental appointment systems.
- Clear clinical guidelines regarding safe dental treatments during pregnancy should be communicated to both patients and healthcare providers.
- Interdisciplinary collaboration between obstetricians, midwives, and dentists should be strengthened.
- Public health campaigns should be developed to address common misconceptions about oral health during pregnancy.

Limitations and Future Research

This study has some limitations. First, the sample size is relatively small and limited to a specific context, which may affect the generalizability of the findings. Second, the data were based on self-reported experiences, which may be subject to recall bias or social desirability bias. Future research could include larger and more diverse samples, as well as mixed-method designs to further explore the relationship between knowledge, attitudes, and oral health behaviors during pregnancy.

Conclusion

This study provides an in-depth understanding of pregnant women's oral health experiences by highlighting the interplay between knowledge, structural conditions, and social influences. The findings demonstrate that although pregnant women generally recognize the importance of oral health, this awareness does not consistently translate into effective behaviors or service utilization.

A major conclusion of the study is that insufficient and fragmented knowledge, often shaped by informal sources and misconceptions, significantly affects pregnant women's oral health practices. In particular, persistent myths and uncertainty regarding the safety of dental treatments during pregnancy contribute to delayed or avoided dental care.

In addition, structural barriers—such as difficulties in accessing dental appointments, limited availability of services, and lack of prioritization for pregnant women—further restrict access to care. These systemic challenges are compounded by the inadequate integration of oral health into routine prenatal care, where the primary focus remains on fetal development rather than comprehensive maternal well-being.

The study also reveals that while social support plays a positive role in encouraging general well-being, it does not sufficiently compensate for the lack of reliable and standardized information. As a result, pregnant women often rely on inconsistent or contradictory advice, which may reinforce uncertainty and inaction.

Overall, the findings underscore the need for a more holistic and integrated approach to maternal healthcare. Oral health should be recognized as an essential component of prenatal care, and targeted interventions should be developed to address knowledge gaps, reduce structural barriers, and correct misconceptions. Improving oral health outcomes among pregnant women requires coordinated efforts at multiple levels, including policy development, healthcare system organization, and community-based education. By addressing these factors, it is possible to enhance both maternal and fetal health outcomes and promote a more comprehensive understanding of health during pregnancy.

Declarations

Data Availability Statement

The datasets generated during and/or analysed during the current study are not publicly available due to ethical restrictions and the need to protect participant confidentiality but are available from the corresponding author on reasonable request.

Ethical approval & Accordance

The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and relevant national regulations. Ethical approval was obtained from the Kahramanmaraş Sütçü İmam University Social and Human Sciences Ethics Committee (Date: December 1, 2025; Approval Number: E-480485), and informed consent was obtained from all participants prior to data collection.

Consent to participate/Informed consent

Informed consent was obtained from all individual participants included in the study.

Consent for publication

Informed consent was obtained from all participants involved in the study.

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Author Contribution

During the study process, the authors shared equal roles and responsibilities. Specifically, EA was responsible for obtaining ethics committee approval, data collection, and the introduction and discussion sections, while ÖÖ was responsible for data analysis, data collection, and the introduction and discussion sections.

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