Title: Knowledge, Attitude and Practice on Dental Care, and Oral Health Status among Pregnant Women in Bangladesh.

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Abstract:

Oral health is a critical component of overall well-being, yet pregnant women face heightened risks of gingivitis, periodontitis, and dental caries due to hormonal fluctuations, dietary changes, altered saliva composition, and decreased immune function. These oral conditions have been associated with adverse pregnancy outcomes, including low birth weight and preterm delivery. Despite the recognized importance of maternal oral health, many pregnant women, specifically from Low- and Middle-Income Countries (LMICs) like Bangladesh avoid dental care because of socioeconomic and cultural barriers, limited knowledge, and misconceptions about the safety of dental procedures during pregnancy. Healthcare providers including dentists, midwives, and prenatal care professionals also frequently lack adequate training and confidence in providing or recommending dental care during pregnancy, resulting in missed opportunities for early intervention. The World Health Organization advocates for integrated health service delivery, especially in resource-constrained settings, yet collaboration between medical and dental professionals remains insufficient. This gap underscores the need for strengthened interdisciplinary approaches, improved provider education, and increased awareness among pregnant women. Addressing these challenges is essential for reducing preventable oral diseases in pregnancy and lowering the risk of early childhood caries linked to maternal transmission of cariogenic bacteria.

Goals and Objectives of the Research Project

The overarching goal of this research project is to examine the knowledge, attitudes, and practices related to prenatal oral healthcare among pregnant women and healthcare providers, and to identify barriers in Bangladesh.

The specific objectives are:

- To assess the oral health knowledge, attitude, and hygiene practices of pregnant women in Bangladesh.
- To measure the oral health status of pregnant women in Bangladesh.
- To identify factors associated with oral hygiene and dental health status of pregnant women in Bangladesh.

Specific Research Question

Primary Research Question:
What are the key knowledge gaps, attitudes, and perceived barriers that prevent pregnant women and prenatal healthcare providers from seeking or recommending appropriate dental care during pregnancy?

Supporting sub-questions may include:

- How do misconceptions about the safety of dental procedures during pregnancy influence care-seeking behavior?
- What sociocultural or socioeconomic factors contribute to reluctance in seeking dental care?
- What are the barriers to accessing or visiting dental care during pregnancy?

Significance of Overall Research

Poor maternal oral health has been associated with adverse pregnancy outcomes such as preterm birth and low birth weight, as well as early childhood caries due to vertical transmission of *Streptococcus mutans*. Despite all the known adverse effects of poor oral hygiene during pregnancy on maternal and child health, many pregnant women do not access dental services in LMICs, and healthcare providers often lack clarity or confidence regarding oral health recommendations.

This research is significant because it:

- Addresses preventable oral and systemic health complications in LMICs like Bangladesh.
- Supports WHO's call for integrated health service delivery, particularly in low-resource settings.
- Identifies modifiable barriers that can guide policy changes, provider training, and public health interventions.
- Contributes to improving maternal health outcomes and long-term child oral health.

Research Methods the Student Will Use/Learn

This will be an observational, cross-sectional and hospital-based study. We have already collected preliminary data by surveying pregnant women in the capital city of Bangladesh.

During the fellowship, the student will learn about multiple qualitative and quantitative research methods, including:
Reviewing existing research on prenatal oral health, periodontal disease during pregnancy, and healthcare provider roles.

Data cleaning, organizing datasets, and maintaining confidentiality and research integrity.

Writing initial draft of the manuscript, journal selection and preparing the manuscript for publication.

Contribution of Anticipated Student Findings to the Overall Research

The student's findings will play a crucial role in identifying key barriers and misconceptions that contribute to the low utilization of dental services during pregnancy in LMICs. These insights will:

- Inform the development of targeted educational interventions for both pregnant women and healthcare providers.
- Help shape recommendations for integrated prenatal–dental healthcare models.
- Contribute to evidence-based strategies aimed at reducing adverse pregnancy outcomes related to poor oral health.
- Support future training modules for midwives, physicians, and dentists regarding the importance and safety of dental care during pregnancy.

Ultimately, the student's work will strengthen the evidence base needed to advocate for improved oral healthcare integration within prenatal services and promote better maternal and child health outcomes in LMICs.