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Research Article

Oral Cavity Health During Pregnancy: Impact on Maternal Well-Being and Fetal Development

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ABSTRACT:

This article explores the condition of the oral cavity during pregnancy and evaluates the impact of dental and periodontal diseases on both the maternal organism and fetal development. Research indicates that hormonal fluctuations during pregnancy can trigger various oral pathologies. Consequently, chronic foci of infection may lead to complications such as preterm labor or low birth weight. The article further analyzes the significance of dental prophylaxis and outlines preventive measures essential for maintaining oral health during this critical period.

Keywords: *Pregnancy, oral hygiene, gingivitis, periodontitis, fetal health, dental prophylaxis, hormonal changes, dental caries.*

INTRODUCTION

One of the urgent problems of modern obstetrics and dentistry is the preservation of the health of the oral cavity in pregnant women. Pregnancy is a physiological state accompanied by a profound restructuring of all organs and systems in the female body, including hormonal, immune and metabolic processes. It is during this period that the oral cavity becomes very susceptible to various pathological processes.

A sharp increase in the levels of estrogen and progesterone hormones during pregnancy leads to changes in blood circulation in the gum tissue and increased vascular permeability. This often leads to the development of diseases such as "gestational gingivitis" and periodontitis. In addition, a violation of the balance of calcium and phosphorus in saliva, as well as acidification of the oral cavity due to pregnancy toxicosis, leads to demineralization of tooth enamel and the rapid development of caries.

Recent scientific research has shown that chronic oral infections (especially periodontitis) pose a serious threat not only to the mother's health, but also to the development of the fetus. Pathogenic microorganisms and their toxins can cross the placental barrier through the bloodstream and cause the following complications:

- Slowing of intrauterine development of the fetus;
- Risk of premature birth;
- Preeclampsia and other obstetric pathologies.

The purpose of the article is to analyze the causes of oral pathologies during pregnancy, study their impact on fetal health, and develop effective dental preventive measures for expectant mothers.

METHODOLOGY

The methodological basis of the study was a systematic review, comparative and descriptive methods. During the study, clinical cases of pregnant women who applied to maternity hospitals and dental clinics in Termez, as well as scientific literature from the last 5 years, were analyzed.

The object of the study was the oral cavity of women in different trimesters of pregnancy. Data collection methods included visual dental examination, indices of gingival inflammation (PMA, tartar indices), and history taking. Also, a comparative analysis was conducted with the conclusions of obstetricians and gynecologists to determine the relationship between

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the course of pregnancy and dental pathologies. The results obtained were statistically analyzed and the effectiveness of preventive measures was scientifically assessed.

RESULTS

The results of the study showed that during different periods of pregnancy, significant morphological and functional changes occur in the organs of the oral cavity. Dental problems of varying degrees were detected in 78% of pregnant women under observation.

The results obtained showed the following:

•Gingivitis and periodontal diseases:"Pregnancy gingivitis" was observed in 65% of the examined women. In this case, swelling, bleeding, and hypertrophy of the gums were mainly evident at the end of the first trimester and at the beginning of the second trimester.

•Caries and its complications: In 52% of women, acute dental caries and acceleration of existing chronic caries were noted. This is due to the fact that the body's calcium-phosphorus metabolism is spent on the formation of the fetal bone system and the decrease in the protective properties of saliva.

•Effects on fetal development: It was found that the risk of pregnancy toxicosis and premature birth in women with acute foci of inflammation in the oral cavity (periodontitis) is 2.5 times higher than in women with healthy teeth.

•Hygiene status: It turned out that only 30% of pregnant women regularly and correctly follow oral hygiene. Many women reduced the frequency of tooth brushing due to bleeding gums, which further aggravated the pathological process.

The group that received preventive professional cleaning and sanitation procedures had a higher rate of uncomplicated pregnancies and improved birth outcomes. These results confirm the importance of dental check-ups during pregnancy planning and throughout pregnancy.

DISCUSSION

The results of the study confirm the existence of a close relationship between the physiology of pregnancy and dental health. This relationship can be analyzed through several fundamental aspects.

First, when discussing the effects of hormonal changes, it was found that increased progesterone levels alter microcirculation in the gum tissue. This leads to a decrease in local immunity and an excessively strong inflammatory response of the body to bacterial invasion. As a result, even simple hygiene deficiencies can develop into severe gingivitis in pregnant women.

Secondly, the acceleration of dental caries is explained not only by calcium deficiency, but also by a decrease in the remineralizing properties of saliva. Hypersalivation (salivation) and vomiting in the first half of pregnancy change the pH environment of the oral cavity to an acidic one. This paves the way for chemical erosion of tooth enamel.

Third, the most dangerous aspect is the systemic effect of periodontal infection foci. Studies show that inflammatory mediators (prostaglandins, cytokines) in the oral cavity can reach the placenta through the bloodstream and cause premature contractions of the uterine muscles. This is the scientific basis of the "periodontitis - preterm labor" chain.

It is worth noting that many pregnant women do not consult a doctor for fear that dental procedures will harm the fetus. However, modern anesthesia and diagnostic methods (especially in the second trimester) are completely safe. On the contrary, an untreated focus of infection is many times more dangerous for the fetus than anesthesia.

CONCLUSION:

The results of the study and the analysis of the data obtained show that the health of the oral cavity during pregnancy directly depends on the general condition of the mother and fetus. Dental pathologies resulting from hormonal changes and restructuring of metabolic processes, if not treated in a timely manner, can cause serious obstetric complications (premature birth, low fetal weight).

Based on the observations made, the following final conclusions were reached:

1.The role of prevention: Complete oral hygiene during pregnancy planning and during the second

trimester reduces the risk of infection for the fetus by 2-3 times.

2.Hygiene education: It is necessary to conduct educational work on oral hygiene among pregnant women, and promote the use of special soft toothbrushes and calcium-containing products.

3.Comprehensive approach: The collaboration between dentists and obstetricians-gynecologists is a key factor in ensuring a complication-free pregnancy and the birth of a healthy offspring.

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