



## IMPROVING THE PROVISION OF THERAPEUTIC DENTAL CARE TO PREGNANT WOMEN

Usmanova Maxzuna, Burxonova Zarafruz  
Samarkand State Medical University

### Annatation

Relationship between dental diseases and general health in pregnant women is bi-directional. The risk of caries and periodontal disease progression increases, and the presence of dental diseases affects the overall condition of pregnant women. The article considers approaches to diagnostic, preventive and therapeutic measures during pregnancy.

**Keywords:** pregnant women, dental caries, gingivitis, periodontitis, prevention

### Intoduction

During pregnancy, the risk of progression of the main dental diseases - dental caries and periodontal disease - increases significantly. Such physiological features of the body of pregnant women as a change in eating habits, xerostomia, preeclampsia, contribute to the rapid development of new carious lesions and the progression of existing ones. Hormonal and vascular changes associated with pregnancy impair the gingival immune response to microbial plaque, exacerbating periodontal inflammation [6]. According to our research, at present, the prevalence of caries and periodontal diseases in pregnant women in Uzbekistan reaches 80–95% [1], which indicates the lack of knowledge of women about the prevention of dental diseases. The presence of foci of chronic infection in the oral cavity harms both the health of the pregnant woman and the fetus, untreated caries in the mother leads to the development of early caries of milk teeth in the child [3].

### Methods and Materials:

At the present stage, the results of scientific research make it possible to assert that periodontal disease during pregnancy can be an important risk factor for its adverse outcome - the development of preterm labor [6, 2, 3]. In the last two decades, the problem of microbial inflammatory diseases, including periodontal pathology, has acquired new dimensions, which significantly change the diagnostic and therapeutic approaches to managing patients. Periodontitis is considered as a long-term inflammatory process at the systemic level due to the large area of ulceration of the epithelial surface in the periodontal pocket, which in fact is the entrance gate for





bacteria. Some types of microorganisms (*Porphyromona gingivalis*, *Aggregatibacter actinomycetemcomitans* (formerly *Actinobacillus actinomycetemcomitans*) have a direct cytopathic effect, affecting tissues. This invasion of gram-negative microbes and their products triggers a chain of immune inflammatory reactions. Metastasis of microorganisms causes inflammation in organs distant from the oral cavity. It has been proven that periodontal infection activates local and systemic immune responses, bacteria and toxins produced enter the systemic circulation. This process is believed to play an important role in the pathophysiology of adverse pregnancy outcomes.<sup>4–6,8</sup> Immunomicrobiological studies have revealed higher levels of IgM to maternal periodontal pathogens and high concentrations of inflammatory mediators in cord blood samples from premature newborns compared with those from term infants.<sup>10,11</sup> There appear to be two mechanisms of association between chronic infection in the oral cavity and adverse pregnancy outcome [4]. 1. A bacterial infection in the oral cavity leads to transient bacteremia (normally, microorganisms are destroyed by the reticuloendothelial system), but under favorable conditions, microbes can disseminate to organs distant from the oral cavity and settle there. Infection of the amniotic membranes leads to premature disruption of their integrity and the development of childbirth. 2. During pregnancy, the proportion of anaerobic microorganisms in the periodontium increases, starting from the second trimester. Gram-negative bacteria produce a number of bioactive substances (lipopolysaccharides), which lead to the activation of macrophages and other cells that synthesize cytokines, interleukin- $1\beta$ , TNF- $\alpha$ , interleukin-6, prostaglandin E<sub>2</sub>. Getting into the systemic circulation and overcoming the placental barrier, they violate physiological intra-amniotic levels of prostaglandin E<sub>2</sub> and TNF- $\alpha$ , which leads to preterm labor. Thus, the goal of dental intervention in pregnant women is to eliminate existing foci of chronic infection and achieve oral health in general. It is also necessary to individually take into account the physiological and emotional characteristics of the patient and use safe and effective algorithms for prevention and treatment. Currently, the problem of the need to optimize an individual approach to the prevention and treatment of dental diseases during pregnancy in the new socio-economic conditions is being determined. The lack of unified approaches to maintaining oral health in pregnant women indicates the need to develop practical recommendations for dentists and obstetricians and gynecologists. There are physiological and psycho-emotional characteristics of pregnant women [5]. 1. Cardiovascular system: circulating blood volume increases by 30–50%, tachycardia, heart murmurs, increased venous pressure and vasomotor lability are determined, resulting in postural hypotension and syncope (especially in the first trimester),





peripheral edema, varicose veins veins. 2. Respiratory system: an increase in the volume of extravascular fluid in the lungs, restriction of diaphragm movements due to a growing fetus, resulting in a decrease in the residual functional reserve of the lungs, dyspnea develops - during physical exertion and in the supine position. Swelling of the mucous membrane of the nasopharynx due to increased levels of estrogen contributes to mouth breathing and nosebleeds. If xerostomia develops as a result, then the patient is at high risk of caries. 3. Digestive system: dyspeptic symptoms develop (nausea, vomiting, heartburn, increased salivation). Progesterone reduces the tone of the lower esophageal sphincter, and the growing fetus increases intra-abdominal pressure, this fact excludes the patient's horizontal position in the chair. 4. Psycho-emotional state: in pregnant women with obstetric and concomitant somatic pathology, a statistically significant predominance of actively negative emotions over actively positive ones was revealed, which reflects the tendency of these patients to an emotionally negative perception of any events and increased conflict. The pain threshold in pregnant women is lower compared to that of women in the control group, which leads to an exacerbation of pain sensitivity during dental treatment [2].

Terms for dental treatment It is best to prepare for pregnancy in advance by eliminating all diseases in the oral cavity in a timely manner.

- I trimester of pregnancy. The gynecologist necessarily at the time of registration recommends visiting a dentist. In the period up to 12 weeks of pregnancy, it is necessary to take measures aimed at preventing the development of gingivitis and caries: motivation, plaque staining, instruction and controlled individual oral hygiene. The dentist teaches the correct brushing technique and selects personal hygiene products: a brush, preventive paste in accordance with the needs, interdental hygiene products - dental floss and brushes, rinses. In the first trimester of pregnancy, dental treatment is undesirable, since medical manipulations can adversely affect the health of the unborn child (at this time, the laying and development of the main systems and organs of the fetus takes place). If necessary, they are limited only to urgent interventions for acute toothache.
- II trimester of pregnancy. Oral hygiene is an important part of prenatal care. Treatment should be aimed at eliminating chronic periodontal inflammation, caries and its complications. Necessary dental treatment during pregnancy is best done between 13 and 27 weeks. The exception is the critical period - 18-22 weeks, when the fetus is especially susceptible to adverse factors. Mandatory monitoring of individual and professional oral hygiene, the use of fluorine preparations for enamel. Patients with late preeclampsia individually select the time of the visit, during the period of good health. After 20 weeks, you can not be in a dental chair in a horizontal position on your back, the most favorable position is half-sitting





or on your left side. The III trimester of pregnancy begins with the next stage of intensive growth of the fetus and uterus at 28-32 weeks (this is the last critical period of pregnancy). Therefore, the next visit to the dentist should be scheduled for 33-36 weeks. During this visit, oral hygiene is again monitored, if necessary, treatment and preventive measures are carried out. Features of carrying out dental measures for pregnant women It should be taken into account that pregnant women are highly sensitive to the taste and smell of the products used, humidity and ambient temperature. To avoid the development of hypoglycemia, it is necessary to make sure that the patient has not missed a meal. Staying in the dental chair should be as short as possible [5]. Local anesthesia during treatment is not contraindicated. Preparations based on articaine hydrochloride with a minimum content of epinephrine 1:200,000 (ultracaine, ubistezin, articaine) are used, which do not cross the placenta and do not adversely affect the fetus. Radiography. The principle "as little as possible" should be followed, that is, radiography should be used only when other diagnostic methods are not informative. Periodontal diseases. The traditional mechanical method of removing dental deposits is used. The use of ultrasonic scalers is debatable, you should follow the manufacturer's instructions (take into account whether there are contraindications for pregnant women), minimize the use of ultrasonic devices. A promising method for removing microbial biofilm is the air-abrasive method. To do this, use low-abrasive powders of glycine and erythritol, which do not injure the gum epithelium. Physiotherapeutic methods of treatment of periodontal diseases are contraindicated. For antiseptic rinses during the treatment of periodontal diseases, pregnant women are recommended the following pharmaceutical preparations. • Furacilin - water 0.02% solution (1:5000), 3-5 times a day for 3 minutes. • Sangviritrin - use only an aqueous solution (1 tsp 0.2% alcohol solution per 200 ml of water) for rinsing 2-3 times a day. • Chlorophyllipt - an aqueous solution (1% alcohol solution is diluted in a ratio of 1:10) is used for rinsing 3 times a day. • Miramistin - for rinsing the mouth (10-15 ml) 3-4 times a day. When applied topically, Miramistin does not have the ability to be absorbed through the skin and mucous membranes. • Hexetidine - in the first trimester is contraindicated, only the solution is used, twice a day after meals. In 2015, the Program for the Prevention of Dental Caries and Periodontal Diseases among the Population of Minsk was introduced, in accordance with the provisions of which the following measures are being implemented in antenatal clinics and dental clinics. Dental clinic (dental department, dental office): - planning and providing the necessary means of prevention; - interaction with women's consultations on the issue of 100% coverage of pregnant women with dental services; - health education on the prevention of





dental diseases and sanitation of the oral cavity of pregnant women. Women's consultations: - health education of pregnant women, providing women with reminders on the prevention of dental diseases in newborns and young children; – assistance to dental institutions in organizing and conducting lectures, conversations for pregnant women; – interaction with the dental service on the issues of 100% coverage of dental care for pregnant women; - referral of pregnant women to a dentist for sanitation of the oral cavity.

## Conclusion

Thus, the tactics of a dentist provides for constant monitoring of a woman during pregnancy in order to assess the condition of the oral cavity, carry out preventive measures, treat existing diseases and prevent the development of complications. It is also important to interact with gynecologists to achieve the best results in maintaining the health of the expectant mother and her child.

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