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PREVENTION OF PERIODONTAL AND GUM DISEASES IN PREGNANT WOMEN

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Annotation. Pregnant women have a high rate of dental morbidity and a high risk of infection with Str. mutans. Carrying out preventive measures reduces the risk of developing caries and periodontal diseases in pregnant women. The introduction of a xylitol-containing hygiene product into a preventive dental program leads to a pronounced decrease in Str. mutans in the saliva of pregnant women, which may help reduce the risk of early caries in their children.

Key words: pregnancy, prevention, xylitol, early childhood caries.

Pregnancy should be considered as a risk factor for the development of major dental diseases - caries and periodontal diseases.

The most common dental complication of pregnancy is gingivitis. This is facilitated by the high concentration of estrogens, progesterone and prostaglandins that accompany pregnancy. These biologically active substances disrupt the blood supply to the gums, damage the cellular immune system, prevent collagen synthesis and changes in the properties of the subgingival microflora. It should be borne in mind that the lack of treatment for gingivitis in pregnant women increases the likelihood of its rapid progression.

Periodontal diseases, caused and maintained by gram-negative anaerobic bacteria, disrupt the normal course of labor due to the inflammatory production of cytokines by the placental membranes, leading to preterm labor and low body weight of the infant during premature birth.

Accordingly, during pregnancy the need for treatment and prevention of periodontal diseases increases.

According to some studies, there is no evidence that pregnancy is a risk factor for dental caries. An increased risk of caries during pregnancy may be associated with a temporary deterioration in oral hygiene, changes in food preferences, and an increase in carbohydrate content in food. In addition, due to hormonal changes in pregnant women, the functional activity of the salivary glands is often reduced, the amount of salivation is reduced, and the process of remineralization in the enamel is correspondingly reduced.

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Programs for the prevention of major dental diseases in pregnant women should include dental education, measures aimed at all parts of the etiopathogenesis of caries and inflammatory periodontal diseases, primarily antimicrobial, remineralizing therapy, measures aimed at increasing the functional activity of the salivary glands. All of the above justifies the high importance of carrying out preventive measures in pregnant women. In recent years, triclosan and chlorhexidine have been widely used as antimicrobial agents, but their use has a number of negative factors. One of the promising areas in the prevention of caries is the use of sweeteners, in particular xylitol, which has pronounced anti-caries properties. It has now been proven that its anti-caries effectiveness is the highest among the entire group of sugar alcohols.

The mechanism of action of xylitol is multifactorial:

• The absence of enzymes in microorganisms that break down xylitol leads to its excessive accumulation in the bacterial cell, which causes its lysis - “lethal synthesis”.

• Xylitol causes a significant increase in the activity of salivary lactoperoxidases, enzymes that promote the lysis of cariogenic microorganisms.

• Xylitol reduces the adhesion of cariogenic microorganisms to the hard tissues of teeth, prevents the formation of dental plaque, which contributes to better hygienic condition of the oral cavity.

Xylitol accelerates salivation, increases the buffering and remineralizing functions of saliva. The use of xylitol in chewing gum leads to a decrease in the amount of plaque and a decrease in the amount of Str. mutans in dental plaque.

It would be of interest to develop activities aimed at including hygiene products containing xylitol in the prevention program.

The antibacterial effect of xylitol has also been revealed against periodontal pathogenic microorganisms. The use of chewing gum as a hygiene product is very promising. The main condition for classifying chewing gum as an oral hygiene product is the absence of sugar in it and the presence of ingredients that determine its therapeutic and prophylactic properties.

Physiological effects of chewing gum:

• deodorizing effect;

•cleansing effect;

• stimulation of increased salivation and, as a result, an increase in the amount of saliva, an increase in the buffer capacity and remineralizing potential of saliva, anti-inflammatory effect, specific effects (due to the introduction of therapeutic additives into chewing gum).

The literature provides convincing data on the anti-inflammatory effect of chewing gum on periodontal tissue.

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The anti-caries effectiveness of chewing gum is mediated by the entire complex of its physiological effects: non-sugar-containing chewing gums with xylitol and fluoride have the highest anti-caries effectiveness.

The program for the prevention of dental diseases in pregnant women included the following activities:

- dental education, oral hygiene training;
- carrying out professional oral hygiene (one time);
- carrying out applications of fluoride-containing drugs (2 times within 3 months);
- use of the remineralizing drug “Tooth Mousse” daily at home.

In the second group, in addition to the above measures, women consumed xylitol-containing chewing gum XYLITOL (LOTTE) 3 lozenges per day. It was recommended to use the gum after eating for 5 minutes.

A study of the dental status of pregnant women showed a high incidence of caries and a high degree of periodontal disease. Pregnant women were also found to have a high risk of infection with Str. mutans, which indicates a significant risk of transmitting cariogenic flora to their children.

Carrying out preventive measures during pregnancy reduces the risk of developing caries, periodontal disease, and improves the hygienic condition of the oral cavity.

The introduction of xylitol-containing chewing gum into a preventive dental program leads to a pronounced decrease in the content of Str. mutans in the saliva of pregnant women, which may help reduce the risk of early childhood caries in their children.

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