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# Parodontal Disease and Oral Mucosa among Pregnant Women Living in Various Environmental Conditions

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Dental diseases are widespread all over the world and affect almost all segments of the population, especially its sensitive part - children and pregnant women. Among these diseases, periodontal and oral mucosa diseases are among the most common [2, 3, 6].

According to WHO, about 95% of the adult population of the planet and 80% of children have some signs of periodontal disease. The same indicators are found for pregnant women. Among all periodontal diseases, 90-95% are inflammatory diseases such as gingivitis and periodontitis [1, 4, 5].

Considering the above, the purpose of our research was to study and assess the prevalence of periodontal diseases and oral mucosa in pregnant women living in different ecological and geographical conditions of Uzbekistan.

Materials and methods. We studied the dental status of 1,012 pregnant women living in the Khorezm region, which belongs to the ecologically disadvantaged region of the Southern Aral Sea region. For comparison, the dental status was studied in 980 pregnant women living in the Tashkent region, which is relatively more environmentally favorable than the Khorezm region. The age composition and gestation periods of the surveyed contingent were representative (16-49 years old). All the surveyed were divided into the following age groups: under 20 years old; 20-29 years old; 30 years and older.

To assess the intensity of periodontal diseases, WHO recommended indices of the need for treatment of periodontal diseases - CPITN were used. To do this, the dentition was conditionally divided into 6 parts (sextants), including all teeth. A sextant was counted if it contained two or more teeth that could not be removed. If there was only one tooth, the sextant was counted as excluded.

The following criteria with codes were used to evaluate the CPITN index: code 0 - healthy tissues; code 1 - bleeding observed during and after probing; code 2 - tartar or other plaque-retarding factors visible or felt during probing; code 3 - periodontal pocket 4-5 mm; code 4 - periodontal a pocket with a depth of 6 mm or more; code X - when only one tooth is present in the sextant or there are no teeth. Using the CPITN index values, the intensity of periodontal diseases was calculated. To determine the intensity of periodontal diseases, the sum of sextants with codes 1, 2, 3, 4 was determined.

The average intensity of periodontal diseases in the examined group was determined by the sum of sextants with signs of lesion divided by the number of pregnant women examined.

Results and discussion. An objective assessment of the periodontal condition of pregnant women is a difficult task. The periodontal condition during pregnancy is characterized by high lability.

Among young pregnant women (under 20 years of age), periodontal diseases were 1.2 times more common among women living in an ecologically disadvantaged region compared with the same contingent living in an ecologically relatively favorable region ($p<0.01$). At subsequent ages, the difference between these indicators among pregnant women in the studied regions is insignificant.

The analysis of the obtained data revealed another pattern, that with age the number of pregnant women with a healthy dental status decreases, with a parallel increase in persons with periodontal pathologies.

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This pattern is typical for both studied regions. Moreover, among pregnant women with a healthy dental status at all ages, a greater percentage were pregnant women in the Tashkent region, while among pregnant women in the Khorezm region there is a noticeable prevalence of people with periodontal diseases.

In women with periodontal diseases, signs such as the presence of tartar, bleeding, and the presence of periodontal pockets of various sizes ($p<0.01$) were most often recorded.

It should be noted that among the clinical signs of periodontitis, bleeding gums is most often noted. With age, this sign is becoming more common. Thus, compared with the younger age up to 20 years, where bleeding gums was noted in 72.0±4.0% of pregnant women in Khorezm region and 59.1±6.8% of Tashkent region aged 30 years and older, this sign was 1.3 times more common in both regions ($p<0.01$).

The next common sign characterizing the condition of periodontitis is the presence of tartar. At the age of 20, tartar was found in 56.2±4.5% of pregnant women in the Khorezm region and 47.3±6.9% of the compared region, at the age of 20-29 years, respectively, in 67.3±2.1% and 52.9±2.3%. Among older pregnant women (30 years and older), these indicators were 88.5±2.5% and 66.2±3.6%, respectively.

The increase in dental deposits with age in pregnant women of the Khorezm region was 1.4 times greater than in pregnant women of the Tashkent region ($p<0.01$).

The presence of a gingival pocket up to 4 mm deep was recognized at various ages in 23.5-41.0% of pregnant women in Khorezm region and in 13.4-29.5% of pregnant women in Tashkent region. Deeper periodontal pockets (6 mm or more) were found, respectively, in pregnant women in the Khorezm region in 9.4-24.4% of cases and in the Tashkent region in 5.3-10.6% of cases.

A similar pattern can be traced when studying the intensity of periodontal damage (the number of healthy and affected sextants per 1 pregnant woman) in the contingent we studied ($p<0.05$).

The number of healthy teeth in pregnant women living in the Khorezm region is 1.5 times less than in the same contingent living in the Tashkent region.

As can be seen from the table, the number of sextants with bleeding, tartar, pathological periodontal pockets is 1.3-3.0 times higher in pregnant women living in an ecologically disadvantaged region, compared with pregnant women living in an ecologically relatively favorable region.

Dental examination of pregnant women revealed that most of them, especially at an older age, who had more than 2 pregnancies and childbirth, have various signs of symptoms of gingivitis and periodontitis: bleeding, an abundance of dental deposits in the area of all teeth, itching, pain, looseness, sometimes purulent discharge from the gingival pockets.

Attention is also drawn to the fact that pregnant women of the Khorezm region most often had severe forms of chronic periodontitis in the acute stage.

As you know, the mucous membrane of the oral cavity is very sensitive and is the first to be exposed to external stimuli. In this regard, we studied the condition of the oral mucosa in the studied contingent of pregnant women.

The results of the research showed that pre-pregnant and re-pregnant women living in the Khorezm region have a higher incidence of pathology of the oral mucosa than among pregnant women living in the Khorezm region. It should be noted that among repeat pregnant women, there is a significantly high incidence of pathology of the oral mucosa compared to that of pre-pregnant women ($p<0.05$). At the same time, viral and candidiasis stomatitis, eczematous cheilitis are most often noted, desquamative glossitis, chronic recurrent aphthous stomatitis (HRAS) are somewhat less common, and catarrhal cheilitis and catarrhal stomatitis are even less common.

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At the same time, among pregnant women living in the Tashkent region, the leading place in the structure of morbidity of the oral mucosa is occupied by HRAS and catarrhal cheilitis; the 2nd place is eczematous cheilitis and desquamative glossitis and the 3rd place is catarrhal stomatitis. Some pregnant women of the Khorezm region had such diseases of the oral mucosa as viral and candidiasis stomatitis, which were absent in pregnant women of the Tashkent region.

Catarrhal cheilitis and stomatitis were observed in both groups compared, but their frequency was significantly higher among pregnant women in the Khorezm region.

**Conclusions:**

1. Symptoms of periodontitis such as bleeding gums by 1.2 times, the presence of tartar by 1.3 times, the presence of periodontal pockets 4-5 mm deep, 6 mm or more were 2 times more common in pregnant women living in an ecologically unfavorable region, compared with pregnant women living in a relatively ecologically prosperous region.
2. All the main symptoms of gingivitis and periodontitis were most common in high-cost women compared with pre-pregnant women ($p<0.01$), in both areas compared.
3. First- and second-time pregnant women living in the Khorezm region were more likely to have viral and candidal stomatitis, whereas pregnant women in the Tashkent region practically did not have these diseases, and HRAS were the most common.
4. The frequency and nature of pathological processes on the oral mucosa of pregnant women depends on a number of factors: place of residence, age, frequency of pregnancy and childbirth.

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