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THE PREVALENCE OF DENTAL DISEASES AMONG WOMEN OF FERTILITY AGE

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Relevance. Numerous studies have been conducted to assess the dental health of women across different age groups, determine the prevalence of dental diseases, and establish preventive measures for complications through a novel treatment approach.

However, it is crucial to conduct a comparative analysis of women in the reproductive age group based on their place of residence. This will allow for an assessment of the dental services provided to them and a determination of the demand for specialized care in rural areas. Such research contributes to the advancement of ecological dentistry alongside clinical and preventive dentistry.

Based on this, the dental health of women of childbearing age (19-49 years old) living permanently in rural conditions was studied to determine the level of medical knowledge about dental diseases among the respondents through a dental examination and a questionnaire interview.

Even today, the study and evaluation of dental diseases, like most somatic ones, are important to identify and compare the complaints of patients because the subjective impressions of patients are necessary to match them with the results of their objective examination, carry out a differential diagnosis of diseases, and determine treatment tactics [2.4.6.8.10.12.14].

The results of the interpretation and analysis of the obtained results were conducted for women living in rural and urban conditions, and then for their age groups.

The frequency of complaints of dental diseases in the studied women of reproductive age is presented in Table 1.

The occurrence rate of complaints of dental diseases in women of childbearing age living in rural and urban conditions.

Table 1

Complaint		Bogot district n=986	Yangibozor district n=933	Urgench city n=855
Night pain		15,62±1,16	12,0±1,06	12,98±1,15
Entry of food residues into cavity		36,71±1,54	39,34±1,60	36,84±1,65
Presence of cavity		38,95±1,55	46,62±1,63	48,42±1,66
Esthetic defect		6,09±0,76	6,32±0,80	9,59±1,01*
Bleeding gums		9,13±0,92	5,14±0,72	6,90±0,87
Redness of gums		5,38±0,72	7,07±0,84	9,36±1,00
Unpleasant smell in mouth		8,62±0,89	8,36±0,91	7,60±0,91
Loose teeth		6,69±0,89	5,68±0,76	1,52±0,42
Swelling		3,14±0,56	3,11±0,57	1,87±0,46
Pain in chewing		3,65±0,60	2,67±0,68	3,16±0,60
Itch in gums		4,26±0,64	5,14±0,72	5,26±0,76
Pain in gums		1,42±0,38	1,07±0,34	1,29±0,39
Pain	Severe	4,46±0,66	3,32±0,59	4,68±0,72
	Throbbing	8,22±0,87	4,61±0,69	6,43±0,84
	Short-term	2,94±0,54	4,07±0,65	1,87±0,46
Sensitivity to hot and cold		1,01±0,32	0,96±0,32	0,23±0,16
Bleeding gums when brushing		3,14±0,56	3,11±0,57	0,82±0,31*

It should be noted that all women of fertile age in the study did not make a complaint particular to dental diseases. The number of people who did not complain about their dental health was 176 (17.85±1.22%) and 158 (16.93±1.23%) in the rural districts (Bogot and Yangibozor), respectively, while in the urban area (the city of Urgench) the indicator reached 138 people (16.14±1.26%). It can be seen that there was no significant difference in the number of people who did not complain about their dental health in all three regions ($P > 0.05$). Therefore, no difference was found between rural and urban women of childbearing age regarding the presence of symptoms of dental diseases. However, these data are the results of the current medical examination, which did not take into account the occurrence of dental diseases and their characteristic symptoms during their lifetime.

If we refer to the level of complaints during the dental examination and their analysis, we will see that the most common complaint is the presence of cavities in the teeth and food getting into them. There was no practical difference by region regarding complaints about cavities in the teeth - 38.95±1.55% (n=384) in Bogot district, 46.62±1.63% (n=435) in Yangibozor district and 48.42±48.42% in Urgench city. 1.66% (n=414). This trend was also observed in the presence of food debris in the cavities and

there appeared discomfort in teeth: 36.71±1.54% (n = 362), 39.34±1.60% (n = 367), and 36.84%, respectively. ±1.65% (n = 315), P > 0.05. Apparently, these changes in the teeth did not depend on the place of residence, lifestyle, profession, or education.

Another clinical symptom that bothered the studied women is the pain associated with dental diseases. During the dental examination, this symptom was found equally in rural districts and cities - 15.62±1.16% (n=154), 12.00±1.06% (n=112) and 12.98±1, respectively .15% (n=111) - P > 0.05.

The study was conducted according to the characteristics of the pain. No significant differences were observed between severe, throbbing, and short-term pain (Diagram 1).

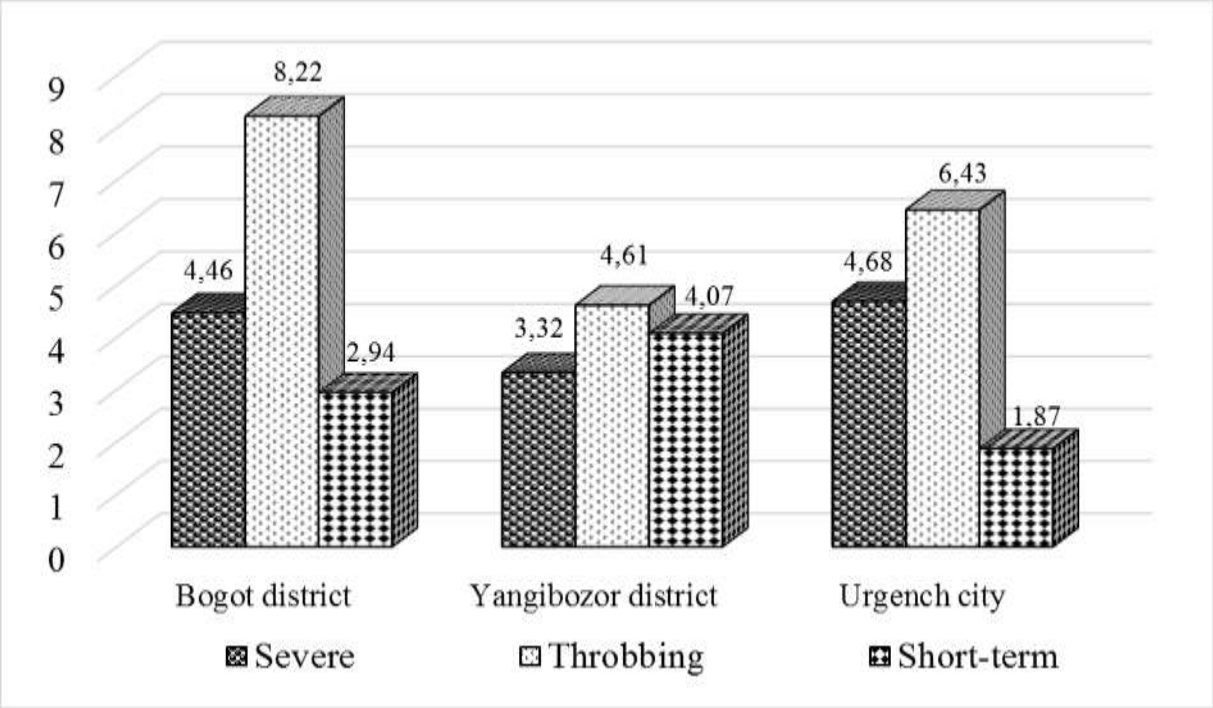

Diagram 1. Indicators of complaints of different types of pain by women of childbearing age living in different regions, %

In all three regions, throbbing pain was relatively dominant (P > 0.05), but it cannot be said that this pain was mainly of this nature because the level of detection was not significantly higher than that of other types of pain.

Gum-related complaints such as bleeding gums, pain in gums, and itch in gums were also studied comparatively by region. It was found that there was no regional difference in bleeding gums (P > 0.05). This complaint was found in 5.14-9.13% of cases. Similar results were also obtained for gingivitis, with a regional complaint rate of 4.26±0.64% (n=42), 5.14±0.72% (n=48), and 5.26±0.76% (n=45), respectively. It can be seen that a reliable interregional difference was not detected in this case (P > 0.05). Women who complained of pain in gums were a minority (in 1.07–1.42% of cases), and no reliable regional differences were found (Diagram 2). The following specific features were found for these three complaints: complaints related to gums were less common

than other complaints in 1.07-9.13% of cases; gingival pain was convincingly less common than gingival bleeding, suggesting no direct correlation between these complaints; and there were no statistically significant regional differences in complaints such as bleeding gums, itching, and pain in them (P > 0.05).

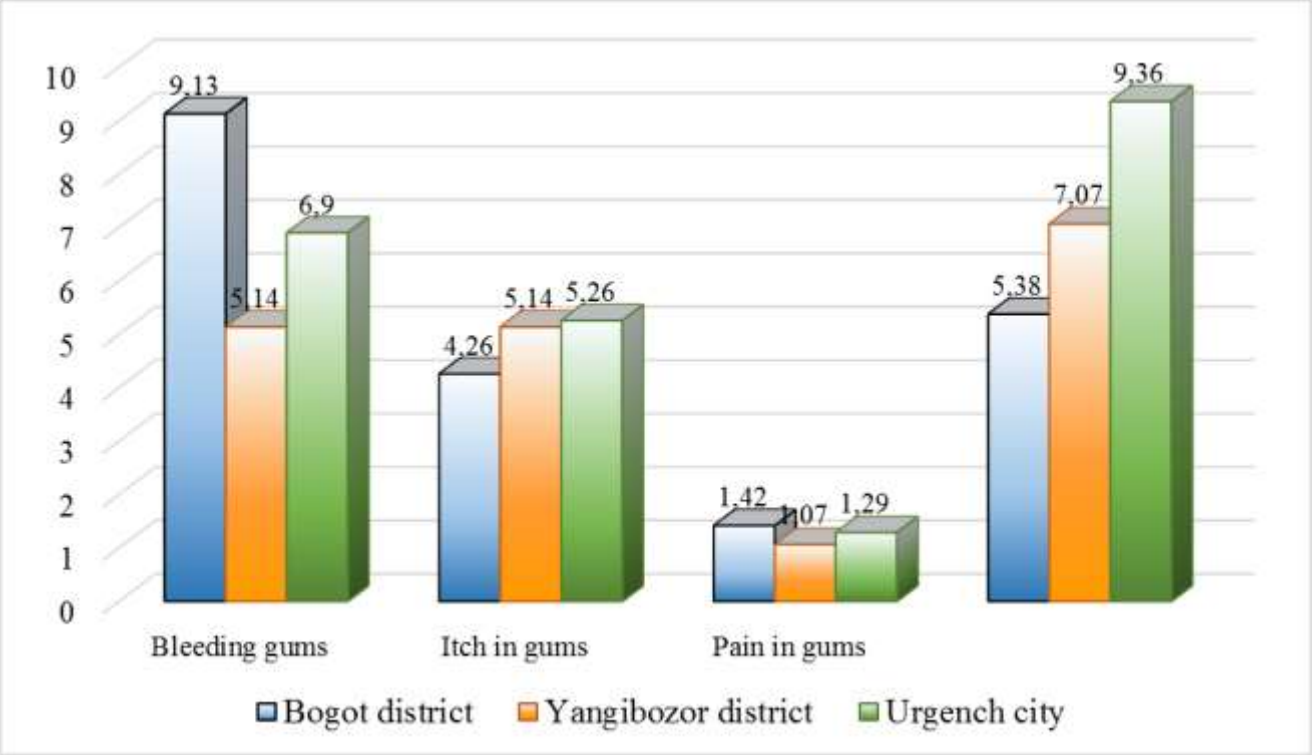

Diagram 2. Parameters of the frequency of complaints of women of reproductive age related to the gums depending on the region, %

Another complaint is gingival redness, the incidence of which was within the range of the above three complaints - 5.38±0.72% (n=53), 7.07±0.84% (n=66), and 9.36±1.00% (n=80). There was no interregional difference in terms of quantitative and relative numbers (R>0.05), that is, complaints among rural and urban women were at the same level.

Thus, the study of the level of detection of complaints related to dental diseases in women of fertile age living in rural and urban conditions showed that among all complaints, the presence of cavities in the teeth (38.95-48.42%) and the entry of food residues into these cavities (36.71 -39.34%) had complaints, while absolute and relative (%) differences between regions were not detected. The incidence of four pain-related complaints was less frequent compared to previous complaints, while no significant difference was observed for night pain, severe pain, radiating pain, and short-term pain (P > 0.05). Among the pains, night pain (12.0-15.62%) and throbbing pain (4.61-8.22%) were less common than other pains (severe, short-term). Complaints related to the gums (bleeding, redness, itching and pain of the gums) also differed in this quantitative range (1.07-9.36%), and in this case, there was no regional difference (P > 0.05). Therefore,

no differences were found between the studied women living in rural and urban areas regarding the complaints related to dental diseases related to the presence of cavities in the teeth, pain and pathological conditions in the gums [1.3.5.7.9.11.13.15].

No difference was found in other reported complaints (bad breath, loose teeth, swelling, hot-cold sensitivity, etc.) ($P > 0.05$).

Among the 17 complaints, 2 complaints with regional differences stand out, the first of which was an aesthetic defect, and the second was bleeding gums when brushing. Residents of rural districts indicated aesthetic defects as a complaint in 6.09±0.76% (n=60) and 6.32±0.80% (n=59), respectively, while urban residents indicated 9.59±1.01% (n=82) showed statistically significant difference between the numbers obtained in both cases ($P < 0.05$). We would like to emphasize that this difference was 1.57 and 1.52 times higher, respectively. Complaints of bleeding gums when washing are less common in urban women compared to rural women: 0.82±0.31% (n = 7) in urban residents, 3.14±0.56% in rural districts, n = 31 (Bogot), and 3.11±0.57%, n = 29 (Yangibozor) cases. The incidence rate of this complaint was 3.83 and 3.79 times lower in urban residents compared to compared women ($P < 0.001$). The difference between both complaints was explained by the fact that in the city, attention to aesthetic defects is stronger and attention to oral cavity hygiene is higher.

The next indicator under study was the accuracy rate of the diagnoses made as a result of the dental examination. 11 dental diagnoses were given to the women of childbearing age involved in the study (Table 2).

Table 2

Indicators of regional distribution of dental diseases in women of childbearing age

Diagnoses	Bogot district n=986	Yangibozor district n=933	Urgench city n=855
Medium caries	17,85±1,22	18,01±1,26	10,18±1,07*
Deep caries	17,04±1,20	16,93±1,23	14,62±1,21
Acute pulpitis	16,23±1,17	15,65±0,51	14,15±1,19
Chronic periodontitis	14,81±1,13	16,93±1,23	16,14±1,26
Gingivitis	11,76±1,03	10,18±0,99	6,78±0,86*
Periodontosis	10,95±0,99	10,06±0,98	4,91±0,74*
Wedge-shaped defect	6,29±0,77	4,93±0,71	6,67±0,85
Periodontitis	5,58±0,73	5,79±0,76	2,46±0,53*
Tartar	8,92±0,91	10,29±0,99	7,72±0,91
Chronic pulpitis	0,30±0,17	0,11±0,10	0/0
Fibrosis	0,20±0,14	0/0	0/0

As can be seen from the studied table 2, as a result of dental examination, a total of 11 dental diseases of varying intensity were found in women of childbearing age. Although there were no reliable changes in some nosological units by region, it was found that there was a difference in the quantitative indicators of some diseases. A total

of 1,084 diagnoses were made in Bogot district (1.10 diseases per examinee), in Yangibozor district this figure was 1,016 (1.09), and in Urgench city it was 715 (0.84). It can be seen that the rate of occurrence of dental diseases was lower in the city than in the rural districts with a ratio of 1.10:1.09:0.84.

If we look at the nosological units, the main difference by region was observed for medium caries, gingivitis, periodontal disease, and periodontitis. If the incidence of secondary caries was significantly lower in urban women than in rural women by 1.75 and 1.77 times ($P < 0.001$), the lower incidence of gingivitis was 1.73 and 1.50 times ($P < 0.001$). Similar results were found for periodontal disease (2.23 and 2.05 times less in cities) and periodontitis (2.27 and 2.35 times less in cities) ($P < 0.01$) (Diagram 3).

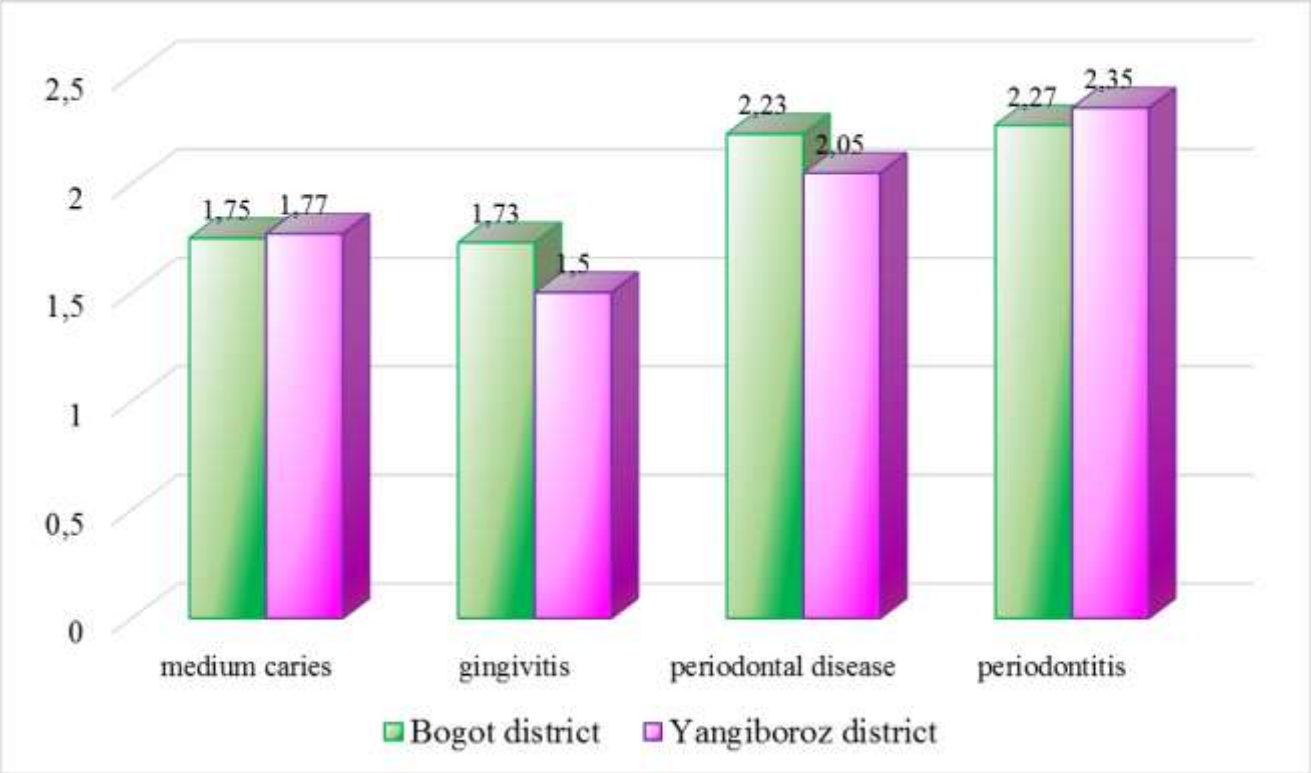

Diagram 3. Indicators of the ratio of the rate of detection of dental diseases in women of childbearing age living in rural conditions compared to urban women, many times

The high frequency of the mentioned 4 dental diseases compared to others is a characteristic of rural conditions and should be taken into account in planning and carrying out primary prevention of dental diseases.

Women of fertile age living in rural and urban conditions encountered a total of 11 dental diseases of varying intensity during the dental examination. Although there was no significant difference in the incidence of a total of 7 dental diseases, there was a difference in the remaining 4 diseases. Medium caries was 1.75 and 1.77 times more common in women living in rural areas than urban women, gingivitis was 1.73 and 1.50

times, periodontal disease was 2.23 and 2.05 times, periodontitis was 2.27 and 2.35 times significantly more (P < 0.001).

Also, this trend was clearly seen in the ratio of all indicators to each other: 1.10:1.09:0.84. This ratio, which shows the level of occurrence of diseases in each subject, proved that dental diseases are more common in rural districts compared to urban conditions [17.19.21.22].

Research material and methods: It should be noted that the complaints and objective examination results of the women involved in the study of these dental diseases were typical for this nosological unit, so we did not find it necessary to list them one by one, and there were no interregional differences in the results of this objective examination. The results of the objective examination revealed no teeth-jaw anomalies and deformations, benign or malignant tumors, enlarged lymph nodes, or infectious diseases in these women, so we did not find it necessary to dwell on these numbers.

It is impossible to make an opinion about the dental status without having information about the condition of the oral cavity. Therefore, we analyzed dental diseases separately based on the study of the condition of the mucous membrane of the oral cavity.

The obtained results showed that the degree of aphthous, herpetic, traumatic, and candidal stomatitis in the form of stomatitis was different (Table 3).

Table 3

Comparative indicators of occurrence of diseases of the mucous membrane of the oral cavity among women of childbearing age living in different regions

Stomatitis	Bogot district n=986	Yangibozor district n=933	Urgench city n=855
Aphthous stomatitis	14,60±1,12	14,04±1,14	5,15±0,76*
Herpetic stomatitis	4,06±0,16	3,75±0,62	3,74±0,65
Traumatic stomatitis	5,48±0,72	6,43±0,80	2,92±0,58*
Candidal stomatitis	3,75±0,61	4,61±0,69	1,05±0,35*

Note: * - a convincing mark of difference compared to rural districts

As shown in table 3, among women of childbearing age living in rural districts, diseases of the mucous membrane of the oral cavity were detected in a large number compared to their urban counterparts, and these numbers were at a reliable level in 3 out of 4 studied nosological units (P < 0.001). If we refer to the interpretation of the obtained numbers, the prevalence of herpetic stomatitis in women living in rural districts - Bogot and Yangibozor is 4.06±0.16% (n=40) and 3.75±0.62% (n=35), respectively, and we consider that the absence of regional differences among women living in the city of Urgench is related to the pathogen that causes this pathology.

The causative agent of herpetic stomatitis is a DNA-storing virus belonging to the Herpesviridae family, today there are 5 types, of which the first type is called simple

herpes virus, which mainly causes inflammatory diseases in the mucous membrane of the oral cavity. If we take into account that these viruses are found in 98% of people regardless of age, sex, and region, we see that their release is high even in the women we studied. Therefore, regional differences in this pathology were not detected (R>0.05).

As for other diseases, their detection rate was higher in rural districts compared to urban indicators (R<0.05–R<0.001). If we refer to the numbers, aphthous stomatitis was 14.60±1.12% (n = 144) in Bogot district, while it was within this parameter in Yangibozor district: 14.04±1.14% (n = 131) (P > 0.05). When these figures were compared with that of the city of Urganch, different results were obtained. Among women of fertile age living in this city, aphthous stomatitis occurred in the amount of 5.15±0.76% (n = 44), which is 2.83 times less than the parameters of Bogot district and 2.73 times less than the parameters of Yangibozor (P < 0.001), (Table 4).

Table 4

Detection rate of diseases of the mucous membrane of the oral cavity in women of childbearing age living in different regions, times

Stomatitis	Bogot district n=986	Yangibozor district n=933
Aphthous stomatitis	2,83*↑	2,73*↑
Herpetic stomatitis	1,09↔	1,00↔
Traumatic stomatitis	1,88*↑	2,20*↑
Candidal stomatitis	3,57*↑	4,39*↑

Note: * - a sign of a convincing difference relative to the city indicators; ↑ - directions of changes; ↔ - no reliable difference

A similar trend of changes, but less intense, was observed in terms of the incidence of traumatic stomatitis. The indicators of the city of Urgench (2.92±0.58%, n=25) are 1.88 times higher than the results obtained for women of Bogot district (5.48±0.72%, n=54), than the parameters of Yangibozor district (6.43± 0.80%, n=60) was significantly higher by 2.20 times (P < 0.001). Therefore, the incidence of traumatic stomatitis in women of childbearing age living in rural conditions was significantly higher than that of their urban counterparts. If we look at the distribution of traumatic stomatitis according to the causes of origin, it was as follows in urban women: mechanical impact - 20 people; thermal effect - 4 women, and chemical effect - 1 woman. It seems that the main reason was mechanical impact or traumatic injuries. A similar trend was observed in rural districts - in Bogot district: mechanical effect - 47 women, thermal effect - 5 and chemical effect - 2 women. 53 women of childbearing age permanently living in Yangibozor district were subjected to mechanical effects, 6 to thermal effects, and 1 to chemical effects [16.18.20.21.22].

It is noteworthy that there was no regional difference in the causes of traumatic stomatitis. This situation is related to national mentality, general way of life. The

difference in the level of encounter is explained by the specific way of life in rural conditions (Diagram 4).

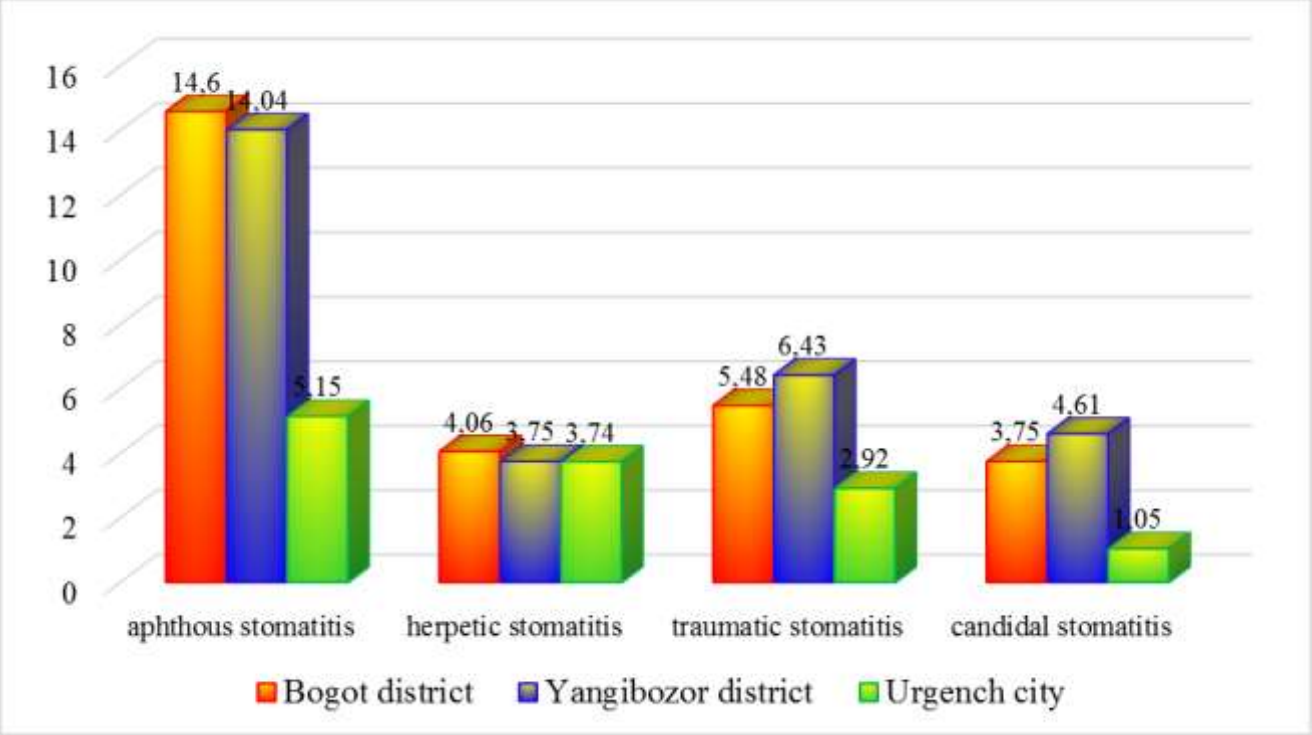

Diagram 4. Comparative parameters of the diseases in the mucous membrane of the oral cavity in women of childbearing age living in different regions, %

Although the detection rate of candidal stomatitis is similar to that of aphthous and traumatic stomatitis, the intensity of differences was at the highest level. If candidal stomatitis was found in 37 (3.75±0.61%) women who participated in the study living in Bogot district, this indicator was found in 43 women in Yangibozor district (4.61±0.69%), this pathology in Urgench city was found in 9 (1.05±0.35%) women. It can be seen that this dental disease was 3.57 and 4.39 times more common in rural areas than in urban areas ($P < 0.001$). The difference between candidal stomatitis and other stomatitis is that its cause is a trigger. As a result of mycological tests, mainly Candida albicans was identified in the biological material taken from the oral cavity, other yeast fungi belonging to this genus (Non-albicans) were not identified. Based on the clinical appearance and complaints of women, candidal stomatitis was confirmed by mycological method with Candida albicans germination.

Thus, the study of the level of detection of dental diseases related to the mucous membrane of the oral cavity in women of fertile age living in different regions showed that the incidence rate of aphthous, traumatic and candidal stomatitis in women living in rural areas differed by a significantly higher incidence compared to urban women ($P < 0.05 – P < 0.001$). If we look at numbers, it was found that aphthous stomatitis is 2.83 and 2.73 times, traumatic stomatitis 1.88 and 2.20 times, and candidal stomatitis 3.57 and 4.39 times, respectively. No significant rural district differences were found for these dental diseases. There was no regional difference in herpetic stomatitis, which was

explained by the prevalence of herpes viruses of type 1, which cause this disease, among the population. The leading cause of traumatic stomatitis regardless of location was mechanical effects (injuries), thermal and chemical effects were rarely identified as traumatic stomatitis. Candida albicans was the causative agent of candidal stomatitis in all cases, regardless of location, Non-albicans was not detected. It is necessary to take into account the different level of occurrence of dental diseases related to the mucous membrane of the oral cavity in women of childbearing age living in rural and urban areas, in the assessment of dental health, development and implementation of prevention of dental diseases.

Based on the interpretation and analysis of the numbers obtained as a result of the study of the level of detection of dental diseases among women of childbearing age, the following specific aspects were identified that allow solving this problem:

Conclusions

Women living in rural districts have more dental complaints than women of childbearing age living permanently in the city;

Among all the complaints, the presence of cavities in the teeth (38.95-48.42%) and the presence of food residues in these cavities (36.71-39.34%) were the most common complaints, no regional differences were found in these indicators;

The level of detection of 4 complaints related to pain is less frequent compared to the previous complaints, no regional differences were detected in terms of nocturnal, intense, throbbing and short-term pains reported by women of childbearing age;

Complaints related to the gums (bleeding, redness, itching and pain of the gums) were also found in 1.07-9.36% of cases, it is noteworthy that there was no statistically significant difference between rural districts and urban women in these complaints;

Out of all 17 complaints, regional differences were found in only two complaints which were aesthetic defect and bleeding gums when brushing. Aesthetic defects were 1.57 and 1.52 times more frequent in urban women compared to women of fertile age living in rural districts, while bleeding gums were 3.83 and 3.79 times more frequent, respectively ($P < 0.001$). This situation was explained by the fact that attention to aesthetic defects is stronger in the city, attention to oral hygiene is high;

Out of 11 dental diseases, regional differences were found in 4: medium caries in women living in rural districts by 1.75 and 1.77 times, gingivitis by 1.73 and 1.50 times, periodontal disease by 2.23 and 2.05 times, and periodontitis 2.27 and 2.35 times are significantly more prevalent in women in the city ($R<0.001$);

It is noteworthy that the incidence of common dental diseases among women living in rural areas is higher than among those living in the city, the ratio for each woman is 1.10:1.09:0.84;

Aphthous, traumatic and candidal stomatitis in women living in rural areas was reliably 2.83 and 2.73 times, 1.88 and 2.20 times, 3.57 and 4.39 times higher than in urban women, respectively ($P < 0.001$);

The main causative agent of candidal stomatitis is Candida albicans, and Non-albicans was not grown using mycological methods;

As a cause of traumatic stomatitis, regardless of the place of residence, the leading mechanical effect was differentiated, thermal and chemical factors were determined in very small quantities.

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