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## ODONTOGLYPHIC MOLAR FEATURES OF PERMANENT TEETH OF ADOLESCENTS, TAKING INTO ACCOUNT ETHNICITY

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**Summary:** To analyze the literature on the prevalence and intensity of caries of the people of different ethnic groups regarding the odontoglyphic features of the permanent teeth. Main content: the presented data from the literature suggest that occurrence and prevalence of tooth decay, especially among children, tends to increase. These processes are largely stipulated by environmental conditions, such as biogeochemical fluorine and iodine deficiency. These natural areas include the Transcarpathian region, as the environment in which human lives. In the article there are presented some odontoglyphic and odontology features of permanent teeth of the children, which allows you to recover and rehabilitate teeth-jaw disease, taking into account features of their structure of different ethnic groups. Conclusions: the assessment of the odontoglyphic features of permanent teeth of teenagers of different ethnic groups of Transcarpathia is an interesting clinical research that discovers new methods of influencing the activity of the caries process. Further research is interesting, as it aims to improve the cariogenic situation of teenagers by introducing individualized schemes for the purpose of improvement of the efficiency of the prevention and treatment of dental caries of permanent teeth of the children of different ethnic groups living in the biogeochemical fluorine and iodine deficiency conditions.

**Keywords:** teenager, permanent teeth, caries, odontoglyphic, ethnic group

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**Introduction.** The emergence and prevalence of tooth decay, especially among children tends to increase, despite the rapid development of preventive and reconstructive dentistry during the last decade [8, 27, 29].

The teeth caries process during the first years after their eruption often develops in fissures and natural depressions on the chewing surfaces of permanent teeth [18, 19], due to the low salinity of the specified areas during this period and the complexity of architectonics occlusal surfaces, which creates unfavorable conditions for their cleaning and contributes to tooth decay in fissures [10, 15].

Caries is largely driven by environmental conditions in which the child lives, namely, biogeochemical microelementosis scarce (especially fluorine, iodine, calcium, magnesium, etc.). These natural areas include Transcarpathian region. [2, 7, 18, 25].

The prevalence of caries of the permanent teeth of 12 - year old children in this natural area is  $91,4 \pm 2,3\%$ , while the intensity is  $11,3 \pm 0,1$  [9, 11].

Domestic and international scientists have proved the role of local factors (poor oral hygiene, biochemical composition and the properties of oral liquid, orthodontic pathology and oral microbial coenosis) that directly affect the resistance of teeth to decay. However, according to O. Klitynskyia [8, 10, 11, 12, 13, 14], among the children of the Roma ethnic group, with poor oral hygiene and orthodontic pathology, the prevalence of tooth decay is significantly lower, with a predominance of compensated forms of activity than among children of mixed ethnic groups [27, 28, 30]. That is why the question

of studying the structure of teeth among children of different ethnic groups has arisen.

Objective: To analyze the literature on the prevalence and intensity of caries of the people of different ethnic groups regarding the odontoglyphic features of the permanent teeth.

**Results and discussion.** Odontology - the science that studies the structure, variation and evolution of teeth. Odontoglyphicity – the part of anthropological odontology that studies variation of patterns of chewing surface of the teeth.

The study of ethnic odontology of teeth, isolated ethnic groups, opens new possibilities in modern dental science and it has not only comparative nature, but also allows us to determine identity of one or another kind of phen to a particular ethnic group and determine heredity of the characteristic and its internally specific character [4, 23].

Heredity has an impact on the localization of carious lesions of permanent teeth, but it is proved that fluoride and other exogenous factors do not affect the localization process. Nutritional and environment factors stipulate the intensity [26].

So, A. Zubov, L. Levchenko, Y. Belyakov (1981), and I. Balchyunene (1985), M. Brucker (1944) noted that the resistance depends on the morphological characteristics of teeth: convergence of the points of confluence of the furrows into the central hole, reduction of metaconus, hypoconus, increase of frequency Karabelli cuspid presence, namely, more pronounced variability of morphological features and very little change of amounts typical for the general direction of evolutionary change [5, 24].

Among individuals resistant to caries, more archaic structure of chewing surfaces of

the upper first molar, and among patients with multiple caries - variable structural features of the upper molars, relatively "young" evolutionary, are more pronounced,.

During the analyzing of the chewing surfaces of upper molars there are four basic types of location of intertubercular fissures according to the Balchyunene IA (1985) method. Type A – four cuspidal type of upper molar, which has two close points of fissures merger; Type B – four cuspidal type of upper molar, which has two remote points of fissures merger; Type C – three cuspidal type, with a minor reduction of hypoconus, which has one point of fissures merger; Type D – three cuspidal type, with a considerable reduction of hypoconus, which has one point of fissures merger [1].

Size and placement of cuspids correlates with the relief of fissures which form various patterns.

Odontoglyphic includes several categories of defining characteristics depending on the principle of their formation on the teeth:

- 1) the presence or absence of the fissure;
- 2) the confluence point of the fissures (fissures merger);
- 3) form of the fissure (bend, straight course);
- 4) rupture of the fissures.

During the odontoglyphic study of chewing surfaces of molars there are fissures of 3 orders: the first - the demarcation of the basic cuspids from each other; the second - on the surface of the main cuspids; the third - as lateral and impermanent branches of the fissures of the second order [23].

We can assume that differences in relief are genetically caused or related to the poor conditions of mineralization of the teeth. First order fissures (medial, distal, vestibular and lingual) can form various patterns. The most common are "+" sign shape patterns, letters «Y», «X», "H" shape patterns. According to them the type of relief is determined [3].

Features of the dentition structure could be considered as the result of reduction transformations [22].

The likely reasons for the reduction of masticatory apparatus are the following factors: changes in the structure and composition of food, mechanical and thermal processing of food, the evolution of the skull due to increase and restructuring of the brain. Alveolar processes are, above all, subjected to reduction, which leads to a shortage of space for the correct positioning of the teeth [6, 16].

The complex for the evolutionary and the reductionary changes of masticatory apparatus manifests among both sexes with varying frequency: the hypoconus and lateral incisor reduction, availability of lingual and Karabelli tubercle, combination of crowding and spacings was more often diagnosed among boys, availability of crowding – among girls [21].

It is established that carious and intact teeth have statistically certain varied surface relief. Therefore, the study of the anatomical structure of the chewing surface, has a great theoretical and practical interest and is essential term not only for solving prevention, diagnosis and treatment problems of fissure caries, but for the correction of occlusive disorders and prosthetic treatment, too [17, 20].

Odontology and teeth odontoglyphic knowledge allows you to recover and rehabilitate masticatory apparatus disease, taking into account features of their structure among different ethnic groups.

Development of the prevention and treatment system of common dental diseases includes compulsory study of the prevalence and clinical features of this disease, considering the influence of climatic and geographical factors.

**Conclusions.** The individual features of the structure of the teeth knowledge, the availability of odontology and odontoglyphic of different ethnic groups data, will enable you to develop a personal approach and carry out preventive measures, taking into account conditions and place of residence, which will contribute to the further conservation of the physiological state not only the masticatory apparatus, but and the organism as a whole.

The results of clinical and laboratory studies show that many odontology and odontoglyphic features, combined with the reduction-process of masticatory apparatus, directly affect the pathogenesis of dental diseases.

The assessment of the odontoglyphic features of permanent teeth of teenagers of different ethnic groups of Transcarpathia is an interesting clinical research that discovers new methods of influencing the activity of the caries process.

Prospects for further research : Further research is interesting, as it aims to improve the cariogenic situation of teenagers by introducing individualized schemes for the purpose of improvement of the efficiency of the prevention and treatment of dental caries of permanent teeth of the children of different ethnic groups living in the biogeochemical fluorine and iodine deficiency conditions.

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