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**THE INFLUENCE OF A HARMFUL HABIT – SMOKING ON THE
DENTAL STATUS OF YOUNG PEOPLE**

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Ключевые слова: пародонт, курения, гигиена полости рта.

Резюме: с курением связывают существенное повышение риска ряда заболеваний органов и тканей полости рта, прежде всего патологии пародонта и онкологических новообразований полости рта. В современном обществе данная негативная привычка все чаще встречается среди подростков, поэтому во многих странах мира ведется активная борьба с этим глобальным явлением в рамках проекта Всемирной организации здравоохранения.

Resume: a significant increase in the risk of a number of diseases of the oral organs and tissues, especially the periodontal pathology and oncological tumors of the oral cavity, is associated with smoking. In modern society, this negative habit is increasingly common among adolescents, therefore many countries around the world are actively fighting with this global phenomenon as part of the World Health Organization project.

Topicality. Tobacco smoking remains a global problem of humanity, which threatens both general health and the oral cavity. According to the information center of alcohol, smoking and drug problems in Ukraine, 19 million people smoke cigarettes, of which 40% are over 15 years old (34% smoke every day, 6% - from time to time). This is one of the highest indexes in Europe. In general, the smoking population has increased fivefold over the past 10 years [1,7,8]. In today's society, both men and women smoke, and this negative habit is more common among adolescents; In general, this bad habit has grown into an epidemic and is a risk factor for more than 20 diseases, which make up almost 75% of the structure of the causes of mortality. According to scientific data, smoking reduces life expectancy by 5 years for a 35-year-old woman who smokes, or 7 years for a 35-year-old male smoker. Every year, 4 million people die from the effects of smoking on the planet. Therefore, in many countries of the world there is an active struggle with this global phenomenon within the framework of the project of the World Health Organization [2,5,6]. The study of the effect of smoking on the oral cavity is a major medical and social problem, since oral cavity is the first barrier to tobacco smoke in the human body. In most cases, a correlation between the intensity and experience of smoking and the emergence and development of pathological changes in various organs and systems of the human body are manifested, with an increase in the level of development of diseases of the cardiovascular system, respiratory organs, gastrointestinal tract, malignant formations, including in the oral cavity, and at this level there is a loss of physical activity and disability, as well as disability and overall mortality. The primary impact on the human body, including the condition of the oral cavity, harmful components of tobacco smoke can occur directly through the mucosa, is characterized by a high degree

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of permeability, after which the products of tobacco smoking as a consequence of certain chemical reactions fall into the bloodstream and thus reach the target organs. Additionally, smoking is associated a significant increase in the risk of several diseases of organs and tissues of the oral cavity, especially periodontal disease, and cancer neoplasms of the oral cavity [3,4].

The purpose of the study: to study the peculiarities of stomatological status among students of the IV-V courses of the dental faculty of the IFNMU.

The object of study: to study the determination of the prevalence, structure and peculiarities of the clinical course of the periodontal tissue disease in persons, prone to regular active smoking.

Materials and methods. To achieve this goal was applied an anonymous survey of 138 students IV-V courses of the faculty of dentistry IFNMU to identify the presence of harmful habits – smoking. The questionnaire consisted of 10 questions, which not only showed the habit, but also allowed to identify the awareness of students about the dangers of smoking, duration and regularity, as well as complaints about dental health. A detailed dental survey was conducted on 42 volunteers who regularly smoke more than 1 year, who were the main group. The comparison group comprised 30 non-smokers. A comprehensive dental examination of the students was carried out in accordance with WHO recommendations, according to the generally accepted methodology, using subjective (complaints, medical history) and objective (main: review, palpation, sensing, percussion and additional: index evaluation of oral hygiene and status of periodontal tissue) methods and filling out medical documentation. The received data of each patient was entered into the ambulatory card of the dental patient.

The condition of the hard tooth tissues was determined by the index CSR, where C - the number of carious teeth, S - the number of sealed teeth, R - the number of removed teeth. The sum of C+S+R - for all damaged and lost teeth - characterizes the intensity of the carious process in a particular surveyed.

The examination of periodontal tissues began with a gum examination. Gum inflammation, as one of the main symptoms of periodontal disease, is characterized by hyperemia, cyanosis, edema and bleeding. An important clinical sign of periodontitis is a periodontal pocket, which was used to measure the depth of the calibrated probe. The depth of the periodontal pocket was determined at each tooth separately.

An index test was used to establish the initial state of periodontal tissues in the prevailing groups. The hygienic state of the oral cavity was determined using the OHI-S hygiene index (Green J.C., Vermillion J.K., 1964), which provides for the determination of dental deposits in the area of the adjoining teeth of the lower and upper jaw from the vestibular and oral sides. The index was calculated as follows: 0-absence of sediment; 1-sediment cover less than 1/3 of the surface of the tooth; 2-sediment cover from 1/3 to 2/3 of the surface of the tooth; 3-sediment cover more than 2/3 of the surface of the tooth.

The papillary-marginal-alveolar (PMA) index was used to assess the degree of inflammation in the periodontium. The evaluation of the PMA index was performed

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according to the following criteria: 0-absence of inflammation, 1-inflammation of the gingival papilla, 2-inflammation of the marginal part of the gums, 3-inflammation of the alveolar gum.

$$\text{PMA index} = (\text{sum of points} / 3 \times \text{number of teeth}) \times 100\%$$

Interpret the results as follows: the index of PMA up to 30% - light gingivitis; the index of PMA 31-60% - middle level gingivitis; the index of PMA 61% and more - severe gingivitis.

The periodontal index (PI) was used to identify the advanced forms of pathology: 0-no signs of inflammation; 1-light gingivitis (partial gingivitis in the tooth area); 2- gingivitis around the neck of the tooth, but there is no lesion of the circular bundle; 4- evaluation was carried out radiologically; 6-gingivitis with the formation of periodontal pockets, fixed tooth. Intact chewing function of the tooth; 8-pronounced destruction of periodontal tissues with loss of chewing function. The tooth is easily movable, displaced.

Criteria for assessing of the index of PI were determined by the formula: sum of estimates at each tooth / number of teeth of the surveyed.

The index of PI was evaluated as follows: 0,1-1,0 - light periodontal disease, 1,5-4,0 - periodontitis of middle degree, 4,0-8,0 - periodontitis of severe degree.

Also recorded changes in the mucous membrane of the oral cavity.

Statistical processing of the obtained results was carried out using the methods of variation statistics. For all indices calculated arithmetic mean value of the sample (M), its variance and average error (m). To evaluate intergroup differences in values of attributes that have continuous distribution, used t-criterion Student and nonparametric U-criterion Uilkoksona-Mann-Whitney. The statistical difference between the groups was considered reliable at the value of $p < 0,05$. Statistical processing of the material was carried out using a standard application software application statistical analysis (Microsoft Excel, Statistica for Windows v.7.0).

Results of research. It is established that the average duration of smoking is from 3 to 5 years; one of the main causes of a bad habit is smoking, it is interesting and the influence of the environment, according to 42% and 47% of respondents respectively ($p < 0,05$), with almost 100% of smokers aware of the harmfulness of smoking. On a gender basis, a statistically significant difference was found - more than 2,4 percent of smokers were detected in males than among females. In addition, 12% of respondents indicated that, in addition to cigarettes, they occasionally use hookah, and 8% of respondents indicated that they were using electronic cigarettes.

The main complaints of smoking students were bleeding gums in the cleaning of teeth (40%), which is in 1,4 times less in the comparison group and unpleasant odor (54%), which is in 1,2 times less in the comparison group.

According to the results of the clinical examination, it was found that the prevalence of catarrhal gingivitis in the students of the main group is higher compared with the surveyed groups of comparison, respectively 71,2% vs. 43,5%. The course of gingivitis in the subjects of the main group in most cases was chronic or in the stage of aggravation,

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middle severity degree, with the main complaint of bleeding gums. In the comparison group, chronic catarrhal gingivitis of a light severity degree was predominantly diagnosed. In the clinical examination, mostly congestive gum hyperemia was detected, bleeding during probing, and the presence of overdose dental deposits. In all the attendees was present a characteristic plaque of the smoker, mainly from the tongue side of the lower frontal teeth and molars. From the side of these surfaces there was also a tooth-stone. In non-smokers, a clinical examination showed a clear margin of pale pink color, the presence of plaque and weak bleeding during sensing. The hygiene status in the main group was worse than in the control group - 1,6 vs. 0,8 points, respectively. Inflammatory process in periodontium, as well as changes in the mucous membrane of the oral cavity, are more common in students of the main group.

The components of tobacco smoke accumulate in the enamel, causing darkening of the teeth and the formation of a plaque of the smoker, so 89% of the subjects from the main group observed a dense dark brown plaque in the cervical area of all groups of teeth, which increases the trauma of the gums and fixation of the microbial plaque. In surveyed prone to regular active smoking, the mean values of PMA were interpreted as gingivitis of middle severity and exceeded similar rates of control group by 1,5 times. The average numerical values of the periodontal index in smokers corresponded to the periodontitis of the middle degree and exceeded the similar data of the control group in 3 times.

The following symptoms and pathologies of the oral mucosa were revealed in the students, who smoke: heilitis, glossitis, leukoplakia, chronic trauma of the mucous membrane of the lips, bleeding of the gums, xerostomia.

Tobacco smoking contributes to the development of periodontal diseases at the expense of several mechanisms. Organs and tissues of the oral cavity are the place of the primary contact of the body of the smoker with carcinogens and toxins that form part of tobacco smoke. Tobacco smoke suppresses mechanisms of immune protection - a steady reduction of phagocytic function. Influence of nicotine on the microcirculatory channel manifests itself in violation of hemodynamics in soft tissues of the oral cavity, causing deterioration of gum trophy and reducing its resistance to infection.

Conclusions: 1. The presence of the harmful habit – smoking among students can be considered one of the factors of the development of diseases of periodontal tissue and oral mucosal tissue, contributes to the deepening of the pathological process; 2. Smokers have found higher prevalence and intensity of periodontal disease compared to non-smokers.

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