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# MEDICAL SCIENCES

## EATING HABITS AND THEIR INFLUENCE ON DISEASES OF THE ORAL CAVITY

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### Abstract

Diseases of the oral cavity have many risk factors, which are divided into fixed (age, heredity) and variable (a person's lifestyle, behavior, habits). The latter are subject to our influence, and therefore depend on us. The main risk factors for the occurrence of oral cavity diseases are unhealthy food with a high sugar content, smoking and alcohol consumption, as well as insufficient oral hygiene and care.

**Keywords:** caries, oral cavity diseases, children.

Diseases of the oral cavity have many risk factors, which are divided into fixed (age, heredity) and variable (a person's lifestyle, behavior, habits). The latter are subject to our influence, and therefore depend on us. The main risk factors for the occurrence of oral cavity diseases are unhealthy food with a high sugar content, smoking and alcohol consumption, as well as insufficient oral hygiene and care.

Consuming excessive amounts of sugar in snacks, processed foods, and soft drinks (carbonated and non-carbonated, fruit juices, sweetened, and sports and energy drinks) are major risk factors for oral disease.

Consuming sugar activates bacteria in the mouth, which convert sugar into acids that begin to dissolve tooth enamel. Consuming sugar during the day increases the frequency of acid attacks, as well as the risk of tooth decay.

Everyone knows that compliance with the rules of oral hygiene, which includes daily care of teeth and gums, the implementation of preventive measures, is the key to "dental health". It is worth noting the special role of the oral fluid, which largely affects the level of dental health. The oral epithelium is affected by various chemical and physical factors associated with food. At the same time, the oral fluid is able to protect the epithelium of the upper digestive tract and the hard tissues of the tooth. A form of such protection is the preservation and maintenance of the pH environment in the oral cavity, which will depend on the rate of salivation, metabolites of microorganisms and the action of the buffering capacity of saliva.

In the oral cavity, the buffer capacity is represented by three buffer systems - bicarbonate, phosphate and protein, together they form a factor of protection against the action of acids and alkalis on the tissues of the oral cavity in mixed saliva, while they have different capacitance limits, in particular, phosphate is most active at pH 6, 8 7.0, bicarbonate at pH 6.1-6.3, and protein provides buffering capacity at various pH values. By forming a neutral environment, pH (6.5-7.4) in which the tooth and its surrounding tissues are located, the physiological balance of the processes of mineralization and remineralization of the hard tissues of the tooth is maintained.

One of the main components of mixed saliva are proteins, most of which are glycoproteins, it is they that will largely determine the viscosity of saliva, while the

secrets of various salivary glands secrete them in different proportions - so the sublingual gland produces a secret with a viscosity coefficient of 13.4, the following submandibular gland (3.4) and parotid (1.5). It is the proteins of saliva on the oral mucosa and teeth that form the pellicle, which protects tissues from the harmful effects of the external environment and proteolytic enzymes secreted by bacteria and destroyed by polymorphonuclear leukocytes.

Enzymes, as constituent elements of the oral fluid, play a special role: most of them are secreted by the parenchyma of the salivary glands, released from leukocytes and formed during the activity of bacteria.

The main ones are:  $\alpha$ -amylase (hydrolyzes carbohydrates), acid and alkaline phosphatases (participate in phosphorus-calcium metabolism, splitting off inorganic phosphate from phosphoric acid compounds, provide mineralization of bones and teeth), hyaluronidase and kallikrein (change the level tissue permeability), lysozyme, RNase lipase, etc.

Insufficient care of the oral cavity leads to an increase in the amount of plaque on the teeth, the formation of dental plaques, an increase in the activity of enzymes, the rapid reproduction of microflora, and is a prerequisite for the occurrence of periodontal diseases.

**Purpose:** To determine the prevalence and intensity of the main dental diseases among children of different age.

**Materials and methods of the study:** The study involved 89 children aged 9 to 17 years: 32 schoolchildren bought their own food in stores and 57 children who ate in the school canteen for the menu yak bulo stored on skin day.

The state of oral tissues was assessed using the Fedorov-Volodkina hygiene index, the PMA index (papillary-marginal-alveolar), which makes it possible to assess the inflammatory process in the gums. To assess the prevalence of caries in the teeth, we used indicators of the prevalence and intensity of caries - KPU + kp, while the children were divided into two age groups: group 1 - 9-12 years old, group 2 - 13-17 years old.

**Research results.** When analyzing the hygiene index data according to Fedorov-Volodkina, it was found that in children who independently bought their own food in stores, a hygiene index of 1.1-1.5 points

was determined in 66.6% of students, a satisfactory hygiene index, respectively, 1.6 -2.0 points was established in 25% of children, unsatisfactory hygienic indicator corresponding to 2.1-2.5 points was observed in 8.3% of the subjects. Poor and very poor oral hygiene index, corresponding to 2.6-3.4, 3.5-5.0 points, was not found in schoolchildren.

As for the indicators of the Fedorov-Volodka index, children who ate at the school canteens for a folded menu, they are somewhat different: indicators indicating a good state of oral hygiene were determined in 71% of cases, 11.8% had a satisfactory indicator of oral hygiene mouth, unsatisfactory hygienic condition was observed in 13.1%, a poor condition was noted in 3.9% of children, a very poor level of hygiene was not detected in this group of children.

According to the PMA index, the following results were obtained: in 73.6% of children who independently bought their own food in the store, gum inflammation was not observed, the rest had minor inflammation, which corresponds to a mild severity of gingivitis. A slightly different picture was observed in the other group: the absence of inflammation in the tissues of the gums was observed in 85.7% of children, children from this group had a mild degree of gingivitis. The prevalence and intensity of caries were as follows: in children of the 1st group accounted for 49.1% of the total number of subjects, the prevalence of caries was 46%, which indicates an average level. In this case, the intensity was as follows: low caries intensity (1.2 - 2.6) was set at 32.1%, average intensity was recorded in 54.2%, caries intensity was 4.5 - 6.5, was observed in 17.8% of children. Analyzing the results of the 2nd group, which consisted of children aged 13 to 17 years, there is a tendency to increase the prevalence and intensity of caries compared to the 1st group. The prevalence of dental caries in this group amounted to 66%. In terms of intensity, the indicators are as follows: low caries intensity was found in 13.7%, the average level was found in 64.2%, the high intensity indicator was observed in 16.5% of children, 5.6% were children who had intensity indicator 6.6

Conclusion. The Fedorov-Volodka and RMA indices show that the condition of the gum tissue and the level of oral hygiene in children who ate in the

school canteen for the menu were stored for a skin day. better compared to children who bathed their own food on their own and as one of the factors, this is influenced by the diet. eating in the school canteen helps to eliminate "snacks", during which the students' diet included foods harmful to teeth, such as sugary carbonated drinks, a variety of sticky sweets, etc.

According to the research results, indicators of the intensity and prevalence of caries indicate an increase in the incidence rate in children of the 2nd group (13-17) compared to the 1st (9-12). At the same time, in older children, a higher prevalence corresponds to a higher intensity of caries. The main reason for caries is that the teeth actually appear empty, organic acids accumulate on the surface of the teeth and gradually destroy the enamel. Be it a hedgehog, especially malt products, rich in starch, average tsukor, which transforms into an empty company on aggressive acid, which rubs teeth.

### References

1. Smoliar N. I., Baryliak D.Yu. Microflora of dental deposit in children depending on dental caries intensity. Preventive and pediatric stomatology. Lviv. 2013. №2.
2. Smoliar N. I. Assessment of determination of dental caries activity in schoolchildren as one of the parameters of sanitation. Herald of stomatology. 2012. №2. 97-100 p.
3. Savychuk O. V. Effectiveness of the complex preventive measures of the teeth caries in children population of the ecologic unfavorable regions of Ukraine/O. V. Savychuk, Y. P. Nemyrovych, I. M. Golubieva//Herald of the Biology and Medicine problems. – 2012.
4. Khomenko L. A. Therapeutic stomatology of children/L. A. Khomenko, Y. B. Chaikovsky, A. V. Savychuk, N. O. Savychuk, E. I. Ostapko, V. I. Shmatko, N. V. Bidenko, E. F. Kononovych, I. N. Golubieva. – Kyiv: "Knyga plus", 2007.
5. Khomenko L. O., Dienga O. V., Bidenko N. V., Ostapko O. I. Planning preventive measures of dental diseases in preschools and schools (methodological recommendations). – Kyiv, 2006.