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## **Section VI Medicine**

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### **Formation of oral care skills in children of secondary school age.**

*Формування навичок догляду за ротовою порожниною у дітей  
середнього шкільного віку.*

**Annotation.** *Child's dental health is an integral part of his overall health. Its formation is influenced by a large number of different factors. Prevention of dental diseases remains a pressing problem. Despite the achievements of medicine, the widespread implementation of modern methods and means of prevention and treatment into clinical pedodontics, the incidence of caries and its complications is on the rise worldwide.*

**Key words.** Dental caries, prevention, resistance, prevalence.

**Анотація.** *Стоматологічне здоров'я дитини є невід'ємною частиною її загального здоров'я. Його формування перебуває під впливом значної кількості різноманітних чинників. Актуальною проблемою залишається профілактика виникнення стоматологічних захворювань. Незважаючи на досягнення медицини, широке впровадження в стоматологічну терапевтичну лікувальну практику дитячого віку сучасних методів і засобів профілактики та лікування, частота карієсу та його ускладнень зростає в усьому світі*

**Ключові слова.** *Карієс, профілактика, резистентність, розповсюдженість.*

One of the priorities of modern dentistry is care about the state of the younger generation. Study of dental morbidity patterns and identification of risk factors for the most common dental diseases help predict their dynamics and implement differentiated programs to prevent pathological processes [1, p. 101].

Prevention of dental disease remains one of the most pressing areas of pediatric dentistry. The importance of reducing the intensity and prevalence of oral diseases in children, such as dental caries and its complications is determined by a complex relationship of dental diseases with general somatic pathology of a child. Since the presence of pathological changes of the oral cavity and dental hard tissues can often lead to the appearance of diseases of kidneys, heart, liver, gastrointestinal tract and other organs and systems [2, p.267].

Intake of a sufficient amount of calcium, phosphorus, fluorine and other trace elements and vitamins during pregnancy is important in preventing dental caries in children. Trace elements found in

seaweed, rabbit meat, sea fish, nuts, etc. The need for these substances increases significantly from the fourth month of pregnancy. There are specially formulated vitamins and minerals for pregnant women consumption of which is warranted through the pregnancy [3, p.125].

Health of a child and his diet during the first year of life plays a great importance in the formation of resistance of hard tooth tissue to caries process. The best food for newborns is breast milk. Breastfeeding provides the body with all the necessary nutrition and does not require any correction. In the case of formula feeding there is a need to maintain a proper nutritional intake [6, P. - 240].

Children's organism that grows and develops, especially between ages of 10 -13, when there is a rapid increase in height and mass and finalization of permanent occlusion, requires increased intake of calcium, vitamins, protein, fluoride. Therefore, the diet should be balanced both in quantitatively and qualitatively.

Older children and adults should consume during the day an average of 80-100g of protein, 400-500g of carbohydrates, 80-100g of fats (including 10% vegetable fat), 0.1g of vitamins, 20g of salts (including 10g of table salt).

Deficiency of protein during tooth development may lead to disturbance in formation of enamel matrix. Essential amino acids (arginine, lysine, alanine, glycine, proline, tyrosine) play a special role and their metabolism is disturbed during caries processes. [6, p. 520]

Balanced mineral composition plays certain importance in foods, in particular: optimal ratio of calcium and phosphorus is from 4:5 to 1:1.5, magnesium and calcium from 1:3 to 1:2. Excess phosphorus and fats inhibit the absorption of calcium, while magnesium and protein promotes its absorption. Goat milk and its products provides the most balanced content of calcium, phosphorus and fatty acids; apricots, peaches, cherries, plums, sea and freshwater fish provide calcium and phosphorus; apples, radishes, beans, pumpkin, cabbage, fish provide calcium, phosphorus and magnesium. The largest amount of water-soluble fluoride can be found in tea and seaweed. A large number of trace elements is present in seafood.

The best source of calcium are milk and dairy products that contribute to the complete mineralization of the enamel. The content of calcium in milk is 120 mg%, in cheese – 135 mg%, in cottage cheese – 95-160 mg%; 0.5 liters of milk provide the daily needs of a child (student) for calcium. Legumes, nuts, egg powder, oatmeal, meat, vegetables, fruits are also a source for calcium.

Carbohydrates have the most adverse effect on dental hard tissue, most of which (sucrose, fructose, glucose) are easily fermented by microorganisms in plaque to form organic acids that triggers demineralization of enamel. To decrease the potential cariogenicity of carbohydrates children should be encouraged to reduce consumption of sugar, frequency of consumption of sugar and other carbohydrates; discouraged from keeping sweet food mouth for extended time (candy, caramel, etc.); if possible, to replace easily fermented carbohydrates with ones that are not metabolized by oral bacteria – sorbitol, xylitol, cycle-mate, aspartame, saccharin [3, p. 126- 128.].

Despite the rapid development of dentistry and the search for new effective methods of treatments for oral diseases, their prevalence is still high. Therefore, the priority of modern dental practice remains studying and implementing prophylactic methods and preventing tooth decay and its complications.

One of these methods is sanitary-educational work among the population. Particular attention should be given to children of secondary school age, since at this age forms permanent occlusion and matures masticatory system as a whole.

In recent years "Health Lessons" by dental students gained widespread use in pre-schools, schools, boarding schools. The essence of these lessons is visually demonstrating rules of tooth brushing and oral care.

Such specialized events traditionally take place in Chernivtsi. Third year dental students under the supervision of assistants from the Department of Pediatric Dentistry organize theatrical performances. During the "Health Lesson" students transform into fairy-tale characters, telling school children about the

rules of brushing, particularities of oral care at different ages. An important step is to familiarize children with the means and objects of oral hygiene, relevance and accuracy of their intended use. Students show videos relevant to topics of the event.

After that all children are treated to fruit, and are told about the beneficial effects of proper nutrition to overall health and teeth in particular. A questioner is done by students on the subject of the lesson. Those children who correctly answers the question receive a gift for oral care.

Children also receive illustrated brochures advising on proper brushing and nutrition. It is also worth remembering that food is an important factor in oral self-cleaning, natural removal of soft plaque

One way to enhance self-cleaning of the oral cavity is increased salivation caused by eating solid foods. Is desirable to eat fruits and vegetables after sweet, sticky, soft foods, and in between meals. In addition, chewing load contributes to a positive effect on periodontal tissue, increases the content of protective factors in gingival fluid.

Despite high awareness and capabilities of modern society 60-80% of school children have poor state of dental hard tissues, indicating their failure to comply with oral hygiene rules. This is due not only to irregular care, but due to the lack of proper brushing skills and selection of hygiene products.

Experience shows that the required level of hygiene skills and systematic and proper oral care in children can only be achieved with proper cooperation among dentists, teachers, parents and children themselves.

Review of the effectiveness of the above mentioned health lessons is carried out a year later. Fourth year students together with professors conduct examination of schoolchildren, assess hygiene, intensity, prevalence of caries process.

At the initial stage of the study carious process index was  $3.84 \pm 0.43$ , corresponding to the average level of intensity of the disease. Prevalence of dental caries was high at 84%. Oral hygiene varied from satisfactory to unsatisfactory.

During the re-examination of children indicators improved significantly. The caries intensity dropped to 2.0-2.4, the prevalence of caries process indicator was 72%. Schoolchildren had significantly improved oral hygiene.

Preventing dental disease is very important. It usually includes two components – a proper oral hygiene and regular dental check-up. Each component of prevention of dental diseases has its own features.

General prevention that does not involve the use of medical supplements based on a correct diet, which includes a sufficient amount of protein, amino acids, trace elements and vitamins. Especially important is to adjust the diet of children during teething. The diet should include foods rich in calcium and fluoride. General prevention, which involves the use of medical supplements includes adding vitamin supplements and balanced fluorine and calcium supplements. These supplements should be taken during strictly scheduled course. The duration of each course depends on the age and condition of patient's teeth.

Local prevention of dental diseases, which does not foresee professional help, includes thorough chewing of food, competent hygiene of the oral cavity, use of both preventive and therapeutic toothpastes. Local prevention, which involves use of professional help involves the use of local strengthening calcium and fluoride supplements, which may be applied in the form of gels and pastes.

Fluoride preparations are used to increase the effectiveness of preventive measures. Endogenous use of fluoride to prevent dental caries requires regular monitoring and compliance with preventive measures. The daily dose of sodium fluoride tablets is calculated taking into account the child's age and the concentration of fluoride in drinking water. This reduces caries prevalence of permanent teeth.

It should be noted that earlier preventive measures will be more effective, easier and cheaper. Conducting primary prevention is a good investment in one's self, and provides financial savings for the government. Thorough oral care, adherence to the recommendations of a dentist can truly keep teeth and gums healthy, prevent caries and its complications.

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