Diagnostics and Treatment of Enamel Caries in Schoolchildren and Adolescents

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The relevance of the study. Caries of temporary and permanent teeth is a massive dental problem for the children's population. At the same time, no other disease is known in medicine that would be so well subjected to prevention and control as caries. Of great importance in the success of a significant reduction of caries in developed countries is the primary prevention of caries, based on the elimination and/or weakening of the main risk factors for this disease, most of which are manageable and are unhealthy lifestyle habits [2.5.7]. The second aspect in reducing the prevalence and intensity of caries is the timely diagnosis of early forms of dental caries (which in the literature are designated by various terms, such as enamel caries, focal demineralization, early stage of caries, initial stage of caries, foci of demineralization, chalky spots) and their competent treatment[1.4.6.8].

Data on the epidemiology of dental caries, on the dependence of the prevalence and intensity of caries on the content of fluorides in drinking water were accumulated, dietary habits and other risk factors were studied, which made it possible to develop a new strategy and tactics to combat caries disease. Since the second half of the XX century, many countries have begun to introduce comprehensive preventive programs aimed at hygienic training and education of the population, promoting a reduction in the frequency and amount of carbohydrates in the diet of people and the use of systemic fluoridation methods in the regions of hypophosphorosis [3.9.10.11].

Prevention of dental caries is especially relevant in connection with the social processes taking place in society and healthcare during the transition period. It is very difficult to motivate the population at the population level to observe healthy habits in the family: nutrition, hygiene; the issues of interdisciplinary interaction in the implementation of preventive programs for chronic non-communicable diseases, such as atherosclerosis, arterial hypertension, diabetes mellitus, which have common risk factors in the form of excessive carbohydrate consumption, sedentary lifestyle, smoking, have not been resolved [12.13.14.15]. Therefore, in these conditions, the task of preventing dental caries is communal.

Modern diagnostics of foci of demineralization (OD) of teeth -early reversible forms of caries - is one of the most important tasks, both for children and for patients of any age (Reich E., 2011). This applies, first of all, to patients undergoing orthodontic treatment, with special health problems, with physical disabilities, who are being treated for malignant neoplasms and receiving chemotherapy and radiation therapy, pregnant women.

Epidemiological studies are of great importance for planning preventive programs in the field of dentistry, as well as various types of dental care provided to the population. Such studies have not been conducted in the Ulyanovsk region, there are no data on the prevalence of enamel caries, no analysis of risk factors, especially behavioral ones, that are important in dental morbidity.

Diagnosis of OD, especially in the pit-fissure network and in locations that are difficult to inspect, presents great difficulties (Chernenko T. F., 1970; Kiselnikova L. P., 1996; Ivanova G. G., 1997; Kiselnikova L. P., E. S. Boyarkina, 2009; Satygo E. A., 2010; Koh J. H., Fumig A., 2009). The problems of differential diagnosis of focal demineralization and non-curious enamel lesions, especially molar-incisor hypomineralization, are poorly covered (Peker S., Abbasoglu,
Kargul V., 2009; Zuanon A. S., Costa Silva C. M., Jeremias F. et al., 2009). Numerous literature data indicate the effectiveness of the use of fluorides in the prevention of caries, for the remineralization of demineralized areas of enamel. The existing methods of treatment of focal demineralization of teeth in children are numerous, and the data on their effectiveness are contradictory. Advertising of new and new developments of fluoride-free drugs is often aggressive, and many scientific studies do not meet the requirements of evidence-based medicine (Maslak E. E., 2011). Therefore, the optimization of the activity of a pediatric dentist in a school stationary dental office is an urgent task, it brings the provision of the primary level of specialized dental care as close as possible to the territory of compact residence of children, improves the availability, timeliness of treatment and prevention of dental caries. Thus, timely diagnosis and treatment of early forms of caries is an urgent problem of dentistry, especially pediatric dentistry.

The aim of the study was to improve the treatment of enamel caries by using incoherent red-band LED radiation in combination with fluoride.

Research objectives

1. Dental morbidity among school-age children.
2. School-age children, taking into account the dental morbidity and the most significant population risk factors for caries.
4. The effectiveness of using toothpaste with stabilized sodium hexametaphosphate tin fluoride (0.354%) and sodium fluoride (0.0646%) for home oral hygiene in children.
5. Complex treatment of caries of the enamel of permanent teeth using incoherent and fluoride.

The epidemiology of dental diseases among school children was studied. The obtained data are the basis for the developed monitoring system, the prevention program in the field of dentistry and the assessment of the quality of dental care provided to children. Children of school age according to the levels of dental health, which can be used for medical examinations and individual planning of preventive and therapeutic measures.

School-age children, based on the indicators of the CPR of teeth and the main risk factors for caries, taking into account the age and anatomical and physiological characteristics of children, according to the proposed rehabilitation scheme, which can be applied in regions with a similar level of caries intensity and similar population risk factors for dental diseases. To study the condition of fissure in the conditions of a school stationary dental office, it is recommended to use the developed device for diagnosing fissure caries of teeth. For children with a high risk of caries in the puberty period, it is recommended to use a toothpaste with stabilized sodium hexametaphosphate tin fluoride (0.354%) and sodium fluoride (0.0645%) to improve the processes of remineralization of demineralized enamel.

Children with a low risk of caries are examined and sanitized by a dentist 1 time a year and / or visit a hygienist 2 times a year, with an average risk of caries-are examined and sanitized by a dentist 2 times a year, with a high-3 times a year. Supportive treatment and monitoring of the dental status of children after oral sanitation can be carried out by a dental hygienist. It is recommended to use the developed device for the diagnosis of enamel caries in the pit-fissure network of the chewing group of teeth.

Treatment of enamel caries on smooth and chewing surfaces of permanent teeth is recommended to use the method of light therapy using fluorides. To prevent the progression of foci of demineralization and their transformation into oral caries, applications of fluorides in combination are recommended, and in the future - careful observance of oral hygiene, recommendations on the diet and the use of fluoride-containing toothpaste with a maximum
content of fluorides.

LIST OF LITERATURE


