

The disease of dental caries, taking into account the timing of eruption and mineralization of permanent teeth in children in the City of Bukhara

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Abstract: There is a work by F. L. Mirsalikhova devoted to the study of the degree of mineralization with the timing of the eruption of the first permanent molars in children of the city of Tashkent. Based on the above, the study of the timing of eruption and mineralization of permanent teeth in children is very relevant, has great practical and theoretical significance, since the results obtained will be taken into account when organizing dental care for children in our Republic.

Key words: Cluster, therapeutic-preventive department, dental hygienists.

Relevance of the problem. The results of these studies allowed us to get a clear idea of the time of the first clinical signs of a particular dental disease in a child from birth to 6 years, to determine the main risk factors that pose a potential danger of their occurrence, to study the intensity of the development of pathology. The morbidity of young children is characterized by the prevalence in its structure of diseases caused by disorders of histo-, organ- and systemogenesis in different trimesters of antenatal development, as well as during the postnatal formation and maturation of organs and systems of the maxillofacial region. There is a small number of works that reflect the features of the occurrence and development of dental caries in violation of homeostasis. The degree and nature of the incidence of dental caries in various pathologies are associated with the severity of its occurrence.

The prevalence of caries among the child population remains an urgent issue in our time. The incidence of caries, especially in young children, remains high. According to the WHO, already at the age of one year, some children in 15% of cases are found to have caries-affected teeth, by the age of three, the prevalence of caries in children reaches 46%, by the age of six - 96%. In this regard, improving the system of providing dental care to the children's population of the country and maintaining it at a modern level is an extremely important problem facing the organizers of practical health care.

One of the features of environmentally caused intoxications is a long latent period, during which metabolic changes occur in response to the gradual accumulation of xenobiotics. The combined effects of adverse environmental factors, physical agents, can have an adverse effect on the dentoalveolar system during embryonic development and after teething (Alabuasua S. et al., 1999; San J., 2000). All of the above clearly indicates that the problem of prevention of major dental diseases in children living in an environmentally unfavorable region is relevant and requires further solutions, which was the incentive for the implementation of this study.

Purpose of the study. To study the timing of eruption and mineralization of permanent teeth in school-age children.

Goals The following tasks are defined

1. The intensity of dental caries in children aged 6-7 years with varying degrees of activity of the carious process.
2. The period of eruption and mineralization of the first permanent molars with varying degrees of activity of the carious process.
3. The effectiveness of various preventive methods and means in children of mineralization of the first permanent molars with different degrees of activity of the carious process and to determine the most effective ones.
4. Determine the basic mechanisms of preventive impact of the studied tools and methods.
5. Develop practical recommendations on the types and mode of effective dental treatment and prevention measures, depending on the degree of activity of the carious process.

In children aged 6-7 years, a very low level of daily intake of fluoride in the body (less than 0.61) was observed in 5.7%, low (0.61-1.12)-in 31.6%, optimal (1.13 – 2.26) - in 51%, and 11.7% of children had higher levels of this trace element, but not exceeding 2.5 mg/day. Currently, the perception of safe levels of fluoride intake in children has changed. Thus, according to T. V. Popruzhenko (2008), with insufficient and optimal fluorine loading in the amount of 0.05 to 0.1 mg F/kg, preschool children excrete 30.4% of the daily dose of fluoride in the urine. Clustering of children based on the signs of dependence of the cpu of temporary teeth and the level of excretion of the proportion of fluorides isolated in the urine allowed us to identify the following features: 13.2% have a high risk of developing dental caries (cluster No. 1), 16.7% have a moderate risk (second cluster). In the majority of children (65.1%) - low (the third

cluster), which included healthy children and units with cpi intensity=1.

Cpr of teeth in children aged 4-6 years from the daily excretion of fluorides

Indicators	Cluster №1	Cluster №2	Cluster №3
kpu of teeth	6,78±0,83	7,15±1,14	0,08±0,25
Fluorides	0,7±0,12	0,92±0,11	0,71±0,36

In the third, most numerous cluster, the risk of developing caries is not associated with fluoride excreted by the kidneys and it can be assumed that most of the fluorides entering the body of children from various sources are retained in mineralized tissues, which contributes to a low intensity of caries (average cpu=0.07) with a level of fluoride intake in the amount of 2.62 (Fig. 1)

In the survey of parents, we found that the "start" of regular brushing of teeth in 62.3% of children is at the age of 3 years, in 30.2% - at 2, 2.3% - at 1 and 4 years, and in 2.9% - over 6 years. In addition, dentists did not recommend the use of fluoride-containing toothpastes for children under 7 years of age. In the 19 samples of the most popular toothpastes studied by us, there was no excess of the declared fluoride concentrations and its fluctuations were within the technological maximum deviations, and in two of them there was a significant decrease. Thus, the main source of fluorides is drinking water and food.

In the external examination of children, out of all the symptoms regulated in the WHO dental examination chart (2005) for the out-of-mouth examination of the maxillofacial region, we found that the most common increase in lymph nodes

was from 43.4% to 29.3% in children aged 3-6 years and at school age was 7.3%.

The prevalence of diseases of the oral mucosa in children was 27.9%. The most common were desquamative glossitis (22.1%), herpetic lesions (4.9%) of the lips and skin of the mouth area, and congestion in the corners of the mouth. The remaining diseases accounted for 0.9% (chronic recurrent aphthous stomatitis, mild leukoplakia). In 13.2% of children, symptoms of lip diseases were revealed — dryness, peeling, chronic cracks against the background of impaired lip architectonics and malocclusion pathology.

The prevalence of non-carious lesions of the hard tissues of the teeth, including fluorosis — 79.5%, including: diffuse opacity-20.4%, limited opacity-9.3%, hypoplasia-5.2%, a combination of limited and diffuse opacity-11.1%, diffuse spotting and hypoplasia-3.1%, limited spotting and hypoplasia-1.1%. In the temporary bite, the frequency of enamel hypoplasia is 2%, diffuse opacity-3.5%, limited opacity-1.3%, a combination of limited and diffuse opacity-4.1%, diffuse spotting and hypoplasia-1.1%. In our opinion, various defects in the development and mineralization of enamel, which are detected in the studied region, are markers of environmentally unfavorable factors acting during the laying, primary mineralization of teeth. The prevalence of doubtful, very weak and weak forms of fluorosis is 19.3%. The decrease in its prevalence from 48.8% (1995) to 19.3% (2005) is due to the termination of the operation of the plant for the production of mineral fertilizers located in the city. We believe that the identified discoloritis of the teeth, previously interpreted as a manifestation of fluorosis, requires a detailed study. Similar changes are described in the literature as manifestations of the influence of ecopathogens, especially dioxins in the form of incisor-molar hypoplasia (Holttä P, Kiviranta H. et al., 2001). However, this problem requires further detailed study using morphological and chemical methods. Minimum levels of dental caries intensity from 0 to 1 are

observed in fluorosis of any severity in school-age children. The frequency of this pathology does not exceed the incidence in other regions with optimal concentrations of fluorides in drinking water and concerns mild clinical manifestations that do not require active intervention by dentists, except for training in effective oral hygiene to prevent discoloritis. The prevalence of dental anomalies in children aged 12-17 years is 83.8%, there is a high need for their treatment, which is confirmed by the results of epidemiological studies: the DAI index is 27.78 and is interpreted as "obvious disorders" in which "indications for treatment are very desirable" (WHO, 2005). There are signs of deceleration of the dentoalveolar system, which affects the timing of teething. Individual temporary teeth are preserved for up to 14 years, which is a risk factor for the development of permanent teeth retention. The Children's Dental Service can only work with dentists at the rate of 7 dentists per 10,000 children, and for every 6 rates of these specialists of the therapeutic and therapeutic-preventive department, one rate of a dental hygienist should be allocated. The absence of dental hygienists leads to an increase in the cost of providing specialized care and the irrational use of personnel, affects the quality of dental care for children, the effectiveness of measures for the primary prevention of major dental diseases, and an increase in dental morbidity. These tasks can be carried out with the participation of the primary level of health care and staff involved in the education of children in order to develop healthy lifestyle habits in the family and the reorientation of dentistry aimed at intensifying the volume of invasive dental care for prevention and providing auxiliary dental staff-hygienists.

CONCLUSIONS

1. An intermediate position is occupied by the second cluster, where at the same level of fluorides, excreted by the kidneys 0.8 mg/day,

there is a statistically significant increase in the intensity of caries to 3.25 ± 1.14 . Along with this, 12% of children have a high level of CPU (7.78 ± 0.83) with a daily excretion of fluorides in the urine in the amount of 0.6 mg/day.

2. Regional features of dental diseases were identified: high prevalence of diseases of the oral mucosa in children - 37.8% and lips-23.2%.

3. The prevalence of dental and maxillofacial abnormalities in children aged 12-17 years is 83.8%. The DAI index is 27.78 and is interpreted as "clear violations" in which "indications for treatment are very desirable"

4. The effectiveness of the implementation of the comprehensive program of prevention of dental diseases indicate a reduction of the increase of intensity of caries of deciduous teeth in pre-school age children 3 years of age 14,3% (2020=2,1), 6-summer — 25% (2020=3,7), on the stabilization of dental caries for the DMF index in children 12 years of age at the planned level. The prevalence of periodontal diseases according to the CPI index decreased from 83.7% to 55% , while the average number of sextants with healthy periodontal disease increased from 2.37 to 4.6. The prevalence of fluorosis decreased from 58.9% to 29.1%, which is within the planned measurable objectives of the comprehensive program for the prevention of dental diseases.

5. It is necessary to correct the comprehensive program of prevention of dental diseases, taking into account the data of monitoring of dental diseases and analysis of the situation in dentistry.

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