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# INFLUENCE OF ENVIRONMENTAL FACTORS ON THE DEVELOPMENT OF DENTAL ANOMALIES IN CHILDREN.

**M.A. Atoeva**
Bukhara State Medical Institute, Uzbekistan

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**Abstract:**

2265 children of Bukhara and Zarafshan are examined. Results of research has revealed, that in a Zarafshan Toothmaxillary anomalies, illnesses paradontes meet twice more, than in a Bukhara. We recommend treatment-and-prophylatic action to begin as soon as possible, i.e. to begin with embryo the period of development of the child.

**Keywords:** Anomaly, deformation, diastema, parodontal diseases.

The problem of environmental protection and public health in ecologically unfavorable areas of the republic is a very important and priority task. The level of morbidity of the population and the state of its health is directly associated with the negative impact on a person of a complex of natural and anthropogenic factors, which is confirmed by high morbidity rates for certain types of diseases (respiratory, digestive, nervous system, etc.), including dental diseases. In this regard, the study of the impact of deteriorating environmental conditions and high levels of environmental pollution on dental morbidity, namely, the development of anomalies and deformities of the dentoalveolar complex is relevant.

The high prevalence of dental anomalies with a variety of clinical manifestations, their impact on the incidence of caries and periodontal diseases, and the relationship with somatic pathology determine the relevance of the development of new preventive measures. The materials presented in the literature review indicate that the problems of the impact of environmental factors on dental morbidity, including the prevalence of dental anomalies in children, and the development of methods for their prevention in the Republic have not yet been sufficiently studied and have not been properly reflected.. This was the basis for our research, the purpose of which was to study the influence of environmental factors on the development of HFA in children of the Bukhara and Navoi regions. To identify the level of dental morbidity and determine the frequency of dental anomalies, a clinical and dental examination was conducted for 2,265 children aged 6 to 15 years and older in schools No. 1, 4 in Bukhara and No. 2, 7 in Zarafshan, as well as 75 pregnant women who have lived in Bukhara for at least two years. In each of these cities, children were divided into three age groups in accordance with the stages of formation of the bite of temporary and permanent teeth: group I (6-8 years)-the period of early replacement bite, group II (9-12 years)- the period of late replacement bite, group III (13-15 years)-the period of formed permanent bite.

To assess the effectiveness of the preventive measures carried out, 590 children in Bukhara and 570 children in Zarafshan were monitored in dynamics. The distribution of the subjects into groups is shown in Table 1

Table №1

Distribution of the examined children by age, sex and periods of bite formation.

| Place of residence | Early shift | | Late shift | | Permanent | | Total |
|---|---|---|---|---|---|---|---|
| **Bukhara** | **243** | | **165** | | **142** | | **50** |
| Gender | **g** | b | **g** | b | **g** | b | |
| **%** | 120 * (49,4±3,2) | 123 (50,6+3,2) | 74 (44,9±3,9) | 91 (55,1+3,9) | 63 (44,3±4,2) | 79 (55,6+4,2) | |
| **After 2 year** | **277** | | **164** | | **149** | | **590** |
| **%** | 115 (41,5±2,9) | 162 (58,4±2,9) | 56 (34,2±3,7) | 108 (65,8+3,7) | 82 ) | 67 (44,9+4,1) | |
| **Zarafshan** | **272** | | **145** | | **138** | | **555** |
| Пол | **g** | b | **g** | b | **g** | b | |
| | 128 (47,0± 3,0) | 144 (52,9± 3,0) | 77 (53,1 ±4,1) | 68 (46,8± 4,1) | 71 (51,4 ±4,2) | 67 (48,6+4,2) | |
| **After 2 year** | **258** | | **157** | | **155** | | **570** |
| **%** | 134 | 124 | 86 | 71 | 88 | 67 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (51,9±3,1) | (48,1±3,1) | (54,7± 4,0) | (45,3± 4,0) | (56,7± 4,0) | (43,3±4,0) | |
| Total | **1050** | | **631** | | **584** | | **2265** |

Note: * - data from the first and second surveys are combined.

In the process of collecting anamnesis, attention was paid to the peculiarities of feeding, the presence of bad habits (sucking and biting fingers, tongue, lips, cheeks and various objects), the timing of eruption of permanent teeth, the prevalence of the carious process and its complications.

When examining the children, they studied the shape of their face in the fas and the profile with closed teeth and the closing of the dentition in the central occlusion, which helped to determine the shape of the face and identify the existing displacement of the lower jaw. When examining the oral cavity, they paid attention to the condition of the frenulum of the lip and tongue. During the examination, the condition of temporary and permanent teeth, the shape of the dental arches were studied. The condition of the hard tissues of the teeth was studied, taking into account changes in the surface of the tooth enamel, in the form of spots, hypoplasia, fluorosis and splinters. In children, depending on the number of destroyed, missing and filled teeth,5 degrees of caries damage were determined: very low (0.0-0.1), low (1.2-2.6), moderate (2.7-4.4), high (4.5-6.5), very high (6.6 and more). According to the degree of activity of the disease, compensated, subcompensated and decompensated forms of the carious process were distinguished [28]. The timing and causes of tooth extraction were investigated, and adentia, retention, and anomalies in the position of individual teeth, dentition, and occlusion were diagnosed according to the classification of D. A. Kalvelis (1964).

The hygienic status of the oral cavity was assessed by the Fedorov - Volodkina index (1968), and by the Green-Vermillion index (1964). The quantitative assessment of dental plaque was carried out according to a five-point system, depending on the staining of the surface of the crowns of the lower incisors. The phenomena of gum inflammation were determined by the PMA index (Parma, 1960). At the same time, the inflammation of the gingival papilla was equal to I, the marginal gum - 2, the alveolar gum-3, and its absence - 0. The PMA index represented the sum of the indicators of each tooth. The intensity of dental caries was determined by the CPI, cpi, or CPI+cp indices (in the period of replacement bite). For the differential diagnosis of fluorous spots and the initial stage of caries, the surface of the dental crowns was stained with a 2% aqueous solution of methylene blue.

Expectant mothers in the number of 86 pregnant women were examined according to the generally accepted WHO methodology using a specially developed map. The prevalence and intensity of caries, the incidence of dental fluorosis, the hygienic state of the oral cavity, periodontal disease, dental anomalies and deformities were determined. The research was carried out on the basis of women's clinics in the city of Bukhara and the healthy child room of the children's polyclinic No. 6. To assess the special knowledge of pregnant women on the prevention of dental anomalies and dental diseases in young children, a questionnaire was conducted according to the questionnaire developed by us. A survey of 86 expectant mothers was conducted before the lecture on the prevention of dental anomalies in children on the basis of the "Mother's School". The women filled out the questionnaires themselves. The questionnaire contained the passport part, questions reflecting social and household conditions, occupational hazards, general health and pregnancy, the presence of children, knowledge of the causes of dental disease and dental anomalies in children, the benefits of natural feeding, the rules for using nipples, the beginning of teaching the child oral hygiene. Expectant mothers had to answer the question of when to make the first visit with the child to the pediatric dentist.
Starting to study the impact of adverse environmental factors on the health of the population, we first studied the state of environmental objects for 2000-2004 according to Hydromet data and primary materials of laboratory analyses of the city sanitary and epidemiological services. Atmospheric air pollution was judged by the most common harmful substances emitted as a result of the production activities of existing facilities in cities.

The study of the bite condition in children of the preventive group in dynamics showed the lowest prevalence of anomalies and deformities at the very beginning of the bite formation in Zarafshan. In subsequent age periods, there was an increase in malocclusion in all three planes (vertical, sagittal, transversal). All deviations were observed as a result of deformities of the alveolar processes in the frontal part in the form of protrusion or flattening, as well as due to a mismatch in the shape and size of the jaws. Among the active causal factors in (36.1%) children of g. Zarafshan found frequent colds that contribute to the formation of pathology in the nasopharynx, 44.9% of children were artificially fed, 58.2% had complications in the antenatal period.

Active sanitary and educational work with parents, their conscientious attitude to the implementation of the doctor's recommendations contributed to the fact that after 2 years, five children had a prognatic bite in combination with an open one, first transformed into a prognatic bite with a deep one, and by three years they were normalized to a physiological ratio. With the use of plates with occlusal overlays in the area of the milk molars in order to remove blocking moments, a chin sling with the appropriate type of rubber traction to the head cap, massage and myohymnastics, this ratio was normalized in all children in the city. In Bukhara, with a cross bite, and in three-with a progenic bite. It was also noted that the pathology of the bite in the vertical and sagittal planes, which developed as a result of respiratory disorders, was not normalized in any case

Thus, the use of the complex of preventive measures developed by us for the prevention of dental anomalies and diseases of the hard tissues of the teeth proved the high effectiveness of differential hygienic training and education of mothers conducted in the antenatal period. This was manifested in a significant decrease in the

frequency of pathological abnormalities in the dentoalveolar system of 1.5-year-old children of the preventive group, compared with the control group, where only dynamic observation was carried out ($P<0.05$). At the same time, the highest frequency of malocclusion and pathology of hard tissues was found in the ecologically unfavorable city of Zarafshan. Despite the ongoing preventive work, an increase in the number of pathological abnormalities due to the influence of active causal factors was noted with age. However, under the influence of a complex of active preventive measures in the postnatal period, the prevention group achieved normalization of the bite ratio in the majority of children, the experimental group, than in the control group due to self-regulation. The reduction in the number of pathological disorders in the dentoalveolar system in young children under the influence of the preventive complex was facilitated by a more favorable environmental situation in the places where children live in Bukhara.

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