

THE DEGREE OF DAMAGE TO HARD TISSUES OF TEETH OF CARIOUS AND NON-CARIOUS AMONG CHILDREN AND ADOLESCENTS OF THE BUKHARA CITY

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✓ Resume,

Purpose of research: The use of modern test determinants in determining the criteria of somatic diseases in mother and child, in the etiology of caries and non-carious lesions of hard tissues of teeth in children .

Methods of research: A total of 1232 children enrolled in General education schools (GES) and in kindergartens. All children were distributed in the following age groups: under 3 years (n=126, 10.2%); 3 to 7 years (n=284, 23.1%); 7 to 12 years (n=524, 42.5%); 12 to 17 years (n=298, 24.2%).

The article discusses in detail the clinic, early detection, effective research methods and prevention of dental diseases (non-carious diseases, dental caries) among children and adolescents of the Bukhara city.

Key words: dental research methods, children, non-carious diseases, carious, children and adolescents.

БУХОРО ШАҲРИДА БОЛАЛАР ВА ЎСМИРЛАР ОРАСИДА ТИШ ҚАТТИҚ ТЎҚИМАСИ КАРИЕС ВА НОКАРИЕС ЖАРОҲАТЛИНИШИ ДАРАЖАСИ ВА ХУСУСИЯТЛАРИ

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✓ Резюме,

Тадқиқот мақсади. Кариеc ва нокариоз касалликлар этиологиясига сабабчи бўладиган, она ва боладаги соматик касалликлар мезонларини аниқлашда замонавий синов детерминантларини қўллаш.

Тадқиқот усуллари. Ўрта умумтаълим мактабларидан ва мактабгача тарбия муассасаларидан жами 1232 бола жалб қилинди. Барча болалар қуйидаги ёш гурҳларига бўлинди: 3 ёшгача (n = 126, 10,2%); 3 ёшдан 7 ёшгача (n = 284, 23,1%); 7 ёшдан 12 ёшгача (n = 524, 42,5%); 12 ёшдан 17 ёшгача (n = 298, 24,2%).

Мақолада Бухоро шаҳридаги болалар ва ўсмирлар орасида учрайдиган кариеc ва нокариес касалликлар этиологияси, ҳамда изланишларда қўлланилган самарали текшириш усуллари туғрисида фикрлар кенг ёритилиб таҳлил қилинган.

Калит сўзлар: кариеc, нокариес касалликлар, профилактика, стоматологик текшириш усуллари, болалар, эпидемиологик текшириш усуллари

СТЕПЕНЬ ПОРАЖЕНИЯ ТВЕРДЫХ ТКАНЕЙ ЗУБОВ КАРИОЗНОГО И НЕКАРИОЗНОГО ПРОИСХОЖДЕНИЯ СРЕДИ ДЕТЕЙ И ПОДРОСТКОВ БУХАРСКОГО ГОРОДА

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Цель исследования: Использование современных проверочных детерминантов при определении критерий соматических заболеваний у матери и ребенка в этиологии кариеса и некариозных повреждений твердых тканей зубов у детей и подростков.

Методы исследования: всего 1232 ребенка обучаются в общеобразовательных школах (ООШ) и в детских садах. Все дети были распределены по следующим возрастным группам: до 3 лет (n = 126, 10,2%); От 3 до 7 лет (n = 284, 23,1%); От 7 до 12 лет (n = 524, 42,5%); От 12 до 17 лет (n = 298, 24,2%).

В данной статье описываются научные исследования кариеса и некариозных заболеваний у детей и подростков в городе Бухаре, анализируется этиологии кариеса и некариозных поражений и их причины.

Ключевые слова: профилактика, кариес, некариозные заболевания, стоматологические методы исследования, дети и подростки.

Many scientific studies have found that a number of factors such as the environment, production factors, climatic conditions, the microelement composition of the soil, water and air, the composition of food, living conditions significantly affect the occurrence and course of dental diseases, including carious and non-carious damage to solid dental tissue, diseases of the oral mucosa and inflammation of periodontal tissues. [1]

Dental diseases are the most common diseases in relation to other pathologies observed in the human body

and damage to the hard tissue of the teeth - caries ranks first in frequency of occurrence. According to the results of epidemiological studies, the spread of caries varies from 70 percent to 90 percent. [3] and now there is no trend of decreasing. In addition, according to some authors. [4] Despite the fact that recently active preventive and curative procedures are underway, it's observed growth of disease rate day by day. The spread and intensity of caries depends on several factors they are: ecological and biogeochemical properties of the environment, socio-

economic living conditions of the population, nutrition quality, level of health and level of medical knowledge of parents, organization of primary prevention in the region. [5;6;7;8;9]

Dental morbidity in childhood and adolescence largely determines the health of people in the later years of life. For this reason, data on the intensity of dental pathology in children are the object of close attention not only dentists, but also other specialists [2].

The conducted researches determined the structure and intensity of dental pathology among the examined people of the same sex and youth. The interrelation of the influence of environmental and endogenous factors on the manifestation of caries and anomalies of occlusion in the examined patients is shown [10].

Given the above, the study of these data is considered an important problem.

Purpose of research: The use of modern test determinants in determining the criteria of somatic diseases in mother and child, in the etiology of caries and non-carious lesions of hard tissues of teeth in children.

Object and methods of research

To perform this study, children under 17 years of age, permanently residing in the city of Bukhara. The choice of the contingent is related to the topic of this study, as well as the presence of the regional problem of the development of carious in children in Bukhara region. To assess the hygienic state of the oral cavity, we used the hygienic indices of the oral cavity: CPITN; PMA (Schour, Massler); GI (Loe, Silness); CPI (P. A. Leus); OHI-S (Green, Vermillion); Silness-Loe (Silness, Loe); TER according to the Okushko method.

A total of 1232 children enrolled in General education schools (GES) and in kindergartens. All children were distributed in the following age groups: under 3 years (n=126, 10.2%); 3 to 7 years (n=284, 23.1%); 7 to 12 years (n=524, 42.5%); 12 to 17 years (n=298, 24.2%).

Research result

Taking into account the fact that dental caries is the most widespread disease in childhood [11] we considered it expedient to study this pathology separately from other studied diseases of the dental jaw system (DJS).

The results show that the prevalence of dental carious in children under 3 years of age, permanently residing in the city of Bukhara, is 37.3% (n=47). It should be noted that the carious process in the examined children up to 1 year was not detected.

Carious teeth began to appear from the age of 2, and by the age of 3, carious teeth were found in every third child (37.3%). In children from 3 to 7 years, this parameter increased by 1.6 times, to 58.8% (n=167).

If we compare the number of children with carious teeth to the total number of children examined (n=1232), the increase in the incidence of dental caries, depending on age, still receives confirmation-respectively, in children under 3 years is 3.8% and in children from 3 to 7 years 13.6%, which is 3.6 times more.

When studying the intensity of dental caries (CP) received the same trend-respectively by age 0.31 ± 0.08 and 1.97 ± 0.26 ($P < 0.001$). This fact once again proves that with increasing age of the child increases the risk of formation and development of carious teeth, as well as the intensity

of dental caries in the examined children of preschool age.

Thus, it was found that the prevalence of dental caries in children under 3 years, permanently residing in the city of Bukhara, was 3.73%. Carious teeth began to appear from the age of 2 and by the age of 3 they were found in every third child. In children from 3 to 7 years, this parameter increased by 1.6 times. When studying the intensity of CP received the same trend (0.31 ± 0.08 and 1.97 ± 0.26). This fact proved that with increasing age of the child increases the risk of formation and development of carious teeth, as well as increases the intensity of dental caries in children of preschool age.

The results of the study of the prevalence of dental caries in the examined children from 7 to 12 years (school age) showed that 321 children out of 524 (61.3%) had carious lesions of the teeth, which is 1.6 and 1.1 times more than in children of preschool age.

Attention is drawn to the fact that the trend of increasing the prevalence of dental caries, depending on the increase in age, remained in school-age children. Thus, the detection of dental caries in children from 12 to 17 years was 10.5% more than in children from 7 to 12 years, where the difference was 1.2 times.

When assessing the results of the study on the intensity of CP, we received the same trend, i.e., with increasing age, along with the prevalence parameters, the intensity of detection of dental caries in children increases, which is 2.95 ± 0.68 in children from 7 to 12 years and 3.75 ± 0.94 in children from 12 to 17 years ($P < 0.001$).

The revealed facts, on prevalence and intensity of carious of teeth at children of preschool and school age specifies that planned preventive actions have to be made taking into account age of the child, indicators of prevalence and intensity of caries of teeth in this region.

Thus, it was revealed that the trend of increasing the prevalence of dental caries, depending on the increase in age, remained in school-age children. In the examined children from 7 to 12 years, carious lesions of the teeth were found in 61.3% of cases, which is 1.6 and 1.1 times more than in the two age groups of preschool children, respectively. The detection of dental caries in children from 12 to 17 years was 10.5% higher than in children from 7 to 12 years (1.2%).

The results of studies to determine the dental status of the examined children of different age categories showed that 22 children (1.8%) jaw was not developed correctly. By age, this pathology was as follows (the calculation is performed in relation to the total number of examined children, n=1232): up to 3 years - 4 children (0.3%); from 3 to 7 years - 4 children (0.3%); 7 to 12 years - 10 children (0.8%); 12 to 17 years - 4 children (0.3%). In other children (n=1210, 98.2%) the jaw was developed correctly, pathological deviations were not observed during the examination.

A total of 20 surveyed children (1.6%) found malocclusion, most often it was detected in children from 7 to 12 years-16 cases (1.3%). In all other cases, their bite was correct-98.4% (n=1212).

The results show that the presence of temporary and permanent teeth in children, as well as the process of changing the teeth examined from temporary to permanent correlates with the number of examined children with different age categories. This is also confirmed by the results obtained for age groups (table. 1).

Table 1.

Parameters of detection of temporary and permanent teeth in examined children by age categories

Indicators	up to 3 years	from 3 up to 7 years	from 7 up to 12 years	from 12 under 17
Temporary teeth	80/6,5	82/6,7	4/0,3	0
Permanent teeth	0	2/0,2	330/26,8	292/23,7
Change of teeth	46/3,7	200/16,2	190/15,4	6/0,5

A clear distribution of the presence of temporary and permanent teeth, as well as the detection of the process of changing teeth by age groups indicates a General trend of the absence of gross deviations in these parameters in the examined children of preschool and school age in this region.

Timing of teething, timely change of teeth from temporary to permanent, is also of great importance

in assessing the condition of the oral cavity of children.

In this regard, we considered it appropriate to carry out the relative, averaged parameters of the presence of temporary and permanent teeth, the presence of the process of changing teeth, as well as their ratio to the age of the examined children (Fig. 1).

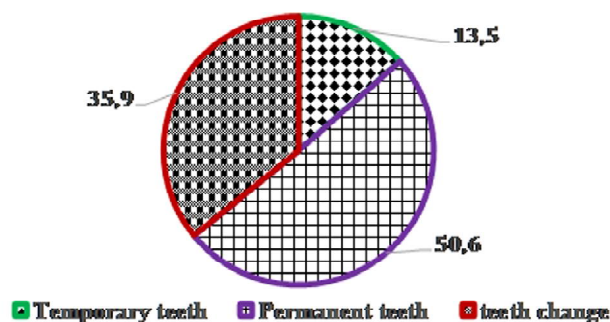


Fig. 1. Comparative indicators of the presence of temporary and permanent teeth, as well as the change of teeth in children (in %x).

The relative number of temporary teeth in the examined children correspond to the number of examined children of this age category, as well as the literature data. Thus, regardless of the age of the children, the General condition of the change of teeth practically did not differ from the indicators of peers from other regions.

Next, we evaluated the state of periodontal tissue and oral mucosa in the examined children in all 4 age groups in a comparative aspect. Among them, the examined children were more likely to have clinical forms: gingivitis from the pathology of periodontal diseases and various forms of inflammatory lesions of the , which were diagnosed in 188 cases-15.3%: 102 cases-8.2%, respectively (Fig. 2).

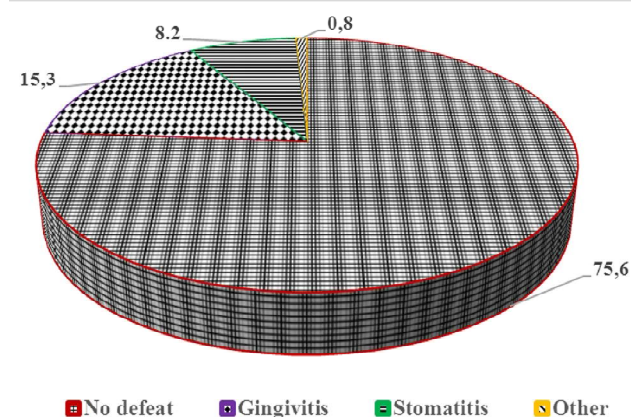


Fig. 2. Indicators of the state of periodontal tissues and oral mucosa in examined children (in %x).

On the following places by the number of identified stomatitis were (8,2%, n=102), in addition, other lesions of SOPR, which met in isolated cases, we combined in a separate group- "other" (0,8%, n=10). It should be emphasized that 932 examined children (75.6%) showed no signs of lesion.

Further, when studying the dental status of the examined children, we studied other pathological processes in the hard tissues of the teeth - non-caries lesions.

In the study we met, mainly fluorosis lesions of the teeth; it is one of the undesirable nosological units in childhood. In assessing the results of the study to determine the fluorosis of the teeth in the examined children, we found (table. 2).

Table 2.

Indicators of the presence of dental fluorosis in the examined children of preschool and school age

Indicators	up to 3 years	from 3 to 7 years	from 3 to 7 years	from 12 to 17 years	Total
The absence of fluorosis	120/9,7	270/21,9	440/35,7	246/20,0	1076/87,3
Questionable fluorosis	2/0,2	8/0,6	62/5,0	50/4,1	122/9,9
Very weak fluorosis	2/0,2	0	6/0,5	0	8/0,6
Weak fluorosis	0	0	10/0,8	0	10/0,8
Moderate fluorosis	0	4/0,3	6/0,5	2/0,2	12/1,0
Severe fluorosis	0	0	0	0	0
Exceptional fluorosis	2/0,2	2/0,2	0	0	4/0,3

In addition, we have studied inflammatory diseases of maxillofacial system. The study of this pathology in the examined children showed that among them periodontitis was detected more often - in 161 cases (13.1%) and pulpitis in 116 cases (9.4%).

Most often, the above-mentioned inflammatory diseases of maxillofacial system were detected by us in the examined children aged 7 to 12 years-respectively 5.5%, n=68 and 7.1%, n=87. The age group from 12 to 17 years was next in terms of the number of identified inflammatory diseases of maxillofacial system - 2.4%, n=29 and 3.9%, n=48.

Thus, the determination of signs of lesions of the mucous membranes in the oral cavity (MMOC), the state of hard tissues of the teeth-carious and non-carious lesions of the teeth and inflammatory diseases of MMOC the in the children of preschool and school age examined by us showed that a relatively high incidence was observed in the MMOC (24.4%), the next place was the presence of non-carious lesions of hard tissues of the teeth, including dental fluorosis (12.7%).

When assessing the condition of the teeth, their General condition and carious lesions of the teeth of the examined children were used according to the questionnaire. The General degrees of the teeth was assessed according to the scale proposed by us:

"good " degrees - in the absence of visible during the examination of pathological changes in the teeth, symptoms of tooth damage, complete preservation of the functions of the teeth;

"satisfactory " degrees - in the presence of visible pre-pathological conditions, minor symptoms of tooth damage, complete preservation of tooth function;

"unsatisfactory " degrees - in the presence of visible pathological conditions, the obvious manifestation of symptoms of damage to the teeth, partial preservation of the functions of the teeth.

The results obtained by us showed (table. 3) that the examined children under 3 years prevailed "good " of the teeth (6.4%, n=79), over "satisfactory " (2.5%, n=31) and "unsatisfactory " degrees of the teeth (1.3%, n=16).

Table 3.

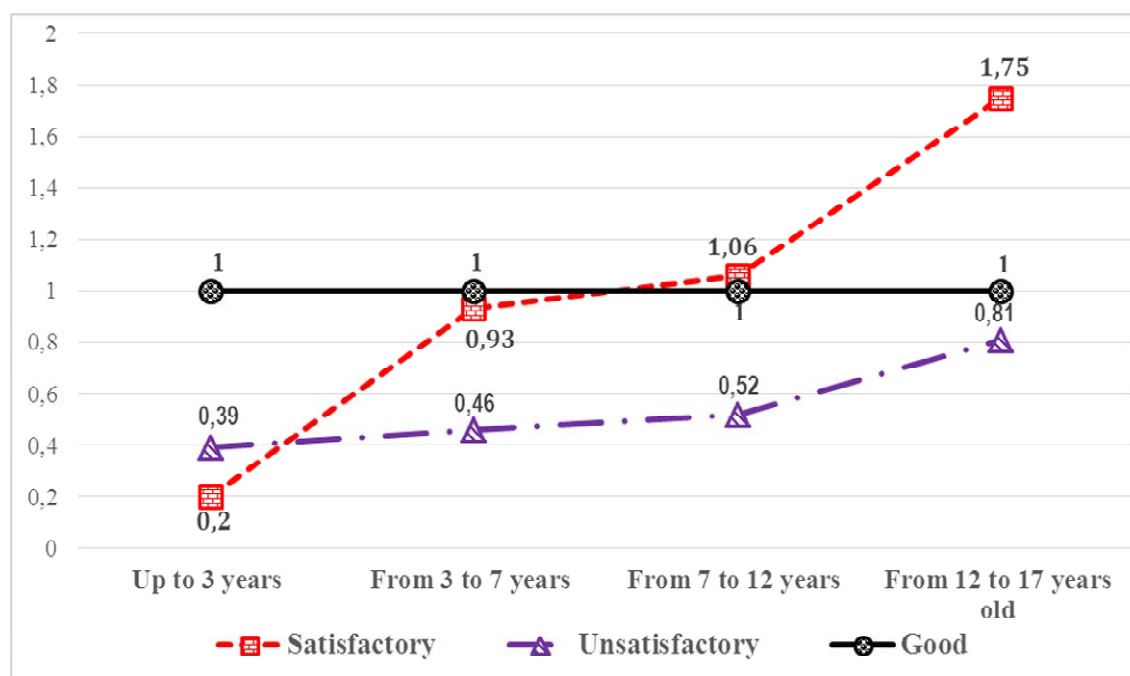
Results of the study of hygienic degrees of the oral cavity in the examined children

Degrees of hard tissues of teeth	Up to 3 years	From 3up to 7 years	From 7up to 12 years	From 12under 17 years	Total
"Good	79/6,4	117/9,5	203/16,5	84/6,8	483/39,2
"Satisfactory	31/2,5	109/8,8	216/17,5	146/11,9	502/40,7
"Unsatisfactory	16/1,3	58/4,7	105/8,5	68/5,5	247/20,0

Close to this state were the indicators of the surveyed children from 3 to 7 years-respectively 9.5% (n=117); 8.8% (n=109) and 4.7% (n=58). But, starting from 7 years of age (age category from 7 to 12 years) "satisfactory " prevails over the " good " of the teeth by 1.1 times (respectively, 16.5%, n=203 against 17.5%, n=216).

This is most clearly seen in the study of the ratio of the obtained absolute and relative (%) parameters of the state of the teeth.

"Good" degrees was equated to one by us, and other compared levels were counted in relation to this figure. The results showed that in the General group, the



Rice. 3. Comparative indicators of the ratio of the estimated scales of the state of teeth in children of different age groups

parameters of the evaluation scale of "good" and "satisfactory" oral degrees were almost the same, and the "unsatisfactory" degrees was 2.0 times lower in relation to them: 39, 2:40, 7:20, 0 = 1, 0:1, 04:0,51 (Fig. 3).

Discussion of results. When analysing the results by age in children, it was found that with increasing age gradually increased the number and percentage of "unsatisfactory" of hard tissues of teeth, so if you have children up to 3 years "good" rating prevailed over the "poor", 5.0 times, the children from 3 to 7 years, this parameter was equal to 2.0 times, in children from 7 to 12 years is 1.9 times of the children from 12 to 17 years the increase amounted to just 1.2 times.

All the results obtained by the ratio of the obtained parameters to each other in the context of age groups were as follows:

up to 3 years - 6,4:2,5:1,3 = 1,0:0,39:0,20;
 from 3up to 7 years - 9,5:8,8:4,7 = 1,0:0,93:0,49;
 from 7up to 12 years - 16,5:17,5:8,5 = 1,0:1,06:0,52;
 from 12under 17 years - 6,8:11,9:5,5 = 1,0:1,75:0,81.

The results indicate that with increasing age, the condition of the hard tissues of the teeth in children deteriorates, which increases the need for their treatment. This pattern should be taken into account when financing and planning therapeutic and preventive measures to prevent dental diseases, especially dental disease in children of preschool and school age.

It should be emphasized that the scope of prophylactic medical examination of children surveyed also insufficient, as only 12 children examined children from 3 to 7 years consisted at the dispensary, which is 9.5% of the examined children. With increasing age, the percentage of annual physical checkups increases in children from 7 to 12 years, the number of children consisting on the dispensary account increases to 16.4% (n=86 of patients of this age group) and children 12 to 17 years to 72.8% (n=217).

Summary

1. It was found that with increasing age, the change of temporary teeth to permanent teeth took place with full compliance with the age physiology of children, but with increasing age of children, the state of hard tissues of the teeth gradually worsened.

2. The increase in "satisfactory" - and "unsatisfactory" - oral conditions was due to a decrease in the number and percentage of "good" - oral conditions in children. This established pattern is recommended to be used in planning the financing of treatment and prevention activities, the allocation of staff dentists and periodic medical examinations organized for children of preschool and school age.

3. Health care organizers and dentists need to take into account that the coverage of children for dental disease is low in the region where the research was conducted.

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