

## THE CONDITION OF THE DENTITION IN CHILDREN AND ADOLESCENTS OBESE

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✓ **Resume**

*Dental status in children and adolescents diagnosed with obesity*

*Dental status was studied in 168 obese teenagers aged from 12 to 18 years. The study revealed high prevalence in this group of teenagers of oral pathology like caries and fluorosis, inflammatory periodontal disease in 75% of children and poor oral hygiene level. One should consider high need for development of treatment-and-prophylactic measures for improvement of dental status in obese teenagers.*

*Key words: obesity, metabolic syndrome, children, dentistry, oral cavity.*

## СОСТОЯНИЕ СТОМАТОЛОГИИ У ДЕТЕЙ И ПОДРОСТКОВ С ОЖИРЕНИЕМ

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✓ **Резюме**

*Изучены особенности стоматологического статуса у 168 подростков 12-18 лет с диагнозом ожирения. Исследование выявило наличие у них патологии твердых тканей зубов (кариес и флюороз), воспалительных изменений тканей пародонта (у 75%), а также нарушение гигиены полости рта. Сделан вывод о необходимости разработки лечебно-профилактических мероприятий с целью улучшения стоматологического статуса таких подростков.*

*Ключевые слова: ожирение, метаболический синдром, дети, стоматология, полость рта.*

## SEMIZLIK BILAN KASALLANGAN BOLALARDA OG'IZ BO'SHLIG'IDA STOMATOLOGIK HOLATNING O'ZGARISHI

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✓ **Rezyume**

*Semizlik tashxisi qo'yilgan 12-18 yoshdagi 168 o'spirinning stomatologik holatining xususiyatlari o'rganildi. Tadqiqot natijasida qattiq tish to'qimalarining patologiyasi (karies va ftoroz), periodontal to'qimalarda yallig'lanish o'zgarishlari (75% da), shuningdek og'iz gigienasining buzilishi aniqlandi. Bunday o'spirinlarning stomatologik holatini yaxshilash uchun terapevtik va profilaktika choralarini ishlab chiqish zarur degan xulosaga kelishdi.*

*Kalit so'zlar: semirish, metabolik sindrom, bolalar, stomatologiya, og'iz bo'shlig'i.*

### Relevance

The prevalence of metabolic syndrome (MS), according to WHO experts, is a pandemic of the 21st century (1,2,4). It ranges from 14 to 25%. In Uzbekistan, MS is diagnosed in 18.6% of men under 40 and increases by the age of 55 to 44.4%.

In women, MS is less common - in 7.3% up to 40 years old and in 20.8% - at the age of 40 to 55 years. This syndrome is detected in 16% of adolescents, which threatens the health of the younger generation (3,5,7).

The term MS denotes a number of risk factors for the development of cardiovascular diseases: abdominal obesity; hyperglycemia; dyslipidemia; arterial hypertension; disorders of the hemostasis system; chronic subclinical inflammation (8,9).

From 2006 to 2010, according to the Ministry of Health of the Republic of Uzbekistan, the number of obese patients registered by the country's medical institutions increased by 40%. In the world, the frequency of obesity has clearly increased not only among adults, but also among children and adolescents, which was for the first time officially announced by clinicians from the United States and Western Europe, in which overweight is observed in 10-30% of children, 7-11 years old and in 8-25% of adolescents 14-18 years old.

The results of sample studies conducted in the Bukhara region suggest that 5,5% of children living in rural areas are overweight and 8,5% in urban areas (4, 5). At the same time, the number of obese children doubles every 3 decades.

Since 1948, in the International Classification of Diseases, obesity has been identified as an independent disease closely associated with a number of serious complications, such as dyslipidemia and atherosclerosis, coronary heart disease, type 2 diabetes mellitus, arterial hypertension, sleep apnea syndrome, cholelithiasis, varicose veins, diseases of the musculoskeletal system.

At the same time, there is not enough information about the presence of changes in tissues and organs of the oral cavity (OR) in the pathology of carbohydrate metabolism, the manifestation of which is MS, exogenous constitutional obesity and overweight. An in-depth study of the dental status of adolescents and the identification of markers of this pathology of carbohydrate metabolism in PR can be of considerable importance for a timely referral to an endocrinologist, a better understanding of the pathogenesis of diseases of tissues and organs of PR and development, taking into account the identified violations of a complex of diagnostic, medical and preventive measures.

**The purpose** of this study is to improve the quality of dental care for obese children, based on

data on the state of their hard tissues of teeth and periodontal tissues.

### Material and methods

On the basis of the inpatient department of the Endocrinological Center for Children of Bukhara Region - Clinical Multidisciplinary Children's Hospital No. 1, a comprehensive dental examination was carried out for 168 adolescents (64 girls, 104 boys) aged 12-18 years (average age  $15 \pm 13$  years) with confirmed diagnosis of exogenous constitutional obesity of varying severity (E66 according to ICD-10).

The diagnosis of the underlying disease was made on the basis of anamnesis data, complaints, clinical manifestations of the disease, and was verified by laboratory and instrumental research methods. Dental examination was carried out according to the WHO method (1997). Evaluated the level of hygiene PR - deposits on the teeth (K00.3) according to the OH1-S index (J. Green, J. Vermillion, 1964); the state of the hard tissues of the teeth - caries (K02), fluorosis (K00.3); condition of periodontal tissues - periodontal disease (K05).

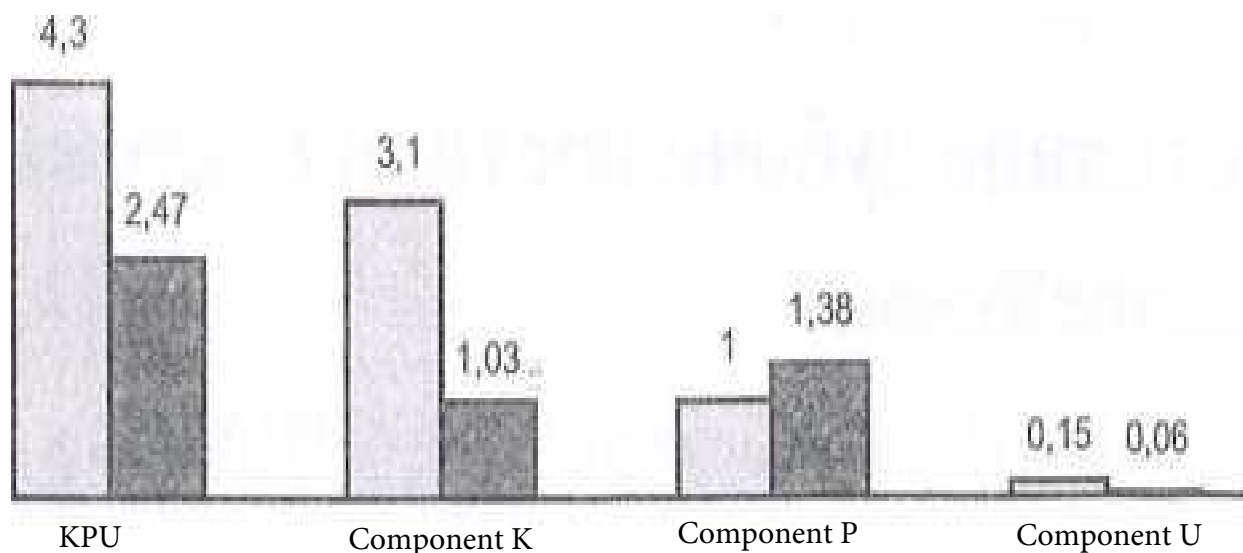
The assessment of the state of hard tissues of teeth was carried out according to the following indicators: prevalence (%) and intensity of dental caries - KPU (h); prevalence of various forms of fluorosis (%). To determine the state of periodontal tissues in schoolchildren, the CPI index was used (WHO, 1997).

### Results and discussion

It was found that the prevalence of caries in children diagnosed with exogenous constitutional obesity was  $75 \pm 0.03\%$ , the intensity of caries was  $4.3 \pm 0.35$ ; components of the KPU index (h) - K:  $3.15 \pm 0.041$ ; P:  $1.0 \pm 0.021$ ; Y:  $0.15 \pm 0.04$  (see figure).

In the group of children studied by us, fluorosis was recorded in 65%, including the moderate form - in 18%, mild and severe forms - in 47%; periodontal disease - in 79%: chronic catarrhal gingivitis: localized form (from 3 to 7 teeth) and generalized. The CPI index was  $3.43 \pm 0.05$  segments, while bleeding spread to  $1.7 \pm 0.2$  sextant, tartar - to  $1.5 + 0.16$ , pathological pockets - to  $0.23 \pm 0.3$ .

□ Children diagnosed with obesity; ■ practically healthy



### *Intensity of caries in children diagnosed with obesity and in practically healthy people.*

The simplified Green-Vermillion PR hygiene index (OHI-S) in this group of children was  $3.23 \pm 0.05$ , plaque index  $-2.23 \pm 0.25$ , stone index  $-1.0 \pm 0.17$ .

The study did not reveal significant gender differences in the manifestations of the main dental diseases and the level of PR hygiene, but there was a tendency towards a better state of PR in girls.

In our opinion, the presented dental picture of the morbidity of children and adolescents in this group is a consequence of dietary habits (soft foods, foods with a high carbohydrate content, fast food), as well as unwillingness to visit the dentist.

Data on the dental status of children diagnosed with exogenous constitutional obesity will contribute to the development of therapeutic and prophylactic measures in this category of patients, as well as standards for their treatment by specialists of different profiles.

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