



**New Day in Medicine**  
**Новый День в Медицине**

**NDM**



# TIBBIYOTDA YANGI KUN

Ilmiy referativ, marifiy-ma'naviy jurnal



**AVICENNA-MED.UZ**



ISSN 2181-712X.  
EiSSN 2181-2187

**5 (79) 2025**

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НОВЫЙ ДЕНЬ В МЕДИЦИНЕ  
NEW DAY IN MEDICINE**

*Илмий-рефератив, маънавий-маърифий журнал  
Научно-реферативный,  
духовно-просветительский журнал*

**УЧРЕДИТЕЛИ:**

**БУХАРСКИЙ ГОСУДАРСТВЕННЫЙ  
МЕДИЦИНСКИЙ ИНСТИТУТ  
ООО «ТИББИЁТДА ЯНГИ КУН»**

Национальный медицинский  
исследовательский центр хирургии имени  
А.В. Вишневского является генеральным  
научно-практическим  
консультантом редакции

Журнал был включен в список журнальных  
изданий, рецензируемых Высшей  
Аттестационной Комиссией  
Республики Узбекистан  
(Протокол № 201/03 от 30.12.2013 г.)

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**5 (79)**

**2025**

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Received: 20.04.2025, Accepted: 06.05.2025, Published: 10.05.2025

UDC 616.316 - 02:616.43-071-079.4.

## CRITERIA FOR ASSESSING THE DENTAL STATUS OF PATIENTS WITH DIABETES

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### ✓ *Resume*

*When caring for patients with diabetes, the relevant authorities take into account the condition of the oral cavity and include them in the control group. Patients with diabetes mellitus the health of their oral organs has a great impact on their general well-being and the development of the disease, therefore, the development of methods for the treatment and prevention of dental diseases in patients with diabetes remains one of the urgent problems of modern medicine.*

*Keywords: diabetes mellitus, oral organs, dental diseases, methods of dental examination.*

## ҚАНДЛИ ДИАБЕТ БИЛАН КАСАЛЛАНГАН БЕМОРЛАРНИНГ СТОМАТОЛОГИК ҲОЛАТИНИ БАҲОЛАШ МЕЗОНЛАРИ

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### ✓ *Резюме*

*Қандли диабетга чалинган беморларни парвариш қилишда оғиз бўшлиғи саломатлиги тегишли мутахассислар томонидан инобатга олинади ва назорат гуруҳига киритилади. Қандли диабетли бор беморлар оғиз бўшлиғи аъзоларининг саломатлиги улар соғлигининг умумий ҳолатига ва касалликнинг ривожланишига катта таъсир кўрсатади, шунинг учун қандли диабетга чалинган беморларда стоматологик касалликларни даволаш ва профилактикасини ишлаб чиқиш замонавий тиббиётнинг долзарб муаммоларидан бўлиб қолмоқда.*

*Калит сўзлар: қандли диабет, оғиз бўшлиғи аъзолари, стоматологик касалликлар, стоматологик текширув усуллари.*

## КРИТЕРИИ ОЦЕНКИ СТОМАТОЛОГИЧЕСКОГО СТАТУСА ПАЦИЕНТОВ С САХАРНЫМ ДИАБЕТОМ

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✓ **Резюме**

*При уходе за больными сахарным диабетом соответствующие органы принимают во внимание состояние полости рта и включают их в контрольную группу. Пациенты с сахарным диабетом здоровье органов полости рта у них оказывает большое влияние на общее самочувствие и развитие заболевания, поэтому разработка методов лечения и профилактики стоматологических заболеваний у пациентов с сахарным диабетом остается одной из актуальных проблем современной медицины.*

*Ключевые слова: сахарный диабет, органы полости рта, стоматологические заболевания, методы стоматологического обследования.*

**Relevance**

**D**iabetes mellitus (DM) continues to be a heavy burden on national health services around the world. It is one of the main causes of early disability and high mortality in children. Despite the adoption of national programs to combat diabetes in most countries of the world, its prevalence is increasing not only among adults, but also among children. According to the International Diabetes Federation and WHO, there are more than 200 million diabetic patients worldwide. An expert assessment conducted by reputable diabetologists worldwide suggests that by 2010 There will be more than 239.4 million people in the world, and by 2030 there will be about 380 million patients with diabetes. Diabetes mellitus (DM), known as juvenile diabetes or insulin-dependent diabetes, is the most common type of diabetes in children and adolescents. Diabetes has the most significant effect on the condition of the oral cavity. Therefore, pediatric dentists should be aware of the features of the course of oral diseases in children with diabetes. According to experts, the prevalence of diabetes in all age groups worldwide was 2.8% in 2000, and the prevalence is expected to increase to 4.4% by 2030. Diabetes has the most significant effect on the condition of the oral cavity. Therefore, pediatric dentists should be aware of the features of the course of oral diseases in children with diabetes. DM is a multifactorial disease characterized by a chronic rise in blood glucose levels or hyperglycemia and is caused by impaired insulin secretion and/or insulin dysfunction [1.3.5.7.9.11.13.15].

**Purpose of the study.** Dental examination analysis of patients with diabetes improving learning.

**Results and analyzes**

Diabetes is also called a silent epidemic and a major public health problem and accounts for 9% of all deaths worldwide. Modern research in the field of dentistry is aimed at identifying the relationship between oral health and various metabolic and systemic diseases. Diabetes mellitus (DM) is one of the most common metabolic disorders in the general population and predisposes to various concomitant diseases and complications affecting overall health. Chronic hyperglycemia, a permanent feature of diabetes, can affect various organs and tissues, especially those rich in capillary vessels, leading to retinopathy, neuropathy, nephropathy and vascular diseases. According to the World Health Organization (WHO), health education is the best and most effective way to provide medical care to people, both in terms of human resources and the high cost of medical care. Education is a cornerstone in the treatment of diabetes. Research in this field has shown that education is effective in the control and treatment of this disease, and according to research, proper training can reduce 80% of diabetes complications.

The state of oral health should be taken into account when caring for children with diabetes. The oral health of these patients can have a significant impact on their overall health and the development of the disease. Periodontal diseases and dental caries are two of the most common chronic diseases affecting patients with diabetes. Inflammatory changes in periodontitis may not be limited to the oral cavity, they can also cause systemic effects. Patients with type 1 and type 2 diabetes (DM1, DM2) have an increased prevalence of gingivitis and periodontal disease (PD). In patients with diabetes, periodontal disease (PD) develops at a younger age than in the healthy population, and it also worsens with prolonged diabetes. PD negatively affects glycemic control and other diabetes-related complications, and there is a general consensus that PD treatment can positively affect these negative effects. In addition, childhood caries (DC) is a multifactorial oral disease that is often detected in patients with obesity and diabetes, although its prevalence in systematic reviews is inconclusive. The associations between gingivitis, PD and DC have a similar course, that is, inadequate oral hygiene and unhealthy diet. Insufficient brushing of teeth and the consumption of sugary foods can lead to even more harmful consequences for the oral cavity. Maintaining oral health will help prevent chronic oral diseases and mitigate the effects of chronic inflammatory processes. Thus, caring

for patients with obesity and diabetes requires a multidisciplinary team of medical and dental specialists [2.4.6.8.10.12.14].

T1DM, also known as juvenile diabetes or insulin-dependent diabetes, is the most common type of diabetes in children and adolescents. According to experts, the prevalence of diabetes in all age groups worldwide was 2.8% in 2000, and the prevalence is expected to increase to 4.4% by 2030. Currently, the study of quality of life is one of the most relevant scientific areas and has been identified as a priority in Russian medicine for the long term. Quality of life is an integral characteristic of a child's physical, psychological, and social functioning based on his or her subjective perception and/or the subjective perception of parents or others from the child's immediate environment. Dental status has a direct impact on a person's quality of life. Tooth loss, caries, complications of caries, periodontal diseases and poor-quality dentures are the main causes of impaired chewing function. Aesthetic defects increase isolation and make communication more difficult. The study involved 470 sick children, of whom 4 groups were formed. Group I – patients with deep caries (230 children), group II – patients with chronic periodontitis (130 children), group III – patients with catarrhal gingivitis (110 children) and IV control group consisted of children without clinically pronounced signs of periodontal disease, consisting of 20 children. To assess the dental status, we determined: the level of oral hygiene according to the OHI-S index (GreenVermillion), the condition of hard dental tissues and the need for treatment according to the CPI index, and the degree of damage to periodontal tissues was assessed according to the KPI index. In order to study the quality of life of patients depending on dental health, the dental quality of life index was determined. The quantitative data of the research results were subjected to statistical processing in the MS Office Excel computer program. When determining permanent bite games, the vestibular surfaces of teeth 16, 26, 11, and 31, and lingual surfaces of teeth 36 and 46 were studied. Plaque and tartar were indicated visually using a probe, gradually moving it along the key surfaces of the teeth from the cutting edge or occlusal surface to the neck of the tooth. At the same time, the level of the crown is marked, at which dental deposits accumulate on the probe [13.15].

OHI-S was calculated as the sum of the plaque index and the stone index. When determining the CPI index, an examination of the oral cavity of patients was performed starting from tooth 18 of the upper jaw to tooth 28, then from tooth 38 of the lower jaw to tooth 48. The index of carious, filled and removed teeth was calculated by summing the components "K", "P", "Y". KPI was used to individually determine the periodontal status in adolescents. Investigated 17/16, 11, 26/27, 31, 36/37, 46/47 groups of teeth. In the absence of a tooth to be examined, the nearest one was examined, but only within the same group. In the absence of all teeth of the same group, the maximum severity of the periodontal condition was recorded. The dental quality of life index is determined by a survey and a medical assessment of the patient's dental status. The survey questionnaire consists of 16 questions. There are five possible answers for each option, which are scored from 0 to 4. If the condition of the oral cavity, in the opinion of the patient, affects the quality of life, the answer is rated 4 points. A very strong influence is rated "4". The maximum number of points for answering all questions is 64, which means that there is any negative impact of dental status on the quality of life. The doctor evaluates the impact of the oral condition on the quality of life based on an examination of the oral cavity and evaluates it in points from 0 to 4. The minimum score means that there is no objective data on the possibility of the influence of dental status on the quality of life of the subject.

The points are summed up. The maximum amount of points can be 64 (100%), and the minimum amount of points can range from 0 to 16 (25%). In the study, the indicators of the OHI-S index ranged from 1.6 to 3.34. The result obtained for this index of dental health indicates unsatisfactory and poor oral hygiene. According to the KPI index, the intensity of periodontal diseases also increased during the transition from one group to another. The average values of the KPI index by group were:  $0,47 \pm 0,03$ ,  $1,7 \pm 0,16$ ,  $1,4 \pm 0,13$  and  $0,3 \pm 0,1$ . These values indicate the average severity of periodontal diseases. The intensity of dental caries disease (and its complications) during the transition from one group to another varies from 18% to 84%. The rate of extracted teeth is also increasing from 12% to 85% during the transition from one group to another. An analysis of the dental quality of life index showed that up to 67% of children are embarrassed to smile because of the condition of their teeth, suffer from an unpleasant odor from the oral cavity from 23% to 78%, and experience discomfort due to the appearance of the face associated with bad or missing teeth in up to 88% of patients. The highest percentage is observed in patients with chronic periodontitis [12.14].

Thus, teeth are the main factor determining the quality of nutrition, play an aesthetic role and are the main source of dental and general health. The lack of teeth leads to limited food choices. Sick children with type 1 diabetes and adentia or loose teeth are deprived of the opportunity to eat even dietary food. As a result, protein and vitamin deficiency, chewing laziness gradually develop, the function of the salivary glands and self-cleaning of the oral cavity are sharply disrupted, and sometimes the underlying disease develops into autoimmune systemic diseases. The dental status and quality of life assessment questionnaire developed by us includes separate forms for children and parents to fill out. This questionnaire is a common tool for quality of life research and includes 16 questions combined into 3 scales. Scales of child and parent forms of the questionnaire: physical discomfort

and functional disorders - 5 questions; emotional functioning - 1 question; social functioning - 3 questions; family well-being of the child - 4 questions and financial costs - 3 questions. The child and parent forms of the questionnaire differ only in the grammatical constructions of the questions, while preserving their basic meaning and the way in which the questionnaire is filled out. The assessment is based on a 4-point system. The higher the score, the worse the child's quality of life. At the current stage of medical development, determining the effectiveness of treatment in endocrinology should be focused not only on standard clinical criteria, but also on quality of life indicators obtained using adequate research methods.

### Conclusion

The long course of the disease, the need for constant therapy, and the forced change in the patient's lifestyle confirm the position that quality of life indicators are an integral element in a comprehensive assessment of the patient's condition. Thus, the quality of life can act as a criterion of effectiveness in the search for optimal methods of diagnosis and treatment of endocrine diseases. The possibility of a patient's full recovery and return to a normal life largely depends on monitoring his quality of life.

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Entered 20.04.2025