

# Early Diagnosis And Prevention Of Dentoalveolar Anomalies And Cariogenic Situation In Children Suffering From Diabetes

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**Summary-** *We examined 60 children from 5 to 17 years old in the regional endocrinological dispensary in Bukhara in the children's department with diabetes mellitus. The program "Healthy Tooth" was developed according to the following parameters: anamnesis of life, the state of the periodontium, the state of the mucous membrane of the oral cavity, the intensity of the spread of caries, the state of occlusion, the state of hygiene of the oral cavity, the state of the tongue. In all children, we took into account the following survey indicators: blood sugar level, age, hygiene index, PMA index and indices kp, KPU + Kp, KPU. At the same time, a comprehensive study of the oral cavity was carried out, which included the identification of patients' complaints, anamnesis, and a visual examination.*

**Key words :** *endocrine disorders , diabetes mellitus, caries, periodontium, occlusion, tooth, prevention , dentoalveolar anomalies.*

## **1. ACTUALITY:**

Among the diseases of the endocrine system in children with aharny d iabet is the most important, difficult and requires special attention disorders, diabetes can occur at any age, occurs in infants, preschool children and adolescents. Childhood diabetes, as well as in adults, has a chronic, lifelong course and often causes severe complications, therefore it is very important to timely identify the disease and take the necessary measures for its adequate treatment [1 .5.9 ].

In most cases, children develop diabetes I th type having an autoimmune nature, which is based on absolute insulin deficiency. Among the provoking factors for the development of diabetes mellitus in children, one can name such as a sedentary lifestyle, unhealthy diet, and overeating, including excessive consumption of sweet foods, as well as infectious diseases. At the same time feature of diabetes I th type is the relative reversibility of diabetic complications, due to the greater plasticity of children's functional systems of the body. [2 .6.8.12 ].

Diabetes mellitus develops as a result of insufficient insulin secretion by the pancreas. Type I diabetes is the most common type of diabetes among children, accounting for about two-thirds of all diabetes cases. It is one of the most common chronic diseases that occurs during childhood. By the age of 18, one in 350 children will develop type I diabetes. Recently, the number of children with diabetes is increasing, especially under the age of 5 years.

Diabetes mellitus is a global problem of medical science and healthcare around the world. Diabetes mellitus causes significant damage to the health of the population of almost all nations and all ages [3 .7.11 ].

The incidence of diabetes mellitus in industrialized countries ranges from 1.5 to 4% of the population, of which children account for 8-10%. Periodontal disease in children with diabetes mellitus was found in 50-60% [4 .10 ].

Children with diabetes have a higher risk of developing certain other diseases in which the immune system attacks the body (autoimmune disorders), in particular thyroid disease, etc.

All over the world, there is an increase in the prevalence of type 1 and 2 diabetes mellitus among the child population. In this regard, dentists who provide dental care to children need knowledge and skills about the effect of diabetes mellitus on dental health, the relationship and interaction of dental pathology and diabetes mellitus in children [5 .14 ] .

Dental diseases now occupy a leading place among all classes of diseases, and dental care is one of the most widespread types of medical services for the population of many countries. The level of dental morbidity in childhood and adolescence largely determines the state of health of an individual in the subsequent years of life, therefore, data on the prevalence and intensity of dental pathology in children is the object of increased attention of specialists [6 .13 ] .

## **2. OBJECTIVE:**

Assessment of the state of teeth and periodontal tissues of hard tissues and to study the occurrence of violations of the dentition ICU topics in children with diabetes, as well as to explore and be stomatologic s status of children and improve the condition of periodontal tissues. Increasing the effectiveness of primary prevention of major dental diseases in children with diabetes mellitus under dispensary supervision at the endocrinological dispensary in Bukhara.

The tasks were to determine the prevalence and intensity of dental caries, dentoalveolar anomalies, the prevalence of diseases, periodontal tissues. To develop lessons "Healthy tooth" for children and adolescents with varying degrees of endocrinological diseases and to introduce them into the educational process.

## **3. MATERIALS AND METHODS:**

We examined 60 children from 5 to 17 years old at the regional endocrinological dispensary in Bukhara in the children's department with diabetes mellitus .

*All children were divided into 3 groups:*

I - the group consisted of children with temporary occlusion (12)

II - the group consisted of children with a changeable bite (20)

III -group consisted of children with permanent occlusion (28).

In all children, we took into account the following survey indicators: blood sugar level, age, hygiene index, PMA index and indices kp, KPU + Kp, KPU. At the same time, a comprehensive study of the oral cavity was carried out, which included the identification of patients' complaints, anamnesis, and a visual examination.

In the course of the research, we have developed lessons "Healthy Tooth", which includes teaching dental skills: limiting sugary foods, eating foods rich in minerals, calcium and fluoride foods, also observing oral hygiene, regularly and correctly brushing your teeth, how to use dental floss, a choice of brushes and pastes, often rinse with mouthwash solutions containing medicinal herbs. It was especially recommended for sick children to visit a dentist twice a year.

In the course of preventive measures we have worked on u alis with parents of children with diabetes, which was shown to an individual approach in the selection of hygienic means, the choice of brushes, pastes, therapeutic rinses and gels. Many important matters role in the prevention of nutrition e oral disease. Parents were advised to visit a dentist every three

months, the control of diabetes, observance of hygienic rules simple for the purpose Avo be advent minutes hazardous oral diseases caused by underlying disease diabetes.

The diagnosis of diabetes mellitus was established based on the study of anamnestic data, clinical examination, laboratory, X-ray and other research methods. Children with mild forms of the disease have been identified, the majority of a child (38 children) revealed severe form of diabetes th diabetes, they noted a tendency ketoacidosis, coma history. According to the parents, it was noted that 50% of children had never been examined by a pediatric dentist.

In the study, the majority of a child was found soputs Leica Geosystems diseases, such as diseases of the gastrointestinal tract, chronic cholecystitis, chronic hepatitis, chronic pancreatitis, chronic anemiya- II degree, chronic pyelonephritis and disorders of the visual organs.

Clinical examination of patients was carried out according to a specially drawn up plan and the data obtained in this case were recorded in an extended dental chart. The examination of the patient began with the identification of a namnesis, focusing on the possible prerequisites for the development of dentoalveolar pathology of the periodontium. We took into account the duration of the disease, the cause, development and peculiarities of the course of the process, heredity, whether the child visited the dentist for treatment, if any, their results. If held dental prophylactic measures, we found out, which means and methods wherein the straight imenyalis and observed whether to item a precise volume of oral hygiene.

An objective examination of the oral cavity began on the eve of its depth, the color from the lysous membrane, the type of bite, the position of the teeth in the dental arch, the presence of carious lesions, the condition of the existing fillings, the severity of the cords and frenulum, the place of their attachment on the alveolar process. When examining the periodontal tissues, the color, relief, consistency, shape of the gingival margin, the presence of bleeding, edema or hypertrophy of the papillae, as well as the depth of gingival pockets and the nature of dental deposits were taken into account.

To assess the state of the periodontal tissues, the following indices were used: gingivitis index (PMA), the determination of the intensity of the carious process was carried out using the KPU, KPU + Kp, Kp index.

To determine the hygienic condition of the oral cavity using method J. The C. Green, J. The R. Vermillion (1964).

To assess the anomalies of the dentition, a comprehensive study was carried out. It included the identification of the type of breathing, the function of swallowing, chewing, the presence of crowded teeth, diastemas, the state of the permanent 6 teeth, the state of the child's chewing muscles, the habitual position during sleep, and the presence of bad habits. During an external examination, the proportionality and symmetry of the contours of the face were determined, during an intraoral examination, the location of the frenulum of the upper and lower lip, tongue, the structure of the palate was assessed, the timing of the eruption of temporary and permanent teeth, the type of bite, and the position of the teeth in the dental arch were paid attention.

#### 4. RESULT AND DISCUSSION :

No.	Indexesandevaluationcriteria	Temporarybite	Replaceablebite	Permanentbite
1	RMA	0	3.0	7.6
2	KPU	3.4	5 (KPU + kp)	4.5
3	Averagebloodsugar	8.5-9.0	8.8-10.0	10-12
4	Theincidenceofcaries%	75	85	69

five	Periodontalaffection%	0	26	60
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PMA - papillo-marginal-alveolar occlusion - morbidity index  
periodontal tissues .

KPU, KPU + kp, kp - caries-filling-extracted tooth - intensity indices  
caries.

According to the table, there is an increase in the dynamics of the growth of the PMA index from temporary to permanent occlusion, an increase in the intensity of caries in permanent teeth. PMA in a changeable bite is 3.0, and in a permanent one it already reaches 7.6. The carious process gives the dynamics of caries growth from 3.4 (kp), in temporary occlusion 4.5 in permanent (KPU).

Analyzing the life history and disease of children suffering from diabetes I-type , we have found that 28% of cases were familial predisposed concern to this pathology in 18% of cases it sprov otsirovala stressful situation, 43% of patients with early symptoms noted after undergoing viral infection. 11% of the observed children and their parents did not associate the onset of the disease with any factor.

Bleeding gums when brushing their teeth and eating food worried about 88% of children. At the same time, these changes in the periodontal tissues often appeared 1.5-2 years before the diagnosis. There was hyperemia of the gums, bleeding of the gums. When examining the appearance of the red border and lips, 57% of children showed changes in the oral cavity in type I diabetes mellitus ; children did not always complain of hyposalivation. When examining the oral cavity, there was a decrease in the moisture content of the oral mucosa. According to the results of the KPU, we noted a high intensity of caries in children with this pathology.

The intensity of caries was determined using the KPU + KPU indicator according to Yu.A. Fedorov, V.V. Volodkina .

It was found that more than half of the patients had a medium type face (52%), triangular shape (41.3%) and had a straight profile (47.8%).

Facial asymmetry was observed only in a few cases (4%). In examining the state temporomandibular lower e-jaw sous stava it revealed that the majority (90%) of the mouth opening was painless, and yet, 6.2% experienced pain, 1.0% had difficulty in opening the mouth. In 3.2% of children, there was a crunch when moving the lower jaw, in 8.5% there was a click. Speech formation was found to be satisfactory only in half of the patients (28.9%). Naru w ix speech with stavlyali 10% of children - a violation of pronunciation of the letter <p> at 8.0% whistling it, 8.7% -preobladali sibilance, 6.2% - violation of the pronunciation of the letter <n> 1.1% - not intelligible speech.

It was found that in 21% of children with type I diabetes mellitus, the oral mucosa is edematous, which manifests itself in the form of teeth prints on the cheek mucosa, mainly in the morning.

Among the examined children, 11.4% received orthodontic treatment, and boys were treated significantly more often than girls. When examining the oral cavity, it was found that 32% of children had deformation of the dentition. Deformities of the lower dentition were most often noted, in 16% of the upper one. Crowded teeth were recorded in 16% of children, and in 9% of cases, three were observed, and in 14% - diastema. Crowding of teeth was most often observed in the anterior part of the lower jaw. For every 14 children, the frenum of the tongue interfered with the movement of the tongue. The bite was incorrect in 33%. If in the age group up to 6 years the proportion of such patients was 23.8%, then by the age of 12 it grew to 20%. In the structure of types of pathological bite , deep bite was most

often encountered (12%), in second place was cross bite (14%), orthodontic bite was observed in 75%, mostly in children under 7 years of age.

In our studies, high values of the KPU index were observed against the background of an unsatisfactory hygienic state of the oral cavity.

## 5. CONCLUSION:

Thus, we can conclude that, despite the fact that, from the earliest dates of the diagnosis of diabetes mellitus, observation and prevention are carried out, the dynamics of the main dental parameters is increasing.

Based on the results of the index assessment of the state of the oral cavity, it can be concluded that in children with type I diabetes mellitus, there is a significant increase in the values of the KPU index and the hygiene index. The results of a comprehensive examination of the oral cavity in patients with type I diabetes mellitus indicate a significantly higher prevalence of major dental diseases.

## 6. REFERENCES :

- [1] Gunbina I.V. Information technologies in pediatric diabetology Pediatric bulletin of the South Urals No. 1, 2017 GBUZ CHODKB, Chelyabinsk, Russia
- [2] Kasatkina E.P. Diabetes mellitus in children and adolescents: A guide for doctors / E.P. Kasatkina. Moscow, 1996. Pp. 224 - 236.
- [3] Kravets EB Diabetology: the scale of the problem, achievements and promising directions Bulletin of Siberian Medicine, No. 1, 2005
- [4] Leus P.N., Garegled A.A., Chudekova I.O., Collection of materials for the IX Russian conference with international participation "Pediatrics and pediatric surgery in the Volga Federal District" (Kazan) Issue: 7-2 (63) Year: 2012
- [5] Naumova V.N., Maslak E.E. The problem of diabetes in real dental practice (results! Of sociological research) // Dentistry and socially significant diseases: Sat. Tr 10th All-Russian. scientific-practical conference. - SPb: Chelovek, 2013.-- S. 174-176.
- [6] Kosyuga S.Yu., Lazarev V.N., Argutina A.S. On the question of the interdependence of somatic diseases and dentoalveolar anomalies in children // Modern problems of science and education. - 2015. - No. 5.
- [7] Journal of Biomedicine and Proctice Modern approaches to the treatment of gingivitis in young children and adolescents. No. 3 (2019)
- [8] I.I.Dedov. Pediatric Endocrinology Guide.
- [9] I.I.Dedov.-M .: Universum Publishing. - 2006.-600 p.
- [10] "Therapeutic dentistry of children". L.A. Khomenko. Kiev 2007
- [11] "Pediatric Dentistry and Prevention". A.V. Alimsky. Moscow-2015
- [12] "Prevention of dental diseases". E. M. Kuzmina. Moscow-2003
- [13] "Pediatric dentistry". L.S.Persin, V.M. Elizarova, S.V. Dyakova
- [14] Moscow-2015
- [15] "Pediatric Dentistry". O.O. Yanushevich Moscow-2017
- [16] "Dental prevention". N.V. Kuryakina N.Novgorod 2005
- [17] Xidirberdiyevich, A. E., S. E. Ilkhomovich, A. Khurramov, and D. Rustamov. 2020. "Investment Activities of Insurance Companies: The Role of Insurance Companies in the Financial Market." *Journal of Advanced Research in Dynamical and Control Systems* 12 (6): 719-725. doi:10.5373/JARDCS/V12SP6/SP20201086.