



APPLICATION OF IT TECHNOLOGIES IN DENTAL ASSESSMENT IN CHILDREN WITH DIABETES

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Abstract: *This thesis discusses the possibilities of using modern information technologies in dental assessment in children with diabetes. The effectiveness of using digital technologies to determine the condition of the oral cavity, early detection of diseases and the organization of preventive monitoring was analyzed. The results of the research show that the integration of IT technologies into the dental practice helps to improve the control of oral hygiene in children and increase the quality of treatment.*

Аннотация: *В диссертационной работе рассматриваются возможности использования современных информационных технологий в стоматологической оценке состояния полости рта у детей с сахарным диабетом. Проведен анализ эффективности цифровых технологий в определении состояния полости рта, раннем выявлении заболеваний и организации профилактического наблюдения. Результаты исследования показывают, что внедрение информационных технологий в стоматологическую практику способствует улучшению контроля гигиены полости рта у детей и повышению качества лечения.*

Keywords: *caries, gingivitis, gum inflammation, dry mouth, symptoms, diabetes, IT, dentistry.*


Ключевое слова: *кариес, гингивит, планетья десен, сухость во рту, симптом, диабет, ИТ, стоматология.*

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Relevance: In recent years, the incidence of diabetes mellitus among children has been increasing. This disease causes various changes in the oral cavity - symptoms such as caries, gingivitis, inflammation of the gums and dry mouth are observed. Since traditional dental assessment methods do not give complete results in some cases, the use of IT technologies allows for more accurate medical diagnosis and monitoring.

Materials and methods:

- Clinical observation and oral examination.
- Assessment of oral health using a digital dental scanner.
- Use of data analysis programs based on artificial intelligence.

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- Storage and processing of data in a cloud system.
 - Monitoring of hygienic status and sending reminders via a mobile application.

Research results: The results obtained during the study using the digital assessment system were more accurate and faster than traditional clinical examinations. With the help of IT technologies, oral diseases were detected at an early stage and timely treatment measures were taken. Patient data was systematized using electronic medical cards, and the mobile application allowed parents to monitor the oral hygiene status of their child in real time. To improve methods for assessing dental health in children with diabetes.

To identify and assess various risk factors that can cause dental diseases in children with diabetes.

To assess changes in the oral cavity of children diagnosed with diabetes and major dental diseases.

To assess dental health and quality of life in children with diabetes.

To solve the research tasks and achieve the goal, the following methods were used in the scientific work: clinical-functional, dental examination indicators and statistical methods are used.

Conclusion: The use of information technologies in the dental assessment process in children with diabetes increases the quality of medical services, speeds up diagnosis, and effectively organizes preventive control. An approach based on digital technologies, artificial intelligence, and mobile monitoring is of great importance as an innovative development direction in pediatric dentistry. The possibilities of using modern information technologies in dental assessment in children with diabetes were highlighted. The effectiveness of using digital technologies to determine the condition of the oral cavity, early detection of diseases, and organization of preventive monitoring was analyzed. The results of the study show that the integration of IT technologies into dental practice can improve oral hygiene control in children and increase the quality of treatment.

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