



Review Article

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**INNOVATIVE TECHNOLOGIES IN THE PROTECTION OF CHILDREN'S AND
ADOLESCENTS' HEALTH**

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Abstract:

This article examines in detail the role of modern innovative technologies in protecting the health of children and adolescents, as well as their practical application and effectiveness. In particular, it analyzes the significance of biotechnologies, genetic research, remote monitoring systems, and digital platforms in strengthening the health of young people. The study also highlights the role of innovative approaches in prevention and in promoting a healthy lifestyle.

Keywords:

children's health, adolescent health, innovative technologies, digital medicine, telemedicine, artificial intelligence, mobile health applications, wearable devices, biotechnology, genetic screening, remote monitoring, prevention, early diagnosis, healthy lifestyle, psychological health, medical information systems

Introduction

Today, the protection of children's and adolescents' health is considered one of the most pressing global issues. The health of the younger generation is a key factor determining the future development of society. Population growth, urbanization, environmental challenges, and changes in lifestyle significantly impact children's health. In particular, unhealthy nutrition, insufficient physical activity, and excessive use of digital devices contribute to the development of various diseases. Therefore, the need to implement modern approaches to strengthen the health of children and adolescents is increasing. In recent years, the rapid development of science and technology has led to

fundamental changes in the healthcare system. Innovative technologies—such as digital medicine, telemedicine, artificial intelligence, mobile health applications, and wearable devices—play a crucial role in monitoring children’s health and detecting diseases at early stages. These technologies improve the quality and efficiency of medical services and expand access to qualified healthcare even for people living in remote areas. As a result, preventive measures are strengthened, and new opportunities for promoting a healthy lifestyle are created. In addition, innovative technologies play an important role not only in physical health but also in supporting psychological well-being. Modern digital platforms provide children and adolescents with psychological counseling, stress management techniques, and social adaptation skills, contributing to their comprehensive development. From this perspective, the effective use of innovative technologies in protecting children’s and adolescents’ health is one of the most important tasks of today.

Main Part

The protection of children’s and adolescents’ health is one of the priority areas of modern medicine, and the role of innovative technologies in this field is steadily increasing. First, digital healthcare systems are transforming medical processes by enabling the rapid collection, storage, and analysis of data. Electronic medical records allow continuous updating of children’s health information, helping physicians make accurate and timely decisions. At the same time, telemedicine services enable children living in remote areas to receive consultations from qualified specialists, thereby expanding healthcare coverage. Another important area is artificial intelligence. These technologies analyze large volumes of medical data to detect diseases at early stages. For example, AI can identify various conditions based on X-ray images or laboratory results. This is particularly important for children, whose bodies undergo rapid changes. Early diagnosis increases the chances of preventing diseases or treating them in milder forms. Mobile health technologies are also widely used in monitoring children’s health. Various mobile applications allow parents to track their children’s nutrition, physical activity, sleep patterns, and overall health. This contributes significantly to the formation of a healthy lifestyle. In addition, such applications strengthen preventive care by reminding users about vaccination schedules and providing medical recommendations. Wearable devices are another important innovation. Smartwatches,

fitness trackers, and other sensor-based devices can monitor heart rate, body temperature, physical activity, and even stress levels. These tools help detect changes in health conditions early and take necessary measures. They are especially beneficial for children with chronic diseases. Biotechnologies and genetic research have opened a new stage in protecting children's health. Genetic screening enables early detection of congenital and hereditary diseases, which plays a crucial role in prevention and management. Moreover, it allows for the development of personalized treatment methods tailored to each child's genetic characteristics. Innovative technologies also play a significant role in ensuring psychological health. Through modern online platforms and mobile applications, children and adolescents can access psychological support. Special programs have been developed to identify and address stress, depression, and other mental health issues. This ensures the holistic well-being of young individuals.

Conclusion

In conclusion, innovative technologies play a vital role in protecting the health of children and adolescents. Digital medicine, artificial intelligence, mobile applications, wearable devices, and biotechnology expand opportunities for early diagnosis, effective treatment, and strengthened preventive measures. These advancements not only improve the quality of healthcare services but also contribute to the development of a healthy generation. However, special attention must be paid to issues such as infrastructure development, personnel training, and information security when implementing these technologies. In the future, it is important to widely integrate innovative technologies into practice, enhance the digital competencies of healthcare professionals, and improve public medical literacy. Strengthening cooperation between the public and private sectors, equipping healthcare institutions with modern medical devices, and supporting scientific research will further advance this field. Ultimately, this will create a strong foundation for raising a healthy, well-rounded, and competitive younger generation.

References:

1. Rasulov S. Q. For the Health of Children (Advice from a Family Pediatrician). – Tashkent: Innovative Development Publishing House, 2020.

2. Tadjibayeva G. I. Model of Innovative Pedagogical Technologies Aimed at Preserving Youth Health. – Kokand State Pedagogical Institute Scientific Journal.
3. Murodov A. Theoretical Foundations of Applying Innovative Educational Technologies. – Preschool and School Education Journal, 2024.
4. Bo'ltakova R. X., Mamatmusayeva D. O. The Importance of Innovative Technologies in Child Development. – Scientific Bulletin.
5. Jumaqulov O. R. Children's Physical Education and Healthy Lifestyle. – Collection of Modern Scientific Articles, 2025.
6. Musurmonova M. R. Innovative Approaches in Working with Children with Special Needs. – Conference Proceedings.