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THE IMPORTANCE OF INFORMATION TECHNOLOGY IN MEDICINE

Mirzo Ulugbek Rahimov
Tashkent State Medical University
Faculty of General Medicine No.1, Student of Group 105
Tashkent, Uzbekistan
Phone number: +998951905352

Fazliddin Arzikulov
Assistant of the Department of Biomedical
Engineering, Informatics, and Biophysics at
Tashkent State Medical University

Abstract
This article highlights the role and importance of information technologies in the modern healthcare system. It is shown that the quality, speed and accuracy of medical services are increasing through technologies such as medical information systems, electronic documents, telemedicine, and remote monitoring. At the same time, the issues of medical data security and compliance with ethical standards are also analyzed. At the end of the article, conclusions are drawn on the prospects of information technologies in medicine.

Keywords: Medicine, information technology, electronic medical records, telemedicine, remote monitoring, information security, healthcare.

Introduction

In today's digital era, it is impossible to imagine any industry operating effectively without information technology. In particular, the introduction of modern information technologies in the medical field is causing revolutionary changes in working with patients, diagnosing and treating them. The role of information technologies in the modern medical system is incomparable. In today's digital age, the use of high-tech in medicine has created the opportunity to achieve early detection of diseases, effective treatment, automation of healthcare services, and a new level of work with patients. The rapid development of information technologies in this area allows doctors and medical staff to further simplify their work, and patients to receive high-quality and prompt medical care.

The main information technologies widely used in medicine are:

Electronic medical records (EMR) - all information about a patient's health is stored in digital form.

Teleradiology - allows you to view images and videos remotely.

Telemedicine - a technology for remote communication between a doctor and a patient.

Medical database - a collection of scientific articles, drugs, and information about diseases in one place.

Through medical information systems, employees working in medical institutions save time and resources by digitizing their work activities. With the help of such systems, electronic history sheets

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are maintained for each patient, diagnoses, laboratory results, and treatment plans are compiled in a single database. Medical information systems also greatly assist in collecting and analyzing statistical data. The introduction of information systems in medicine optimizes the management of healthcare institutions and improves the quality of service.

Medical information systems are a set of software and hardware tools that allow healthcare institutions to collect, store, analyze, and effectively use information. Such systems facilitate the work of doctors and nurses, automate document management, and reduce errors.

Electronic medical records: Maintaining patient information in electronic form ensures data security and allows for continuous and timely updating. With the help of electronic records, doctors can discuss the patient's condition with specialists from different professions and make joint decisions. This leads to the integration of medical services. Electronic health technologies are widely used in diagnostic, treatment and rehabilitation processes. For example, an electronic medical record reflects the entire medical history of a patient. This ensures treatment by various specialists based on an integrated approach.

Teleconsultation and teleradiology:

Telemedicine has become an integral part of modern healthcare today. There is no longer any need to travel long distances to get medical advice. Video calls are organized through special platforms, and the doctor remotely reviews the patient's tests and makes the necessary recommendations. Also, teleradiology allows remote analysis of X-ray or MRI images. Telemedicine includes remote medical advice and treatment methods. It allows providing qualified medical services to people living in remote areas. At the same time, teleconferencing also plays an important role in improving the skills of medical workers.

Remote monitoring and mobile applications:

Mobile applications and various devices continuously monitor parameters such as heart rate, blood pressure, and blood sugar levels. This information is transmitted to medical personnel in real time. Automatic alerts are sent about changes in the patient's condition. This approach is very useful in managing chronic diseases.

Medical information security and ethical standards:

The confidentiality and protection of medical information is a pressing issue. In IT systems, data is protected by mechanisms such as encryption, identification, and authentication. Every healthcare institution should pay special attention to information security.

When working with electronic medical data, ensuring their confidentiality is one of the most important tasks. Each healthcare institution must implement mechanisms such as encryption of patient data, authentication and user identification. This will help prevent data breaches.

Compliance with ethical standards:

When working with medical data, obtaining patient consent and adhering to ethical principles are important issues. It is also necessary that decisions made based on artificial intelligence are under human control. Actions that contradict the principles of humane medicine can undermine medical.

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Conclusion

Information technologies allow to improve the quality of medical services, automate diagnostic and treatment processes, and monitor the patient's condition in real time. The modern healthcare system has reached an advanced stage through telemedicine, artificial intelligence, electronic documents, and analytical systems. In the future, these technologies will undoubtedly penetrate deeper into every aspect of the healthcare sector, increasing the effectiveness of disease prevention and treatment. Therefore, the development of information technologies in medicine should be carried out in conjunction with continuous scientific research and practice. The use of information technologies in medicine allows to improve the quality of medical services, rational use of resources, and effective treatment of patients. In the near future, these technologies are expected to become even more perfect and become an important tool in protecting human health.

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