Section VII Секція

INFORMATION TECHNOLOGY IN BIOMEDICINE

ІНФОРМАЦІЙНІ ТЕХНОЛОГІЇ В БІОМЕДИЦИНІ

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INFORMATION TECHNOLOGIES AND THEIR APPLICATIONS IN MEDICINE AND HEALTHCARE

Abstract. The article discusses the use of information technology in medical practice. Many positive aspects have been shown in the use of IT both in the training of future doctors and in professional practice.
Key words: information technology, medicine, telemedicine, health care, medical databases.

Introduction. Information technology is a system of methods and ways of collecting, storing, storing, retrieving, processing and protecting information based on the use of computer technology and communication, developed software, and ways to offer information to customers.

First of all, it concerns the development of unified systems, the creators of which are constantly trying to optimize the work of software for clinics. Periodic updates give product users the ability to use all available IT in medicine. Also, in our country there is an urgent need for rapid implementation of effective innovations in the domestic health care system [1].

In this regard, the issue of ensuring the most effective protection of information becomes especially important. For this reason, systems are currently being actively developed to block the threat of external intrusion into confidential medical data.

Health care informatization includes many activities aimed at informing doctors about the latest advances in science. This contributes to the effective training and retraining of clinic and hospital staff.

With the help of medical IT, doctors have the opportunity to quickly learn about new discoveries that can help them work better. This is especially important for medical workers working in remote settlements of Ukraine.

Experts say that the introduction of innovations in medicine is quite fast and without much difficulty. The interface of medical systems is accessible and intuitive for untrained users, which helps hospital staff to easily learn new technologies. In addition, to understand the intricacies of using software products, as a rule, help and developers [2].

After a short training, health professionals can already:

– work in computer networks - both local and global;

– use information resources; use reference systems and databases;

– hold teleconferences.

It is planned to create a national telemedicine system within the framework of health care informatization. Competent solution of this complex problem will significantly improve the quality of medical care and optimize its costs. In particular, doctors will not have to allocate funds for travel to the conference, as they will participate in them remotely [3].

According to world practice, the introduction of information technology in the field of health care can improve the quality of patient care, significantly speed up the work of medical staff and reduce patient costs. Now these benefits are available in almost every medical institution.

Modern software products allow you to bring the clinic to a new level of work. Healthcare IT technologies can solve the following problems:

– keeping records of patients;
– remote monitoring of patients;
– control of the prescribed method of treatment;
– storage and transfer of survey results;
– consultations for beginners;
– distance Learning.

The use of modern IT allows you to closely monitor the health of patients. Keeping instead of previous paper electronic medical records will help reduce the time spent on paperwork, so it can be spent on examining patients. All patient data will be presented in a single document that will be available to hospital staff.

All information about the examination and the results of the procedures will be immediately entered into the electronic medical record. This will help other doctors assess the quality of treatment for a particular patient by identifying inaccuracies or inaccuracies in the diagnosis.

Also, the use of information technology in health care allows doctors to consult patients online at almost any time.

This should increase the availability of medical services for the population, especially those living in remote areas. Now you can get qualified help remotely. It will also help people with disabilities who are in a confined space or in an emergency.

Huge opportunities for innovation allow them to have a positive impact on all aspects of health care. They help to train inexperienced workers at a distance, without the need for their long absence from work caused by trips to courses, seminars and other activities [4].

In addition, information technology helps to communicate with colleagues, share experiences or seek help in difficult cases. It also keeps you up to date with the latest health care.

In addition, it allows you to more effectively manage the hospital or clinic. The multifunctional medical system will allow to automate administration, work with personnel, planning and budgeting, warehouse management and many other tasks.

In addition, it will help the medical institution to interact more effectively with the fund of general medical systems and territorial bodies. Information technology in medicine will optimize the activities of both doctors and the registry, reception, recreation and all other services.

The introduction of innovations should help to simplify the scheme of providing the clinic or hospital with medicines. With their help it will be possible to register profitable and expenditure transactions, control the balances in warehouses, make applications for the supply of drugs, control the consumption of drugs, write off expired drugs, form and submit reports to the appropriate authorities.

In addition to all of the above, innovative digital technologies are already actively used in the field of medical education. Classes that are held remotely allow for quality teaching of university and college students.

Conclusion. Modern developments in IT allow people who are just beginning their careers in medicine to attend lectures by great experts, which previously seemed unlikely. Summarizing all the above, we can say that information technology has already found the widest application in medicine

References

1. Soshin Ya.D., Kostilov VA Information and computer support of the radiological corps. Medical Physics 1997 № 4. S. 25–29.

2. Belikov TP, Lapshin VV Systems for archiving and transmission of medical images (PACS). Medical radiology and radiation safety. 1994, T 39 № 2. S. 66–72.

3. Tchaikovsky GM, Khokhlov IA Methodical approaches to modeling preventive examinations using a computer. In Sat. thesis "Application of mathematical methods in solving medical problems". Sverdlovsk, 1983.

4. Article "WHAT IS TELEMEDICINE". Sekov Ivan Mykolayovych.