

# THE RELEVANCE OF TEACHING "INFORMATION TECHNOLOGIES IN MEDICINE" IN MODERN EDUCATIONAL CONDITIONS

Abdukadirova Barno Yusuf qizi

PhD student

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**Abstract.** *The article depicts the significance of educating "Information technologies in medicine" to illuminate the issues of move to a subjectively modern arrange of preparing future specialists to the utilize of data innovations in restorative diagnostics and administration exercises in cutting edge instructive conditions.*

**Keywords:** *information technologies in medicine, informatization, algorithmization, medical education, modern information technologies.*

**INTRODUCTION.** In the setting of the improvement of modern society, data innovation is extending into human life. With huge speed, they are a vital driving force not as it were for the development of the world economy, but too for the development of other ranges of human action. It is troublesome to discover an area where information innovation is not used.

Every year, data innovation is getting to be increasingly immovably built up in all regions of action. Against the foundation of the broad presentation of Data Innovation at a quick pace in later decades, advance has moreover secured medication. Worldwide medication is progressively affected by data innovation. The number of clinics that interface their future with advancements in this area is consistently expanding.

Modern IT advancements have a positive impact on the improvement of better approaches of organizing the provision of therapeutic care to the population. In numerous countries, for a long time, modern technologies have been effectively utilized in the field of health care. Conducting teleconferences for patients and workers, trading data about patients between diverse institutions, remote recording of physiological indicators, real – time observing of operations-all this is provided by the presentation of Information Technology in medicine. This leads the informatization of the health system to a new stage of improvement, contains a positive impact on all aspects of its activities.

The introduction of Information Technology in the health segment makes it conceivable to extend the intensity of services, significantly speed up the work of employees and decrease the costs of patient services.

The application of advanced innovations in medicine provides sufficient openings for the implementation of complex operations in our nation. These days, distant areas are too provided with modern apparatuses. In our republic, several complex operations have moreover been conducted in recent years. As an example of the only member transplants itself, nearly 10 years ago our compatriots for such operations went to a foreign country. And presently heart surgeries, which are considered the foremost complex, are also carried out in several healing centers of our republic. An algorithm is simply a set of steps used to complete a specific task. They're the building blocks for programming, and they allow things like computers, smartphones, and websites to function and make decisions. In addition to being used by technology, a lot of things we do on a

daily basis are similar to algorithms. Let's say you want to make some spaghetti. In order to do this successfully, there's a certain set of steps you need to follow in a particular order. First, you'll need to boil a pot of water. Once it's boiling, you then add the spaghetti and cook it for a set amount of time, stirring occasionally. Once it's finished, you drain the water, then it's ready to be served with a sauce of your choice.

**DISCUSSION AND ANALYSIS.** Data innovation in pharmaceutical permits high-quality observing of the condition of patients. Keeping up an electronic clinical record permits you to decrease the time went through by the clinic staff on the planning of different spaces. All data approximately the quiet in a single report accessible to the therapeutic staff of the institution. All data about the results of the quotation, examination and forms specifically into the electronic medical card gives a wide extend of facilities for all medical personnel. This permits other specialists to assess the quality of the endorsed treatment, to recognize inaccuracies in the conclusion. The improvement of modern medicine and health care is generally determined by Information Technology. Therefore, first of all, it is a time requirement to educate future specialists, that's, students studying in the specialty of Medicine, the effective use of Information Systems in their future professional activities.

Modern information technology offers the following single, but in turn generalized devices:

- Global and Local Area Networks;
- personal computers with an interactive media environment;
- databases, graphic frameworks and other devices for the improvement of automated medical occupations;
- computerized hardware for conclusion and treatment;
- chip modules for medical equipment.

Innovative technologies are a set of strategies and apparatuses that ensure the implementation of advancements at diverse stages.

Analyzing the current state and issues of the utilize of medical information systems in the professional activities of the specialist; the improvement of the doctor in association with the main types of professional activity and their utilize of information systems; it'll be essential to define ways to improve the methodological system of preparing doctors for the utilize of Information Systems in their professional activities.

Currently, in the Republic of Uzbekistan, the maintenance of medical documents in all medical institutions is being digitized in stages. Hence, in the conditions of accelerated informatization of health care, the issues of moving to a qualitatively modern stage of preparing future doctors for the use of Information Technology in medical diagnostic and administrative activities have become acute.

To solve these issues, the course “Information Technology in medicine” was introduced in medical higher education institutions. At the same time, the current system of educating students of a small class implies the adaptation of students' knowledge in the field of General Informatics, and the course “Information Technology in medicine” becomes a consistent advancement of the program in accordance with the state program. The higher professional education instructive standard of medical specialties for the formation of fundamental knowledge about modern computer advances utilized in the fields of Medicine and health is accurately the course

“Information Technology in medicine”, which includes educating students the use of computer applications in fathoming issues in medicine and health.

During the teaching of Information Technology in medicine, the following areas are studied:

Informatization in the health system of Uzbekistan. Information technology in the automation of medical workplaces and solving medical problems. Fundamentals of Information Technology. Information concept. Types of information. Improving the system of media literacy in Uzbekistan. Security measures.

This section explores concepts such as an introduction to science, the interface between science and medicine, what media literacy is and its application in medicine, and information security.

Fundamentals of algorithmization of medical problems. Algorithmization of linear medical processes. Algorithmization of networked and recurrent medical processes. Information and communication technologies in solving medical problems. Software.

This section explores the concept of algorithm, the importance of proper algorithm construction in solving medical problems.

Formalization (registration) of medical processes. Work on the Windows operating system. Processing text data. Using the extensive capabilities of the Microsoft Word text editor. Table and graphic data processing technology.

In the professional activity of future doctors, the extensive use of the capabilities of text editors for the preparation of reports and digitization of patient questionnaires will be studied.

Technology for processing digital data. Database management system. Computer analysis of medical data through Microsoft Excel software. Taking advantage of the wide range of Microsoft Access. Use of the Information System "Electronic Polyclinic" (medical registrar, staff, doctors and laboratory)

In this section, students learn how to analyze patients' medical data in electronic form, create a database, use them, and manage databases.

Fundamentals of biostatistics and biometry. Statistical processing and evaluation of the results of a medical-biological experiment using a table editor. The use of the "patient" information system (for employees of the institution that treats patients with various diseases). In this department, students will learn to calculate the mean value, variance, confidence interval based on patient analysis, determine and evaluate the t- student (Fisher) criterion, the level of reliability and the R-correlation coefficient using the MS Excel program.

Computer Networks. Internet networks, their organization. Internet search engines. Use of social sites. Electronic and distance education in medicine. Software for creating websites. Neural networks in medicine. Telecommunication systems. Telemedicine. Setting up secure communication channels (VPN-connection), their use and work in the mail system (Outlook). Using the information system "electronic document management" (office, management, managers). Ensuring network security.

Alternatively, the relevance of analyzing the possibility and feasibility of using e-learning courses to prepare students studying in the medical field through distance learning is growing in improving conditions. Foreign experts say that it is advisable to use unusual situational tasks more widely to improve the quality of independent training of domestic students [5]. In order to increase

the activity of students in the distance learning server, it is necessary to use hyperlinks to regulatory legal acts of health authorities of foreign countries.

**CONCLUSION.** In conclusion, it can be said that through this article I tried to reveal the role and importance, relevance of Information Technology in the field of Medicine, albeit in part. At the same time, I believe that it is necessary to further strengthen the focus on the teaching of Information Technology in medical education in order to practically implement new ways of using information technologies in the further development of the medical field.

#### **REFERENCES**

1. M.Bazarbaev, A.K.Tulabaev, E.Ya.Ermetov, Sh.X.Abduganieva, D.I.Sayfullayeva “Tibbiyotda axborot texnologiyalari”
2. <https://www.nature.com/articles/s41598-022-18100-3>
3. <https://www.techtarget.com/whatis/definition/algorithm>
4. <https://edu.gcfglobal.org/en/computer-science/algorithms/1/>