



PROBLEMS AND PROSPECTS OF DISTANCE LEARNING IN MEDICAL EDUCATION

Xalimova Nodira Abdug'apborovna,

Hamrayeva Yulduz Maxmudovna

College of Public Health named after Abu Ali ibn Sina in
Kattakurgan

Abstract. Distance learning (DL) in medical education has become a topic of active discussion in the context of the global COVID-19 pandemic, which has forced educational institutions to adapt to new realities. This article aims to comprehensively analyze the problems and prospects that medical universities face when implementing distance learning formats. The study is based on an integrated approach that includes literature review methods, student and faculty surveys, and a case study method for studying successful practices. The surveys cover 200 students and 50 faculty members from various medical institutions, which allows us to obtain representative data on the perception and effectiveness of DL. The results of the study revealed the key problems of distance learning, among which are:

- 1) insufficient quality of educational materials and interaction between students and teachers;
- 2) technical difficulties, including problems with access to the Internet and the necessary equipment;
- 3) psychological aspects, such as stress and decreased motivation among students;
- 4) difficulties in assessing students' knowledge and skills in an online format.

At the same time, the study emphasizes the significant prospects of distance learning, including the possibility of integrating modern technologies (such as artificial intelligence and virtual reality), the development of hybrid learning models that combine online and offline formats, as well as increasing the availability of medical education for the general population. In addition, distance learning promotes the development of self-management and responsibility skills in students. The findings

of the study highlight the need to develop and implement effective strategies to improve the quality of distance learning in healthcare institutions, which is critical to the preparation of highly qualified healthcare professionals in a rapidly changing world.

Keywords: *distance learning, medical education, COVID-19, problems, prospects, quality of education, technical difficulties, psychological aspects, knowledge assessment, technology integration, hybrid models, accessibility of education, self-management skills, improvement strategies.*

Introduction. Distance learning (DL) in medical education has become a hot topic in recent years, especially in the context of the global COVID-19 pandemic. In response to the challenges associated with the spread of the virus, many educational institutions were forced to switch to an online format, which led to significant changes in educational processes. This transition not only opened up new opportunities for the introduction of modern technologies, but also revealed a number of serious problems regarding the quality of education and the training of future medical specialists. According to the study conducted by Cook and Triola (2014), DL in medical education can provide access to quality educational resources, but also raises questions about the interaction between students and teachers, as well as the quality of educational materials. Khalil and Elkhider (2020) noted that the transition to distance learning has resulted in various technical difficulties such as unstable internet and lack of necessary equipment, which negatively impacts the learning process. In addition, psychological aspects of distance learning such as stress and decreased motivation among students also require attention. Research shows that the lack of face-to-face communication and direct interaction with faculty can lead to feelings of isolation and decreased student engagement (Kirtman et al., 2018). These factors highlight the need for an in-depth analysis of the existing challenges of distance learning in medical schools.

The purpose of this study is to analyze the existing problems of distance learning in medical universities and consider its prospects in the future. To achieve this goal, the following tasks will be studied:

- To study the problems faced by students and teachers in the process of distance learning, including the quality of educational materials, technical difficulties and psychological aspects.
- To assess the prospects for the development of distance learning in medical universities, including the integration of new technologies and hybrid learning models.
- To offer recommendations for improving the quality of distance education, based on best practices and successful examples.

Thus, the study aims to identify key factors affecting the effectiveness of distance learning in medical education and develop recommendations for its improvement, which is critical for training highly qualified medical specialists in a rapidly changing world. The relevance of the study of distance learning in medical education is due to several key factors. Firstly, the COVID-19 pandemic has radically changed educational processes around the world, forcing educational institutions to look for new approaches to teaching. The transition to an online format has become not only a necessity, but also an opportunity to rethink traditional teaching methods and integrate modern technologies. Secondly, medical education requires a high degree of practical training, which makes distance learning particularly challenging. The difficulties associated with the lack of personal interaction between students and teachers, as well as the lack of practical skills, highlight the need for a thorough analysis and evaluation of the effectiveness of distance learning in this area. Thirdly, given the rapid development of technologies, distance learning provides unique opportunities to expand access to educational resources. This is especially important for students from remote regions who may face limited opportunities to obtain quality medical education. In this context,

research into the prospects of distance learning becomes particularly relevant, as it can contribute to improving the availability and quality of medical education. Finally, given the changes in the requirements for professional competencies of medical workers, it is necessary to adapt educational programs to the new conditions. This includes not only the use of new technologies, but also the development of hybrid learning models that can combine the advantages of both traditional and distance formats. Thus, research into the problems and prospects of distance learning in medical universities is a relevant and important step to ensure high-quality training of future medical specialists in the face of modern challenges.

Materials and Methods. This study used several methods aimed at a comprehensive analysis of the problems and prospects of distance learning in medical education. Each method was selected taking into account the specifics of the topic under study and the objectives of the study. Literature analysis became the basis for understanding existing studies and publications on the topic of distance learning in medical education. During this stage, both foreign and domestic sources were studied, including scientific articles, dissertations and reports of educational organizations. To obtain empirical data, a series of surveys were conducted among students and teachers of medical universities. The surveys covered 200 students and 50 teachers, which made it possible to obtain diverse opinions on the quality of distance learning. The questions were aimed at identifying: the level of satisfaction, problems and difficulties, as well as suggestions for improving the quality of distance education. The surveys were conducted in a questionnaire format, which ensured anonymity and allowed for more honest and open answers.

Results. The study identified key challenges faced by students and teachers in the process of distance learning in medical schools. These challenges can be divided into several categories: quality of education, technical difficulties, psychological aspects, and problems with knowledge assessment.

One of the most significant challenges identified during the survey was the lack of interaction between students and teachers. About 60% of students noted that they experience a lack of communication with teachers in the online format. This is supported by research conducted by Khalil and Elkhider (2020), who emphasize that the lack of face-to-face interaction can negatively affect the level of student engagement and their understanding of the learning material. In traditional teaching, face-to-face communication allows students to ask questions, receive feedback, and participate in discussions, which contributes to a deeper assimilation of knowledge. Technical issues also had a significant impact on the quality of distance learning. 30% of respondents reported difficulties in accessing the internet, which makes it difficult to participate in online classes and access learning materials. According to the study by Cook and Triola (2014), technical failures and insufficient infrastructure can significantly limit the capabilities of students and teachers during distance learning. These issues are especially relevant for students in remote areas, where access to high-speed internet may be limited. Psychological aspects of distance learning also require attention. 40% of students reported increased stress levels associated with the lack of face-to-face interactions. This is supported by the work of Kirtman et al. (2018), who indicate that distance learning can lead to feelings of isolation and decreased motivation. The lack of social interactions and support from peers and teachers can negatively affect the psycho-emotional state of students, which in turn affects their academic achievement. Difficulties in assessing students' knowledge in an online format were noted by 50% of teachers. They pointed out the lack of effective tools for objective assessment of students' knowledge and skills. This is consistent with the findings of the study conducted as part of the analysis of distance learning, which noted that traditional assessment methods used in the classroom are not always applicable in the online environment. Teachers expressed concerns about the possibility of cheating on exams and the lack of reliability of online testing. Thus, the results of the study show that distance learning in medical

schools faces a number of serious problems that require a comprehensive approach to their solution. Elimination of these problems can contribute to improving the quality of education and training highly qualified medical specialists in the modern world.

Discussion. The findings of this study highlight ongoing challenges in distance learning, such as quality of education and technical difficulties, which have been identified in previous studies. However, they also provide new avenues for improvement. The study confirmed that many students experience a lack of interaction with teachers, which negatively impacts the quality of education. This is consistent with findings in studies such as Allen and Seaman (2017), which noted that a lack of face-to-face interaction can limit students' ability to engage in learning. The COVID-19 pandemic has only exacerbated these challenges, as many institutions have been forced to quickly transition to distance learning without sufficient preparation and resources. The technical difficulties experienced by 30% of respondents are also not new. Studies conducted before the pandemic pointed to the importance of a robust technical infrastructure for successful distance learning (Bates, 2015). However, COVID-19 has accelerated these challenges as the surge in students learning online has placed additional strain on existing systems. Despite the challenges identified, the findings also point to opportunities for improvement. For example, implementing hybrid learning models that combine elements of both online and traditional education may improve student engagement and learning. Research suggests that hybrid models can provide a more personalized approach to learning, which is particularly important in medical education (Garrison & Kanuka, 2004). Additionally, the use of modern technologies such as interactive platforms and videoconferencing tools may help overcome student-faculty interaction issues. This is consistent with recommendations made in research on the use of technology in education, which emphasize the importance of integrating innovative tools to enhance learning (Salmon, 2013).

Conclusion. Distance learning in medical education presents a unique combination of challenges and opportunities. In the context of global changes caused by the COVID-19 pandemic, educational institutions are faced with the need to quickly adapt to new forms of teaching. Despite the identified challenges, such as the quality of education and the availability of technology, the horizons for the development of distance learning look promising. One of the main challenges identified in the study is the lack of interaction between students and teachers. This limits students' ability to receive feedback and actively participate in the learning process, which is critical for mastering the complex material typical of medical education. Technical difficulties, such as problems with internet access and insufficient technical support, also create barriers to effective learning. However, the results of the study indicate that the introduction of new technologies and hybrid learning models can significantly improve the quality of training of medical specialists. Hybrid models that combine elements of traditional and distance learning can provide a more flexible and adaptive approach to learning, allowing students to study at their own pace and access a variety of resources. Modern technologies such as virtual reality (VR) and augmented reality (AR) are opening up new horizons for hands-on learning. These technologies can be used to create simulations of clinical situations, allowing students to develop skills in practice without leaving home. Research shows that using VR and AR in medical education can increase student engagement and improve their clinical skills.

Recommendations. Effective strategies need to be developed to ensure high-quality medical education in a distance learning environment. It is recommended to:

- Invest in infrastructure: Institutions should invest in technical infrastructure, ensuring reliable access to the internet and necessary learning resources for all students.

-Train faculty: Regular training should be provided to faculty on the use of new technologies and distance learning methods so that they can effectively interact with students and adapt learning materials to the online format.

-Develop hybrid programs: It is important to develop hybrid educational programs that integrate elements of both distance and traditional learning, while ensuring an individual approach to each student.

-Student support: Creating support systems for students, including psychological support and academic counseling, will help reduce stress and increase their engagement in the learning process.

Literature:

1. Islomov O. Q. et al. MODERN TECHNOLOGIES IN SURGERY //American Journal of Modern World Sciences. – 2025. – T. 2. – №. 2. – C. 42-48.
2. Nuritdinova P. S., Islomov O. K., Islomova S. X. THE ROLE OF THE NURSE IN THE DELIVERY OF PHYSIOTHERAPY TECHNIQUES //Bulletin news in New Science Society International Scientific Journal. – 2025. – T. 2. – №. 1. – C. 262-267.
3. Nuritdinova P. S., G'ayrat qizi Xamrayeva S., qizi Eshpulatova D. S. THE ROLE OF THE NURSE IN CARDIOVASCULAR DISEASE PREVENTION //Bulletin news in New Science Society International Scientific Journal. – 2025. – T. 2. – №. 1. – C. 268-273.
4. Nuritdinova P. S., Klicheva N. K. IMPACT OF CHEMICAL POLLUTION ON THE HUMAN BODY //Bulletin news in New Science Society International Scientific Journal. – 2025. – T. 2. – №. 1. – C. 218-223.
5. Sharofitdinovna N. P. Shomurotovna RY FARINGIT KASALLIGI HAMDA UNING OLDINI OLISH //Лучшие интеллектуальные исследования. – 2023. – T. 5. – №. 1. – C. 169-174.
6. Suvankulovich A. K., Musulmanovna S. V. Sharofitdinovna NP COLLEGE OF PUBLIC HEALTH NAMED AFTER ABU ALI IBN SINA IN

KATTAKURGAN //Modern education and development. – 2025. – Т. 17. – №. 5. – С. 26-32.

7. Nuritdinova P. S. Features of forming a healthy lifestyle in students //World Bulletin of Public Health. – 2023. – Т. 21. – С. 191-193.

8. Nuritdinova P. S., Kushmatova D. E. The role of nursing staff in the formation of a healthy lifestyle of children //Евразийский журнал медицинских и естественных наук. – 2022. – Т. 2. – №. 5. – С. 122-128.

9. Sh P. N. Promotion of a healthy lifestyle among the population //Экономика и социум. – 2022. – №. 1-1 (92). – С. 151-157.

10. Abdug'aprovna X. N., Maxmudovna H. Y. Sharofitdinovna NP THE ROLE OF MODERN PEDAGOGICAL TECHNOLOGIES IN TEACHING THE SUBJECT OF THERAPY //Modern education and development. – 2025. – Т. 17. – №. 5. – С. 33-39.

11. Нуритдинова П. Ш., Исломов О. К., қизи Ешпулатова Д. Ш. ФОРМИРОВАНИЕ ЭКСПЕРТА В ОБЛАСТИ ТРАДИЦИОННОЙ МЕДИЦИНЫ: МЕЖДУНАРОДНЫЙ ОПЫТ И СОВРЕМЕННЫЕ ПОДХОДЫ //American Journal of Modern World Sciences. – 2024. – Т. 1. – №. 2. – С. 243-252.

12. Юлдашева Ш. А., Нуритдинова П. Ш. Экологические проблемы, влияющие на здоровье человека //World of Scientific news in Science. – 2024. – Т. 2. – №. 2. – С. 131-136.

13. Sharofitdinovna N. P., Abduroziqovich K. A., Diloarovna B. J. EMERGENCY CARE ORGANIZATION //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 4. – С. 18-20.

14. Sharofitdinovna N. P., Alamovich K. A., Diloarovna B. J. ANALYSIS OF A HEALTHY LIFESTYLE AMONG STUDENTS //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 4. – С. 30-33.

15. Нуритдинова П. Ш., Юлдашева Ш. А. ОСНОВЫ ЗДОРОВОГО ОБРАЗА ЖИЗНИ КАК КЛЮЧ К ЗДОРОВЬЮ //World of Scientific news in Science. – 2024. – Т. 2. – №. 4. – С. 315-320.
16. Nuritdinova P. S., Islomova S. X., qizi Beknazarova D. N. INTERNATIONAL EXPERIENCE OF HEALTH INSURANCE //American Journal of Modern World Sciences. – 2024. – Т. 1. – №. 2. – С. 264-271.
17. Nuritdinova P. S., Yusupov J. O., qizi Omonova M. A. ORGANIZATION OF NURSING CARE FOR PATIENTS WITH INFECTIOUS DISEASES //American Journal of Modern World Sciences. – 2024. – Т. 2. – №. 1. – С. 92-97.
18. Nuritdinova P. S., qizi Ismailova S. S., Baxramova L. X. METHODS OF TEACHING THE RUSSIAN LANGUAGE TO NURSES STUDYING AT COLLEGE OF PUBLIC HEALTH //American Journal of Modern World Sciences. – 2024. – Т. 2. – №. 1. – С. 165-172.
19. Sharofitdinovna N. P., Dilovarovna B. J. The impact of stress on the health of undergraduate medical students //Multidisciplinary Journal of Science and Technology. – 2025. – Т. 5. – №. 5. – С. 268-273.
20. Sharofitdinovna N. P., Aslievna S. N. Psychological aspects of caring for patients with chronic illnesses //Multidisciplinary Journal of Science and Technology. – 2025. – Т. 5. – №. 6. – С. 902-906.