

УДК 614.2:37.047

*Исламов Р.Д., Аграновский М.Л., Маликова А.Э., Муминов Р.К.*

*Кафедра психиатрии и наркологии*

*Кафедра онкологии и медицинской радиологии*

*Андижанский государственный медицинский институт*

**ВЛИЯНИЕ СИМУЛЯЦИОННЫХ ТЕХНОЛОГИЙ НА  
ЭФФЕКТИВНОСТЬ НЕПРЕРЫВНОГО МЕДИЦИНСКОГО  
ОБРАЗОВАНИЯ**

**Резюме:** Переход на стандарты нового поколения требует от медицинских образовательных организаций перестройки взглядов на процесс обучения студентов и акцентирование внимания на профессионализме будущего медицинского работника – профессиональных компетенциях.

Страх выпускников перед пациентами, недовольство пациентов приобщении с неопытным персоналом, ограничение доступа студентов в процедурные кабинеты при прохождении практики, психологическая боязнь выполнения процедуры. Нельзя не обратить на внимание на недостаток времени для отработки каждого практического навыка, что ведет к высокому риску для здоровья пациента.

**Ключевые слова:** симуляционное обучение, симуляционные образовательные технологии, непрерывное медицинское профессиональное образование.

*Islamov R.D., Agranovsky M.L., Malikova A.E., Muminov R.K.*

*Department of Psychiatry and Narcology*

*Department of Oncology and Medical Radiology*

*Andijan State Medical Institute*

**THE IMPACT OF SIMULATION TECHNOLOGIES ON THE  
EFFECTIVENESS OF CONTINUING MEDICAL EDUCATION**

**Resume:** The transition to a new generation of standards requires medical educational institutions to restructure their views on the student learning process and to focus on the professionalism of the future medical professional - professional competencies.

The fear of graduates in front of patients, the dissatisfaction of patients communicating with inexperienced staff, the restriction of students' access to treatment rooms during practice, the psychological fear of performing the procedure. One cannot but pay attention to the lack of time for practicing each practical skill, which leads to a high risk to the patient's health.

**Key words:** simulation training, simulation educational technologies, continuing medical professional education.

**Introduction.** The history of the use of medical simulation in the training of doctors dates back many millennia and is inextricably linked with the development of medical knowledge and the progress of scientific and technological progress. Thus, the successes of the chemical industry led to the appearance of plastic mannequins, the progress of computer technology predetermined the creation of virtual simulators and patient simulators [4, p 2-4].

Training on patient simulation robots allows you to assess the initial level of teamwork and significantly increase it in the learning process. In a study conducted on simulators when modeling traumatic shock, a significant increase in team skill during training was proved [1, p. 51].

To influence simulation training on the quality of mastering practical skills, let's compare traditional training and simulation training. The advantages of the first are the following: experience of interaction with different patients; the opportunity to observe the actions of professionals; development of clinical thinking; preparation for independent activity. But it also has its drawbacks: not all students have the opportunity to perform an action on their own; there is a

high probability of mistakes in the learning process; violation of the patient's right to quality care; there is not always a possibility of pedagogical control of the degree of achievement of competence (performing actions with its justification).

**The purpose of the study.** To study and evaluate the effectiveness of simulation technologies on the basis of the Andijan State Medical Institute.

**Materials and methods of research.** To assess the competence of students of the applied learning model using simulation and traditional technologies, an anonymous questionnaire was conducted, which was attended by 49 second-year students of the Medical Institute specializing in Medical Care.

The study participants were divided into two subgroups. The first subgroup of 25 students studied on mannequins, phantoms and dummies, the other subgroup of 24 students, under the guidance of teachers, studied on patients, on each other, or a lecture format of training was used.

**Results and discussion.** Simulation training is a mandatory component in professional training that uses a model of professional activity in order to enable each student to perform professional activity or its element in accordance with professional standards or procedures for providing medical care.

Conditions for the effective use of simulation training can be created only in specialized training centers. The departments should provide a theoretical justification of the activity, mandatory contact with patients, as many clinical cases of the same condition as possible, as well as, if there are financial opportunities, the formation of individual practical skills on simulators in classrooms. Certification should be carried out in the classrooms of the virtual training clinic. At the same time, the curriculum of the discipline should be adjusted taking into account the certification stage at the Simulation Training Center, methodological materials are mutually consistent with the programs and requirements of professional standards at the modern level.

The advantage of functioning of separately – allocated centers of simulation training of collective access is due to:

Firstly, the economic feasibility of buying simulators. A number of simulators that could be in demand for high-quality training by different departments have a very high cost. Cheaper simulators, instead of buying the same name for different departments, could be purchased in a wider range. The personnel for the maintenance of these training facilities are concentrated in one place.

Secondly, the possibilities of conducting high-quality role-playing games, which are impossible by the efforts of only one teacher. For example, one of the important goals of training in the field of medical care is the need to form not just individual skills for its implementation, but also to develop clear and confident behavior in the whole situation, namely the need to form a direct algorithm for the behavior of a situation requiring rapid response. It is for this purpose that the activities of the center with the participation of teachers as experts are more effective.

Thirdly, it is in the conditions of a specially equipped center that the content of training can be directed not only to the development of individual skills, but also to interdisciplinary training, teamwork, the development of safe forms of professional behavior and skills, communication with the "patient". Training can take place in the form of educational practice for students, practical classes using modern teaching methods for all other categories of students.

Fourth, one of the advantages of the simulation center is the joint training of doctors and nurses, allowing them to become a real team. For people improving their qualifications, passing joint trainings in a patient's simulation ward or an operating unit can become the basis for reviewing work tactics in order to increase satisfaction with it, as well as its effectiveness.

Thus, from this study it can be said that training with the help of simulators is one of the effective methods of training in the development of

practical skills and the formation of professional competencies in a medical university.

Properly organized methodical approach of the staff of the department, the use of methodological developments of algorithms of practical skills make the acquisition of skills faster, clearer, automatism and correctness of skill execution are laid.

The correct organization of the educational process of practice using simulation technologies leads to the acquisition of professional practical skills at a higher level. The effectiveness of teaching using simulation methods is confirmed by the independent work of students in the framework of educational and practical classes.

Simulators used in simulation training save the lives of patients, allowing them to make inevitable mistakes during the training period not on living people, thanks to which they help everyone to become a good specialist. To do this, it is important to understand that in order to get the maximum benefit from classes with imitation of real situations, students need to get into the scenario and act as if they were not facing a simulator, but a real patient. The task of the teacher is to contribute in every possible way to create an atmosphere of a serious and responsible attitude to the lesson for each student.

The use of simulation training technology in the educational process makes it possible to increase the self-esteem of students and listeners, provides an opportunity for each student to repeatedly carry out professional activities or its element in accordance with professional standards and procedures for providing medical care in conditions as close as possible to the real production environment, and therefore prepare themselves for the requirements of the upcoming accreditation.

**Conclusion.** The introduction of simulation training courses into the educational process of training medical personnel at all stages of continuing

medical education will help to reduce medical errors, reduce complications and improve the quality of medical care to the population.

Thus, the method of simulation training is the most effective in preparing a specialist for practical work and in the modern world is the only innovative pedagogical technology capable of reducing the number of errors and improving the quality of training and retraining of medical workers.

#### **LIST OF LITERATURE:**

1. Dikman P. Simulation and patient safety / P. Dikman, M. More // Materials of the 1st All-Russian Conference on Simulation training in Critical Condition Medicine with international participation, Moscow, 2012. — M., 2012. — pp. 44-50.

2. Simulation training in the system of continuous medical professional education / Edited by P. V. Glybochko, Member-cor. of the Russian Academy of Medical Sciences. — M. : Publishing House of the I.M. Sechenov First Moscow State Medical University, 2012. — 120 p.

3. Murin S. The use of simulators in training: a turning point / S. Murin, N. S. Stollenwerk // Virtual technologies in medicine : scientific and practical journal. — 2010. — № 1 (5). — P. 7-10.

4. The All-Russian system of simulation training, testing and certification in healthcare / N. B. Naigovzina, V. B. Filatov, M. D. Gorshkov [et al.] // Virtual technologies in medicine : scientific and practical journal. — 2013. — № 1 (9). — P. 8.

5. Pakhomova Yu. V. On the role of virtual simulators in the educational process of training doctors / Yu. V. Pakhomova // Medical education and simulation training : conf., Mainz, Germany, November 26-27, 2011. — Mainz, 2011.

6. Pakhomova Yu. V. On the role of virtual simulators in the educational process of NSMU / Yu. V. Pakhomova // Conf. dedicated to the opening of the

simulation center of the Russian Research University named after N.I. Pirogova, Moscow, 2012. — M., 2012.

7. Pakhomova Yu. V. The role of simulation training courses in the practical training of medical personnel / Yu. V. Pakhomova, I. O. Marinkin, E. G. Kondyurina, E. M. Yavorsky // University pedagogy : materials conf. "Modern aspects of the implementation of FGOS and FGT", Krasnoyarsk, 2013. — Krasnoyarsk : Printing House of the State Educational Institution of Higher Education named after Prof. V. F. Voino-Yasenetsky, 2013. — pp. 482-484.

8. Riklefs V. P. Success factors of simulation training using high-tech simulators in a medical university / V. P. Riklefs, R. S. Dosmagambetova // Materials of the 1st All—Russian Conference on Simulation training in critical condition medicine with international participation, Moscow, 2012. - M., 2012. — pp. 78-82.