

Douhaya A.V.

**SIMULATION-BASED TECHNOLOGIES AS A KEY TO THE FUTURE
OF MEDICAL EDUCATION**

Tutor: PhD, associate professor Petrova M.N.

Department of foreign languages

Belarusian State Medical University, Minsk

Medicine is a vast and complicated subject of study and comprehensive education is extremely important for future doctors. Therefore, universities around the world try to find ways to improve the educational process, facilitate the training, make it more accessible and complete. One of the ways to achieve this goal is the use of simulation technologies that open up the world of the future in teaching medical students.

Simulation is a method or technique to refine skills and gain experience without going through the real events, it prevents unsafe situations and substitutes real patient encounters, which ensures the safety of patients and minimizes psychological stress. In combination with traditional practice, simulation is associated with better learning outcomes and performance. Moreover, this method can be combined with team-based or problem-based learning, as well as other current technologies to achieve the necessary educational goal and prepare competent medical specialists able to work efficiently and solve real practical health problems in their subject area.

Among all the high-tech ways of learning, cyber patient can be especially distinguished. The first clinical encounter with a real patient while taking a case history or carrying out physical examination can be stressful experience for the majority of medical students. Cyber patient allows students to overcome some of their nervousness and hesitation, learn from their mistakes through repeated practice before meeting a real patient. Such a platform gives them the opportunity to make progress on their own, because it is a safe and versatile virtual training hospital, available 24/7. While learning students can choose any gender, age of the patient, as well as the clinical case. On modern platforms it is possible to virtually question patients, prescribe the necessary tests and additional examinations, take temperature and blood pressure. Many applications and websites offer pictures that further immerse the student in the fascinating learning and facilitate the diagnosing process. There is no time limit, so the student can calmly recollect all the studied material, make a correct diagnosis or prescribe a proper treatment.

Another innovative technology is virtual reality (VR), due to which the student can assist in a surgical operation without being in the operating room or perform cardiopulmonary resuscitation without causing any harm to the real patient. The simulators can work in three modes. The first mode demonstrates how to behave correctly in a specific situation and gives lots of hints. The second mode is a training one, where a specialist can try to do everything himself. If he makes a mistake, he will be corrected by the system or he can ask for help if he doesn't know what to do next. And the third one is for advanced students. The specialist must independently choose the drugs, dosage, method and place of administration.

Clinical simulations have made an important contribution to modern medical education. They improve the quality of professional medical training, the results of tests and exams in clinical disciplines, develop skills of rapid and correct response in emergency situations, enhance the student's confidence, reduce the fear of contact with real patients.

Simulation is already an essential part of basic medical education and is sure to play an even bigger and more significant role in the near future.