Міністерство охорони здоров'я України
Буковинський державний медичний університет

Матеріали

науково-практичної конференції
з міжнародною участю

"Симуляційна медицина погляд в майбутнє"

(впровадження інноваційних технолоогій у вищу медичну освіту України)

м. Чернівці
19 лютого 2021

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

МАТЕРІАЛИ

НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ

З МІЖНАРОДНОЮ УЧАСТЮ,

"МЕДИЧНА СИМУЛЯЦІЯ - ПОГЛЯД В МАЙБУТНЄ"

(впровадження інноваційних технологій у вищу медичну освіту України)

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УДК : 378.147.091.33-027.22(061.3)

С 37

У тезах доповідей науково-практичної конференції з міжнародною участю лікарів, науковців та молодих вчених, подаються стислі відомості щодо результатів наукової роботи, виконаної учасниками конференції.

С 37Медична симуляція – погляд у майбутнє (*впровадження інноваційних технологій у вищу медичну освіту України*) (для лікарів, науковців та молодих вчених) : наук.-практ. конф. з міжнар. участю. Чернівці, 19.02.2021 року: тези доп. / Чернівці: БДМУ. – 267 с.

УДК : 378.147.091.33-027.22(061.3)

С 37

Буковинський державний медичний університет, 2021

must be remembered that the level of realism depends on the level of knowledge and skills of the student.In the clinical setting, errors must be prevented or terminated immediately by supervisors to protect the patient. In contrast, in a simulated environment, errors can be allowed to progress to teach the trainee the implications of the error and allow reactions to rectify deviations. Learning from errors is a key component of improving expertise and serves to organize future behavior [1].

Simulation approaches provide additional means for exploring vulnerabilities in health care delivery and for using that information to improve the competence of providers, the system of care, and interaction between the two. Examples of systems-level applications of simulation include uniform training for interdisciplinary in-hospital resuscitation teams and the increasingly relevant assessment of technology, information systems, and procedures.

Therefore, introduction of simulation training courses into the medical training process must help to reduce medical errors, reduce complications and increase quality of health care delivery to the population.

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BRIEF OVERVIEW OF THE SIMULATION-BASED MEDICAL EDUCATION

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Importance of the simulation-based medical education may be easily illustrated by the words of D.B. Gaba (2004): "Simulation has the potential to revolutionize health care and address the patient safety issues if appropriately utilized and integrated into the educational and organizational improvement process." Simulation-based medical education is widely accepted as

a technique, not a technology to "replace or amplify real patient experiences with guided experiences, artificially contrived, that evoke or replicate substantial aspects of the real world in a fully interactive manner" (D.B. Gaba, 2004).

Historically, simulation-based medical education backs as far as the first medical education techniques started developing. However, first documented use of simulation-based medical education is considered to be Madame DuCoudray's pelvis and fetal model for midwifery training in XVIII century. Later significant developments in simulation-based medical education took place after the WWII, when urgent need of number of physicians switched towards their better quality of education and standardization, followed by various device-based simulations, introduction of simulated patients and most recently – the computer-based and artificial intellect based simulations. Virtual reality and haptic-enabled simulation approaches become the most state-of-the-art developments in the field of simulation-based medical education.

Traditionally, medical education has been linear and directed at students and learners, with clinical experiences commonly provided with some variations in an apprenticeship model and may be described as an "…education of random opportunity" (T. Krummel & SJ Feaster, 2013). Simulation-based medical education is one of the few approaches to address this issue, providing tutors with facilitation instead of domination of tutorial/educational process.

According to L.P. Halamek (2008) simulation-based medical education provides following types of knowledge and competencies: cognitive skills or content knowledge (what we know in our brains); technical skills (what we do with our hands); behavioral skills or attitudes (what we do and feel with the first two skill sets while caring for patients with realistic time pressures).

Integrated simulation incorporates: experiential learning strategy with reflective practice, learner is immersed in a realistic situation (scenario), set in a realistic environment (simulator); suspension of disbelief on behalf of the trainee; the trainee reviews the performance with a skilled instructor who facilitates discovery and results; facilitated debriefing accounts for much of the richness of the experience.

Simulation-based medical education has multiple advantages: absolute patients' safety; trainees' safety; invasive procedures can be practiced in a safe manner and in increased numbers; adds to breadth and depth of trainees experiences (training for rare or otherwise inaccessible diseases/events). Learning can occur in all three educational domains (cognitive, tasks/skills, and behaviors/attitudes); simulation-based medical education easily accommodates multidisciplinary teams, training can be done in situ, events can be scheduled with appropriate faculty/coaches available, unnecessary distracting factors may be easily alleviated.

Shortcomings and challenges are present, too. Assessment methods in all three domains are still being developed; cognitive domain may be more easily assessed than skills or behaviors; requires smaller groups of learners and more faculty; support staff is also required (skilled facilitators must be developed). Some procedures and equipment still lack realism, expense of equipment (Is it cost effective?); direct link to improved patient outcomes has not been shown in most studies.

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THE SIMULATION TRAINING AS A MOTIVATIONAL COMPONENT OF THE FORMATION OF DOCTOR'S COMPETENCIES(BSMU EXPERIENCE).

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Today's realities force students to show high activity and independence in the process of acquiring knowledge and skills, which requires the introduction of new modern technologies in higher medical educational institutions.

One of the main tasks of higher education institutions is the formation of nobility to apply the acquired knowledge and skills in professional activities, i namelycompetencies. During practical classes, teachers of clinical departments are often faced with the opportunity to provide the student with direct contact with patients.

That’s why today it’s important to introduce virtual technologies into the educational process, which involve modeling various clinical scenarios. This technique gives students the opportunity to make decisions independently and perform certain manipulations in conditions close to real, and also improves the mastery and acquisition of the necessary practical skills. Reproduction (simulation) of situational scenarios not only improves professional skills, but also provides an opportunity to learn coordinated teamwork.

We evaluated the quality of knowledge survival in 5th year students of Bukovinan State Medical University with English-language form of education after the involvement of simulation technologies in the process of their education.

A survey of 74 students of the medical faculty №3 with English-language form of education was conducted 2 weeks after the practical lesson on the module №2 "Neonatology". The first group consisted of 34 students who had simulations of the clinical situation during classis. The second group included 40 students who were taught according to traditional methods. All students were in the same conditions during the survey, namely they did not have the opportunity to prepare in advance for testing and use gadgets during the survey.

The results of the comparison groups of both groups did not differ, 57.5 ± 8.4% and 55.8 ± 7.8% ($p > 0.05$), respectively. However, the number of students whose result exceeded 60% of the correct answers in the group that underwent the stimulus scenario was significantly higher (23.5 ± 7.2% and 7.5 ± 4.1%, ($p\varphi < 0.05$)). At students of the first group the relative risk of preservation of qualitative knowledge (> 60% of correct answers) was equal 1,2 (95% CI 0,3-4,2) at a ratio of chances - 1,9 (95% CI 0,3-4,2).

Thus, simulation training is a powerful tool for modern medical education. The development of simulation training will increase the competitiveness of medical education. Simulation scenarios considerably increase the motivation and interest of students in practical skills and their ability to implement these skills in their further professional activities.Theusingofstimulationtechnologiesduringpracticaltraininggreatlyenhancesthesurvivalof student’sknowledge.