



Матеріали

науково-практичної конференції
з міжнародною участю

“Симуляційна медицина погляд в майбутнє”

(впровадження інноваційних технологій
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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19 лютого 2021

УДК : 378.147.091.33-027.22(061.3)

С 37

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С 37 **Медична 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

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THE MEANING AND CONTENT OF THE SIMULATION-BASED MEDICAL EDUCATION

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Simulation-based medical education (SBME) now is highly recommended, as a modern educational strategy directing for improving patient safety [1, 12]. All over the world, simulation training, initially developed in the 18th century, has become a mainstream of medical education. Both evidence-based medicine and procedural competency are important in attaining the goals of medical studying. Simulation, which spans from procedural training to case-based scenarios and beyond, has been implemented for all levels of learners. As shown by several reviews, this form of learning and team training is beneficial and can positively influence clinical outcomes and improve safety in the healthcare [6, 10].

SBME may be conducted in an off-site simulation (OSS) setting in simulation centers, which range widely from publically financed simulation centers at universities to simulation centers that are funded by sponsors and user payment. Introduced over the past 10 years in situ simulation (ISS) mainly comprises team-based activities that occur in the actual patient care units involving actual healthcare team members in their own working environment [8].

Content of simulation centers may be different to achieve such goals of SBME. High-fidelity simulators are life-size mannequins that can simulate multiple human functions as well as being able to communicate with the learner through a remote operator interface. Low-fidelity simulators on the other hand, which are sometimes referred to as partial or table-top simulators, are typically designed to simulate a specific aspect of the human anatomy such as an arm to practice IV starts [4]. Mannequins play an important role as the «patient» and may allow invasive procedures, such as needle decompression of pneumothorax, external cardiac compression, intubation and intravenous injection. Mannequins are typically involved in team training for medical crises and resuscitation [11].

Standardized patient is another variant of SBME content. Standardized patients are typically professional actors or readily available students or volunteers trained to simulate a variety of medical problems in a consistent, reliable, realistic and reproducible manner. The use of human actors increases the realism of the training, particularly from the perspective of patient-caregiver interactions, and further immerses the learner into the feelings and emotion of the learning experience [2, 13]. Computer-based or virtual simulation opens up constraints regarding the organization of the simulation training sessions.

Regarding inter-professional team training in SBME, the focus is on communication, situation awareness, leadership and decision-making rather than only technical skills. Full-scale mannequin-based simulation lends itself well to such training. In a full-scale simulation, a computerized full-body mannequin provides realistic physiological response to learners' actions. Learners will interact with each other, with the environment and with the «patient» to successfully conducting their care plan in simulation [3, 5].

Adult learners study differently than children because of maturity and life experience. Therefore, the design of the education activity should take into account the nature and assumption of adult learning. There are some elements that can be used to create an effective learning environment for adults using full-scale simulation [4]: a team of learners interacts as in real situations; a real clinical environment; an equipment that they would use in real practice; learning experience that is close to real clinical encounters; learners need to feel safe to express themselves and receive timely feedback from different sources.

In addition, feedback to learner is the most critical component to ensure effective learning [9]. There are three key components for effective feedback:

1. Plan: simulation educators should plan how and when feedback will be provided. Flexibility should be allowed to examine unplanned learning objectives generated by learners.

2. Prebriefing: before going into a scenario, simulation educators should explain to learners the rules and expectations, such as confidentiality issues and being respectful to each other. Simulation environment and simulators are introduced to learners during prebriefing.

3. Providing of the feedback: feedback can be scripted in the simulation scenario so that learners' actions lead the simulator to provide feedback. Feedback and debriefing can be on-demand using pause and discuss during a scenario. The most common form of feedback in full-scale simulation is post-event debriefing [7].

Thus, simulation-based medical education focuses on improving apprenticeship skills and evaluating them in clinical skills and techniques, knowledge, communication, teamwork, and the practice of resuscitation code performance. Clinical simulation is a learning strategy that influences professional abilities and skills which has to be improved and advanced in comparison to other methods. This method is interactively orientated towards the actual medical education being a modern self-study teaching method and group work. Through a realistic scenario, it has a huge effect on increasing in therapeutic experience without any risk regarding the health and well-being of patients. Simulation-based medical education provides the transition from theory to practice and, as a result, leads to the actual practice of medicine.

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SIMULATION TRAINING IN MEDICINE

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Simulation training in medicine One of the fundamental components in the postgraduate training of young professionals is the acquisition of practical skills in a particular medical specialty. The use of simulation equipment allows to acquire such skills and practice them to the appropriate level. The formation of phantom-simulation training centers in medical institutions is optimal [1, 2].

Goal: acquisition, improvement and practical application of experience in communication or practical skills (surgical sutures, resuscitation, intubation, etc.); Forming a vision of the shortcomings of the process and communication in the work of the medical team; Formation of the ability to identify practical skills, communication skills, stages of the algorithm of medical care that need improvement; Practical understanding of the roles and principles of teamwork[3, 4]. The use of phantoms in teaching students leads to a good mastery of the theoretical part and mastering the practical skills needed by every young specialist in practice. Simulation training of health professionals is a fundamental point in achieving our common goal - to improve treatment outcomes. The simulation provides an opportunity to train staff without risk to patients. Ability