МАТЕРІАЛИ
З НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ "МЕДИЧНА СИМУЛЯЦІЯ- ПОГЛЯД У МАЙБУТНЄ"
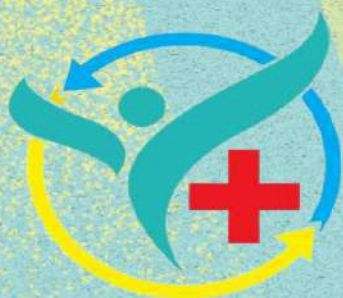
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У тезах доповідей науково-практичної конференції з міжнародною участю лікарів, науковців та молодих учених, подаються стислі відомості щодо результатів наукової роботи, виконаної учасниками конференції.

INTEGRATING AI AND SIMULATION INTO MEDICAL EDUCATION AMID CRISIS

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Russia's full-scale aggression against Ukraine has underscored the urgent need for adaptive, high-quality teaching methods. The integration of artificial intelligence (AI) and simulation-based learning has become increasingly relevant, offering medical students a way to develop essential clinical skills despite wartime challenges. By simulating real-life medical scenarios, these approaches enhance clinical reasoning and decision-making. However, their implementation remains difficult due to logistical constraints, funding shortages, and the ongoing war, which limit access to advanced technology and qualified educators.

Between 2022 and 2024, a study was conducted among 100 sixth-year medical students specializing in Hematology to evaluate the impact of virtual patients and interactive clinical cases on medical education. The survey included international students who, despite martial law, continue their studies at Bukovinian State Medical University (BSMU).

The study aimed to measure how these digital learning tools influence student engagement, knowledge retention, and the development of clinical thinking. An anonymous online survey was used to collect feedback on the effectiveness of interactive methods.

Casus provides an interactive environment for clinical decision-making practice. It features virtual patients representing various medical conditions, allowing students to refine their differential diagnosis skills, enhance patient communication, and develop individualized treatment plans with real-time feedback.

ClinCaseQuest employs interactive clinical cases in a quest-based format, integrating theoretical knowledge with practical application. Students engage with complex medical scenarios that require analyzing diagnostic data, formulating treatment strategies, and making critical decisions under simulated conditions.

Despite frequent power outages and air raids, international students at BSMU persist in their studies, demonstrating the resilience of these educational methods. Simulation-based training compensates for restricted access to clinical practice by recreating real-world medical situations in a controlled, safe environment.

Positive feedback from students highlights the potential of AI-driven and simulation-based learning in medical education, especially in crisis settings.

These interactive platforms not only enhance clinical reasoning and confidence but also prepare future doctors to adapt to modern medical challenges. Expanding their use across medical curricula could play a crucial role in strengthening global medical education, ensuring continuity and quality even in times of crisis.

ETHICAL CONSIDERATIONS IN THE USE OF SIMULATION IN MEDICAL EDUCATION
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Medical education transforms through simulation technology which healthcare professionals use increasingly. The positive aspects of simulation technology coincide with numerous substantial ethical risks which need immediate attention. The use of simulation in medical training raises multiple ethical quandaries concerning patient rights, safety risks and conflicts of professional duty together with performance expectations become unreasonably inflated. This paper evaluates simulation adoption in medical education through ethical lens while analyzing major obstacles and presenting ethical guidelines for practice.

In contemporary healthcare education SBME operates as the essential component by creating simulated training environments which enable clinical practice without risking damage to actual patient health. The widespread recognition of simulation advantages for clinical competence development creates ethical dilemmas because of its implementation implications. The responsible use of simulation needs ethical issues to protect medical profession values while also maintaining appropriate standards. The American study conducted by Issenberg et al. (2005) demonstrates that SBME enhances clinical skills while creating ethical concerns about its use in training settings {1}.

Healthcare operations strongly depend on obtaining informed consent from patients as an essential ethical foundation. Students along with simulated patients require information about the simulation framework and its underlying goals and potential dangers during this process. Full comprehension of different clinical environments is essential to establish between real-world and simulated clinical encounters. According to Cook and Triola (2009) medical simulations frequently lack proper informed consent processes thus creating ethical concerns about participants' understanding {2} that training is simulated.

Student learning depends on authentication through simulated scenarios which duplicate real-life clinical situations but risk no harm to actual patients.