



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)*

м. Чернівці

19 лютого 2021

УДК : 378.147.091.33-027.22(061.3)

С 37

Головний редактор:

Бойчук Т. М. – в. о. ректора Буковинського державного медичного університету, д.мед.н., професор.

Редакційна колегія:

Геруш І. В. – к.мед.н., доцент, проректор з науково-педагогічної роботи.

Ходоровський В. М. - к.мед.н., доцент, начальник навчального відділу з сектором моніторингу якості освіти та інформаційно-аналітичного забезпечення.

Смандич В. С. - к.мед.н., керівник навчально-тренінгового центру симуляційної медицини, асистент кафедри внутрішньої медицини, клінічної фармакології та професійних хвороб.

Хлуновська Л. Ю. - к.мед.н., асистент кафедри педіатрії та медичної генетики.

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 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

- redaktery. Interaktyvni metody navchannia [Interactive learning methods]: navch. posib. Schetsin: WSAP; 2005, p. 7–23. (in Ukrainian)
10. Kubyshkin VA, Svistunov AA, Gorshkov MD, Balkizov ZZ, redaktery. Spetsialist meditsinskogo simulyatsionnogo obucheniya [Medical Simulator Specialist]. Moscow: Rosomed; 2016. 321 p. (in Russian)
 11. Murin S, Stollenwerk S. Simulation in procedural training: at the tipping point. *Chest*. 2010;137(5):1009–11. doi: 10.1378/chest.10-0199
 12. Okuda Y, Bond W, Bonfante G, McLaughlin S, Spillane L, Wang E, Vozenilek J, et al. National growth in simulation training within emergency medicine residency programs, 2003–2008. *Acad Emerg Med*. 2008;15(11):1113–6. doi: 10.1111/j.1553-2712.2008.00195.x
 13. Osypenko SI, Ivanov AV. Orhanizatsiia funktsional'noho navchannia u merezhi navchal'no-metodychnykh tsentriv tsyvil'noho zakhystu ta bezpeky zhyttiediial'nosti [Organization of functional training in a network of training and methodological centers of civil protection and safety of life]: navch. posib. Kiev; 2007. 139 p. (in Ukrainian)
 14. Pometun OI, Pyrozhnichenko LV. Suchasnyi urok. Interaktyvni tekhnolohii navchannia [Modern lesson. Interactive learning technologies]. Kiev: ASK; 2004, p. 7-19. (in Ukrainian)
 15. Rassel T. Navyki effektivnoy obratnoy svyazi [Effective feedback skills]. 2-e izd. Sankt-Peterburg: Piter; 2002. 176 p. (in Russian)
 16. Shaharan S, Neary P. Evaluation of surgical training in the era of simulation. *World J Gastrointest Endosc*. 2014;6(9):436–47. doi: 10.4253/wjge.v6.i9.436
 17. Shevchuk P, Fenrykh P, redaktery. Interaktyvni metody navchannia [Interactive learning methods]: navch. posib. Schetsin: WSAP; 2005, p. 7–23. (in Ukrainian)

EDUCATIONAL SIMULATION TECHNOLOGY AS A PREREQUISITE OF IMPROVED DENTAL CARE AND PATIENTS' SAFETY

Kashperuk-Karpiuk I.S., Pronyaev D.V., Verbova Ya.

Bukovinian State Medical University, Chernivtsi

Stomatology as a science has undergone tremendous changes due to technological advances which revolutionized dental care in many dramatic ways, making diagnosis, care and treatment easier and less invasive. Simulation, however, not being an innovative method, has been around for preclinical dental education since the 18th century, has progressed from the utilization of sizeable teeth models to simulated patients, high-fidelity virtual reality, haptics and robotics and is currently being developed to support the acquisition of requisite psychomotor skills before real-life clinical application.

This research paper aims to provide a historical background and methodology of simulation technology usage in dentistry as well as analyze the efficiency of phantoms, mannequins and models for honing students' dexterity and motor skills in the process of studying in simulation centres and medical institutes before real-life clinical applications.

In addition to the above, this paper aims to shed the light on the value of virtual simulation in the current preclinical dental education framework that will expand opportunities and enable students to have a successful clinical exposure.

The paper elucidates such research materials as facts and historical reference regarding simulation procedures around the globe based on the case studies, research articles and social surveys as the research methods which are perceived through the comparative analysis. In

particular, the approach to dental care simulation techniques is explored in more detail being a part of descriptive research method. Additionally, the comparative research method fostered the thorough analysis of simulation technologies and claims that dental simulators are now able to create an environment in which users can practise clinical procedures, such as restorative dentistry, endodontics, periodontal assessment, implant placement and even dental extractions.

Additionally, a survey was conducted among dentistry department students of various age groups to estimate whether the inclusion and use of various simulation technologies contributed to better understanding and preparation for future practice. The target group students were presented a variety of modern technologies and techniques of simulated learning and the survey was conducted using a questionnaire with fixed options.

Research results indicate that simulation technology is considered a valuable educational tool that could augment the current traditional teaching methods in medicine, namely in dentistry.

The survey questions dealt with the comprehension of the purpose of simulated learning options and with the necessity of the inclusion of simulated learning mode into the learning cycle. Overall, the results were definite and about 90 per cent agreed with the incorporation of simulation mode of instruction into the traditionally established one due to practical application and proximity to real-life scenario options.

Such favourable results generated a search for availability of and access to any of the simulated technologies in medical institutions either locally or virtually using remote learning mode of delivery.

The reliance on simulation for dental education is paramount as dental students must gain a profound insight into their future career thus reaping the benefits of hands-on practice prior to actual patient care in order to allow for smooth transition to the clinical setting. Consequently, simulation as an integral part of educational program allows students to refine their clinical skills without the danger of harming the patient during the learning process. Advanced simulation mode of instruction expands the students' knowledge of clinical experiences and helps them perform better in the clinics, and hence, their incorporation into dental schools and syllabi can make a huge impact on dentistry.

References

1. Buchanan JA (2001) Use of simulation technology in dental education. *Journal of dental education* 65 (11): 1225-1231
2. Suvinen TI, Messe LB, Franco E (1998) Clinical simulation in teaching preclinical dentistry. *European Journal of Dental Education* 2 (1) :25-32
3. Quinn F, Keogh P, Hussey D (2003) A study comparing the effectiveness of conventional training and virtual reality simulation in the skills acquisition of junior dental students. *European journal of dental education* 7 (4): 164-169
4. Abbey LM (2002) Interactive multimedia patient simulations in dental and continuing dental education. *Dental Clinics* 46 (3): 575-587