



## 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**

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

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5. <http://abch.ro/suportul-emotional-si-psihologicpentru-pacientul-oncologic>
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## **SIMULATION PEDIATRIC RESPIRATORY SCENARIOS TRAINING FOR POSTGRADUATE CONTINUING MEDICAL EDUCATION**

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Respiratory diseases, which are the most prevalent in children, are not only common, but also are the significant causes of the mortality. In Pediatrics the indications for resuscitation are mostly caused by decompensation of respiratory diseases. In particular, pneumonia is the leading cause of mortality in children under the age of five years old (20% of all cases), killing more than 4,000 children each day worldwide, approximately 1.8 million children each year - more than AIDS, malaria and measles taken together. In addition, bronchiolitis, stenotic laryngotracheitis, bacterial endobronchitis, epiglottitis, pharyngeal abscess, severe pneumothorax, asthmatic status, airway foreign body can be potentially life-threatening in childhood. In addition, onset of the chronic respiratory diseases in children is accompanied by persistent cough, shortness of breath, cyanosis or other respiratory manifestations, for which there are special algorithms for diagnosis, differential diagnosis and subsequent management. The possibilities of primary prevention of infectious diseases of the respiratory system and prevention of exacerbations of chronic pathology are available and wide due to vaccination. Thus, respiratory infectious and non-infectious episodes are frequent in pediatric centers and can lead to significant mortality, as well as they are the most prevalent causes of hospital admissions, which can deteriorate quickly, that's why it is essential for doctors to be competent at managing pediatric respiratory distress and/or failure [4].

Recent literature demonstrates increased retention of knowledge and skills after simulation-based training, therefore simulation might be an effective training tool for pediatric care providers. Simulation training can improve not only medical knowledge and practical skills but also team cooperation. Numerous modules on respiratory pediatric scenarios for teaching various clinical skills like communication, physical examination, and clinical reasoning have been previously published and are available in *MedEdPORTAL* [1,2,7], which was for us a valuable useful resource for creating our own workshop. Objective was to design and implement a pediatric respiratory course through simulation-based team training, to emphasize communication and cooperation across subspecialties and to provide a common skill set and knowledge base despite differences in experience. Small groups were multidisciplinary to promote teamwork [6]. Participants completed pre- and postworkshop questionnaires and answered tests. We have organized this respiratory workshop to assess ways how to achieve acquiring of the competencies in pediatric respiratory medicine by the doctors of the different specialties and how to attract and properly train them in the best way in the field of pediatric respiratory diseases using the advantages of simulation training for adults education [9]. The workshop on simulation of respiratory infectious diseases is an opportunity for doctors to manage the most prevalent common and potentially life-threatening respiratory conditions in a realistic and safe environment of simulation centre using medical high-fidelity mannequins of different age groups [3].

The simulation was performed twice at a simulation center with audio- and video-recording capabilities and once – at the hospital in the learning room in February 2020. Learning and assessment objectives were to recognize the disease, summarize signs/symptoms, treatment and demonstrate correct management plan. Environment, used for simulation – phone call, intensive care room, emergency department room and real patient room. The used equipment was PEDI® premiesimulator with OMNI®2. Additional needed equipment, which was used: nebulizer tubing/system, oxygen delivery system/airway, bag-mask system with multiple size masks, nasal cannula, simple mask, non-rebreather. As well monitors were available: blood pressure cuff, heart rate monitor leads, oxygen saturation probe; empty or water filled containers labeled with the medications; monitor alarms beeping to mimic real patient and stress urgency of the situation. Actors were involved: trainees, residents and instructor.

The goal of the respiratory simulation workshop was to teach the trainees (doctors) how to manage pediatric respiratory distress and/or syndrome of the five pediatric patients of different age groups (from newborn up to adolescents): (1) with disturbed breathing and apnea (case of newborn's pertussis), (2) with wheezing due to bronchiolitis and fever due to otitis media in infant; (3) with stridor due to croup and double aortic arch in toddler; (4) with cough and fever due to pneumonia complicated with empyema in school girl; and (5) with sore throat and fever due to tonsillitis complicated with Lemierre's disease in adolescent. Each case simulation lasted 20-40 min approximately. Instructor used 7 stages of activity: (1) preparation (reading over all the materials, printing the 5 case descriptions with instruction cover letter for the participants, making arrangements to have the handout distributed via paper or e-mail following the activity; room preparation); (2) ice-breaker and introduction (forming to have the various groups sit together); (3) cases: initial presentation (introductory slide with the choice of 5 patients with respiratory problems: group picked which case they would like to go over; whole group came up with a differential diagnosis based on the information given simulating the thought process of the physician listening to the story over the phone or in clinic; asking for addition information etc); (4) cases: setting change; (5) case conclusion (instructor summarized subsequent clinical course; went over learning points from the case and asked participants for any additional learning points); (6) back to case selection; (7) end of activity (distribution of the handout).

The simulation module was very adaptable. It was created for a pediatric specialists, but might be used with other groups of learners and in other settings: using the cases for family medicine residents or medical students; using the cases for small groups; instructor taking on the role of the patient/parent; using the cases in other settings; using the cases for problem-based learning; inviting other faculty members from different divisions etc [9]. The most complicated scenario options were: unusual presentation of newborn's pertussis and Lemierre's disease. Clinical performance checklists were aimed at each of the scenarios to assess five key areas: clinical assessment, diagnostic workup, management, medical treatment and teamwork skills [5]. Videos of patients in respiratory distress were used to reinforce the clinical exam even a high fidelity manikin was available. At the conclusion of the scenarios a debriefing with learners using structured feedback was performed. Debriefing plan included group discussion. We have received doctors' feedback based at "Pendleton's rules", which has followed such stages as: (1) the trainee and the tutor stated what was done well; (2) the trainee and the tutor stated what could have been done differently; (3) the learner and the tutor agreed on a joint action plan for improvement.

Thus, simulation centre based postgraduate respiratory training improved doctors' teamwork, their communication and identified trainees' management deficits. Positive doctors'

feedback stimulated further pediatric scenario creation and work-up. Future study is required to better understand the impact of this course on long-term retention of knowledge and skills. Simulation pediatric respiratory scenarios training through simulation-based team training is feasible and preferred by learners as compared to conventional teaching methods. Regional Professional Societies in Pediatrics and Family medicine (in the partnership with university) might be better encourage and coordinated to ensure a continuing medical education at the basis of the BSMU Center for Simulation Medicine and Innovative Technologies.

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## EXPERIENCE OF DISTANCE LEARNING IN QUARANTINE WITH FOREIGN STUDENTS

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COVID-19 changes not only our lives, but also the way we learn. Quarantine measures, which have been going on in our country since the beginning of March 2020, have caused significant transformations in the organization of the work process, including the Bukovinian State Medical University. Staying at home, distance learning seems to be the most effective way to maintain social distance and slow spreading of COVID-19 among students and teachers.

Through online learning, students find new ways to gain knowledge and skills. We strive to use digital learning to promote social equality and economic growth [1]. Addressing pressing