



I S C M S
W R O C Ł A W 2 0 2 3



BOOK OF ABSTRACTS



WHAT IS MEDICAL SIMULATION
AND HOW IS IT USED?



HOW DOES A
MEDICAL SIMULATION
WORK?



WROCLAW
MEDICAL UNIVERSITY

I International Students Conference of Medical Simulation Wroclaw, 2023

Introduction

During the implementation of the EU project at our university, we saw the need to develop among students a scientific approach to the topic of medical simulation, hence the idea for the conference was born. The conference aimed to provide a platform for students to exchange knowledge and experiences in the field of medical simulation, fostering a culture of scientific inquiry and innovation among participants. Through presentations, the event aimed to enhance students' understanding and skills in this specialized area of study.

We hope that in the future, we will be able to expand this initiative to further engage students in medical simulation and create a sustainable platform for knowledge exchange and collaboration among universities in this area.

I ISCMS - Wrocław, 2023

Dear students!

We are after the first international conference on medical simulation, of which you are the main participants. I consider this a landmark event that highlights the importance of the voice of young people in developing teaching techniques in a field that directly affects them.

The role of students in improving medical simulation cannot be overstated. It is you, who are on the front line of new technologies and educational strategies, who should be involved in the development of new teaching tools. The fresh perspective, creativity and commitment you bring with you are crucial to the further development of the field.

We believe that this conference is only the beginning, that in the future events like this will enable students to share their experiences, ideas and expectations even more widely. It is only through collaboration and dialogue between students and medical simulation specialists that we can ensure that the educational tools are continually adapted to the changing needs and expectations of future medical professionals.

Mariusz Koral, Head of Simulation Medicine Center in
Wrocław Medical University

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Conference plan

„International Students' Conference of Medical Simulation – Wrocław, 2023”

Term: 14.01.2023.

9:00 (am) - Opening - Organising Committee

9:10 - Opening lecture (10-15 min)

9:25-9:30 - Break

9:30 am - approx. 11:30 am - Lecture block (presentations by active participants)

- 10 minute presentations

- 5 minutes questions to the speakers/discussion

Order of presentation topics::

1. Investigation of the effectiveness of educational tools in the implementation of thoracostomy in the training of health professionals - pilot study.
2. Key of Survival: New Approach to Train First Aid Skills
3. Psychological safety in healthcare simulation.
4. FAST protocol simulation.

12:00- 12:15 - Closing, selection of winner

Rules of presentation:

- 1) The presentation should last a maximum of 10 minutes and the discussion 5 minutes.
- 2) If the speech is prolonged, both the presentation and the discussion may be interrupted
- 3) If a topic is finished more quickly, subsequent presentations may be discussed earlier than scheduled
- 4) Certificates of active and passive participation will be sent by e-mail after the conference

Presentations

1. Investigation of the effectiveness of educational tools in the implementation of thoracostomy in the training of health professionals - pilot study

Authors: Antónia Keszthelyi, Attila Pandur

Tutor: Attila Pandur

Keywords: Teaching technique, thoracostomy, SAMThoraSite

Abstract:Objective: Nowadays, prehospital caregivers play a key role in the care of the seriously injured. The successful completion of advanced interventions at the appropriate time is essential for the recovery of the injured after hospitalization. The aim of our study was to examine the effectiveness of different educational methodological techniques in performing thoracostomy.

Research material and method: We conducted a prospective study among second- and third-year advanced paramedic students of UP FHS. We formed a sub-sample using the educational technology tool. In one of our subsamples, we showed a short video before the intervention, in the case of our other subsample, the intervention had to be performed without a video. Both groups completed a theoretical test before the intervention and did not have practical knowledge. During the survey, we examined the marking of the correct position, the time of hesitation, the duration of the entire intervention and the outcome. For both groups, we used a tool called SAMThoraSite, which neither group had used before.

Results: In our study, 21 people were selected for the sub-sample with video (R1) and 22 people for the group without video (R2). The total theoretical score of the R1 group is 5.26 points (66%), while that of the R2 group is 5.56 (70%). The R1 group performed the intervention in an average of 1 minute and 1 second, the R2 group in an average of 57 seconds. We found no difference in the successful outcome (12 vs. 11; $p=0.26$). The hesitation time of our R2 group was shorter than that of our R1 group ($p=0.03$).

Conclusion: Fast, accurate and successful performance of thoracostomy is essential for high-quality trauma care. The SAMThoraSite tool is easy to use in the hands of inexperienced providers. The educational technology tool (video) used in the study did not affect the successful implementation, but at the same time it lengthened the time of hesitation.

2. Key of Survival: New Approach to Train First Aid Skills

Authors: Liliia Tverdokhlib, Yuliia Filiak

Tutor: MD, PHD, Professor, Chief of Traumatology, Orthopaedic and Emergency Military Surgery Department of Ivano-Frankivsk National Medical University V. Sulyma

Keywords: simulation, training, MARCH algorithm.

Abstract: Introduction: The hybrid war against Ukraine is being waged in various directions: military attacks, cyberattacks, and energy attacks. That means the enemy chooses targets in the most amoral way. From 24th February approximately 20000 Ukrainian civilians have died. Today people comprehend the importance of protecting themselves. TCCC (Tactical Combat Casualty Care) introduces evidence-based, life-saving techniques and strategies for providing the best trauma care on the battlefield. Among all data, there is difficult for civilians to find out the most necessary information. Simulation Training (VYSHKIL) is based on Peyton's teaching approach and includes the MARCH algorithm which is easy to memorize and repeat in an extreme situation.

Aim of the research: Design and assess the effectiveness of an algorithmic technique on skill acquisition for civilians during wartime.

Materials and Methods: VYSHKIL is built up of 2 main parts - theoretical and practical. Time: 2 hours

The theoretical part is provided by a military surgeon and contains:

animated lecture with clinical cases (duration 30 min), practical demonstration (allows to see the practical skill and ask the questions according to Peyton 1-2 step).

The practical part is provided by 6 main trainers, who demonstrate all practical skills similarly to the lecture material (Peyton 3d step) and allow students to carry out the procedure on their initiative (Peyton 4th step). Duration: 1,5 hours.

According to the MARCH algorithm, there are 3 main stations:

M - Massive Hemorrhage

AR - Airway and respiration

CH - Circulation and Hypothermia.

All civilians should compulsorily visit every station, that's why there is a limitation of participants - max 60.

78 articles were analysed on SCOPUS, PubMed, Web of Science.

Results: Approximately 62 training sessions were held. 3076 Ukrainians were trained with this program. 57% - people without medical education, 26% - people who work in educational institutions, 13% - military soldiers, and 4% - surgeons. The average age is 35,3 years old. The feedback form includes points for theoretical and practical parts. People assess the usefulness of the lecture in 9,6 out of 10 points and memorization of practical skills in 9,4 out of 10 points. That means a high level of interpretation of material.

Discussion and conclusions: A systematic review of meta-analysis set out to evaluate the effectiveness of Peyton's teaching approach compared with a standard teaching approach. That's why the effectiveness of training is raised. We concluded that VYSHKIL helps mnemonically (MARCH) remember the action algorithm in an emergency.

3. Psychological safety in healthcare simulation

Authors: Mgr. Tomáš Dudich, Ing.Bc.Jakub Reček DiS

Tutor: prof. MUDr. Karol Kráľinský PhD

Keywords: psychological safety, simulation, debriefing, paramedic

Abstract: A crucial part of the prebrief, as well as the enactment and the debrief, is to create a psychologically secure setting for the learner. In a simulation-based activity, psychological safety is "a feeling (expressed or implicit) that participants are comfortable engaging, speaking out, expressing their opinions, and asking for aid as required without worry for punishment or shame" (Lioce et al., 2020, p. 38).

When a healthcare simulation is provided, the instructor can identify potential psychological safety issues before they become serious. When the simulation is finished asynchronously, educators might only be able to see the effect of psychological safety at the debrief.

Regardless of how the simulation is conducted, the learners' perceptions of safety affect their willingness to take initiative and make judgements. If students believe they will be assessed, that their decisions might have unfavourable effects, or if the subject matter is sensitive, then their safety is in danger. The aim is to establish an environment where students feel safe enough to accept discomfort rather than to entirely eradicate feelings of interpersonal danger.

A feeling of psychological safety will lead to a more open discussion during the simulation's execution and debrief. Instead of only talking about knowledge that is shared by everyone, learners are more likely to bring up and debate material that is privately held. Throughout the healthcare simulation, it's crucial to establish a secure environment, and the prebrief when this process gets started.

Psychological safety during the simulation is important in all field of healthcare related studies. Especially for future paramedics, nurses, midwives, radiologist. During their studies they encounter many simulations, situations that are connected to with cases, with whom they can meet. That is why ensuring psychological safety is one of the key to benefit and learning from simulated situations and a prevention to not become disgusted and having nightmares.

4. FAST protocol simulation

Authors: Yuri Isaakyan, Marat Gripp, Shahabuddin Murtuzaliyev, Ekaterina Semenyako, Ilkin Akhmedov

Tutor: Elena Stepanova

Abstract: Introduction: FAST (Focused assessment with sonography for trauma) is an algorithm for ultrasound examination of a patient with severe trauma, aimed at detecting free fluid in the abdominal, pleural and pericardial cavities, as well as pneumothorax. Currently, the FAST protocol is included in the ATLS (Advanced Trauma Life Support) trauma support program as a mandatory initial diagnostic study of patients with severe trauma and can be performed by any specialist trained in this method.

Aim of the research: Training of skills in providing emergency diagnostics in urgent conditions.

Materials and methods: Ultrasound machine; Dummy simulating urgent conditions.

Discussion: A simulation center that includes an ultrasound machine and mannequins that simulate emergency conditions (the presence of free fluid in the abdominal, pleural and pericardial cavities, as well as the presence of air in the pleural cavity). Under the supervision of a trained teacher, doctors are able to learn how to diagnose in all positions of the FAST algorithm (upper right quadrant, upper left quadrant, subxyphoid position, suprapubic region, pleural cavity). Having mastered this protocol on the simulator, doctors will be able to use a number of advantages: the speed of the study is 3-4 minutes, non-invasiveness, does not require patient transportation, the ability to perform during resuscitation. Honing skills on the simulator will allow doctors to act more confidently in practice within the framework of this protocol.

Conclusions: In case of polytrauma, it is necessary to clarify the nature and localization of damage as soon as possible. The earlier the diagnosis is made, the greater the chances of a favorable outcome. The FAST protocol simulator will allow doctors to hone their skills in providing emergency diagnostics of urgent conditions on mannequins, which will increase the successful diagnosis of these conditions on patients in the future.

Organizer:



Centrum Symulacji Medycznej

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