

Pre-Hospital EMS Competition As Educational Tool

V Dobias^{1*}, J Marsalek², J Stana², Dudekova A¹ and Hamsik J¹

¹Slovak Medical University, Bratislava, Slovakia

²Rallye Rejviz, Civic Assoc., Slovakia

***Corresponding Author:** V Dobias, Chair of Emergency Medicine, Slovak Medical University, Bratislava, Slovakia.

Received: August 02, 2020; **Published:** September 30, 2020

Abstract

Neverending education in medicine is the most important condition for all kind of health care professions. It is necessary to introduce frequently new methods and ways of teaching, training, education and skills achievement. The pre-hospital settings in emergency medicine is quite different in comparison with hospital care and treatment because it is really impossible to include all distractors into the training room. Since risk road traffic, through possible dangerous environment, panic bystanders, hostile family members to rain, wind, dark or lightning sunshine on site of injury. Very difficult near to impossible realize all out-of-hospital differences into educational practice. That is why human players instead of electronic mannequins and real scenery are essential tools for paramedics training. The best way is real scenario competition with multiple patients and shower of epinephrine.

Keywords: EMS Competition; Real Scenario Education; Paramedics Skills Comparison

Abbreviations

PARA: Paramedic Team; PHYS: Team with Physician; NAT, INT: National/International Competition; SZU PARA, SZU MUC: University Students Paramedic, Medical Students, Task BLOCK: Atypical Chest Dyscomfort With Left Bundle Branch Block (LBBB), task STAIRS - injured mother with child. NAT is for Czech and Slovak teams, INT is for all countries mentioned above

Introduction

Electronic simulators have their importance. They are exact, programmable into specific situations, absolutely objective and scenarios are comparable. They are suitable for education in hospital settings. Disadvantage is high price and insufficient number of such training equipment in some countries. The advantage of real human played scenarios is that players can react better, they are more interactive and able to improvise according to different algorithms used by crews. There is no problem with wet environment, transportation, positioning or immobilisation. Verbal and non-verbal reaction to pharmacotherapy is possible, f. e. analgesia, they can play along with unexpected procedure, f. e. administering drugs before retrieving allergic anamnesis. Played scenarios in real environment can bring the essential feeling for reality to recreate atmosphere present during mass disasters, traffic and workplace accidents. In order to make the competition stressful there are many on-lookers and duration is 20 hours with 4 breaks lasting 1 - 2 hours. Rallye Rejviz as the biggest international competition of Emergency Medical Service crews (founded in 1997) had that year 93 crews from 16 countries out of America, Asia, Europe and Australia and 33 competing dispatchers.

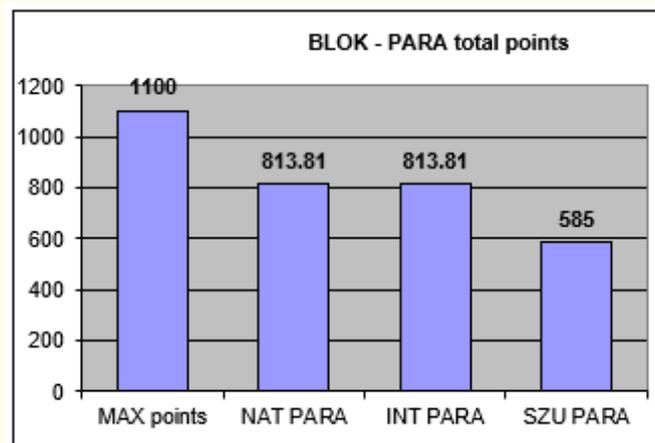
Participating countries: Australia, Bosnia and Herzegovina, Czech Republic, Japan, Canada, Cyprus, Lithuania, Hungary, Germany, Netherlands, Poland, Austria, Romania, Greece, Slovakia, Slovenia.

Method

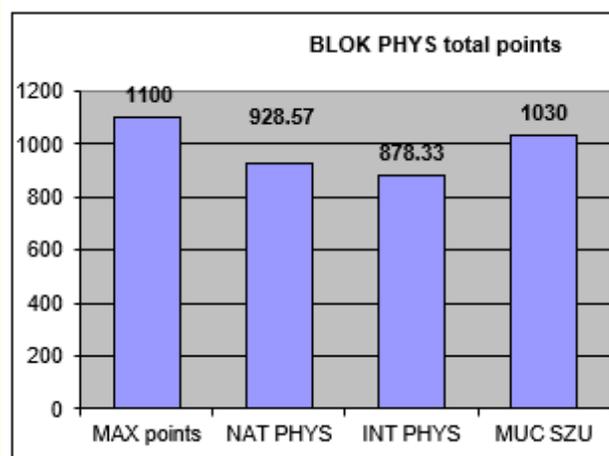
Scored are chosen parameters in areas: safety on site and co-operation with other rescue services, case history, physical examination and measurement of chosen vital signs, management and pharmacotherapy, diagnosis and differential diagnosis and routing. Points are also awarded for emphatic approach: no undressing in public, no stepping over the patient, leaving a small child in mother’s hands. Twelve scenarios are prepared from areas as trauma, internal medicine, neurology, paediatrics, cardiology. Scenarios are chosen and prepared according to our experience from past competitions to reflect areas of medicine in which crews lack in knowledge and skill. Comparison of achieved points enables us to review and compare paramedic and physician crews in safety on site and case history, national physician crews with international ones in pharmacotherapy, students with professionals. Scenarios from past years are used for training.

Results and Discussion

In two scenarios (atypical chest discomfort w left bundle branch block LBBB and injured mother w child after falling from stairs) we evaluated total amount of points achieved compared to professional crews. Paramedic students were compared with paramedic crews in both INT/NAT competition, medical students with crews w physician in both INT/NAT competition. Score achieved in scenario BLOK: 53% from maximum points SZU PARA vs 74% of professional teams (Graph 1), 94% from maximum MUC vs. 92% of professionals (Graph 2).

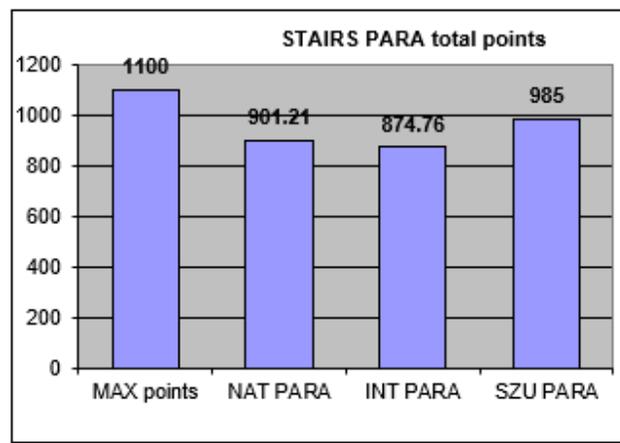


Graph 1

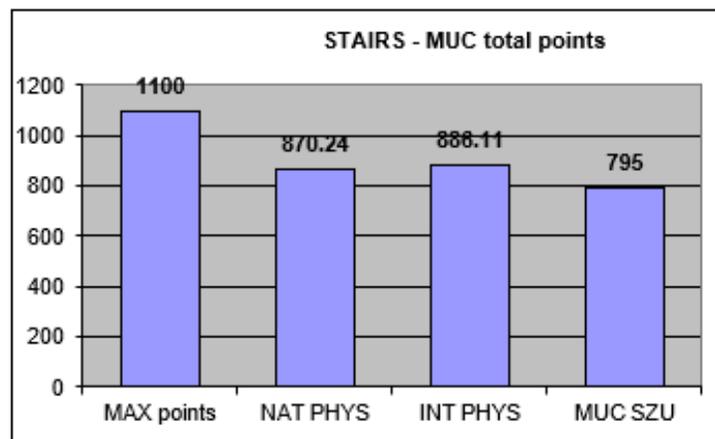


Graph 2

Score achieved in scenario STAIRS: SZU PARA 90% from maximum points vs 81% of professional teams (Graph 3), MUC SZU 72% from maximum vs. 80% of professionals (Graph 4).

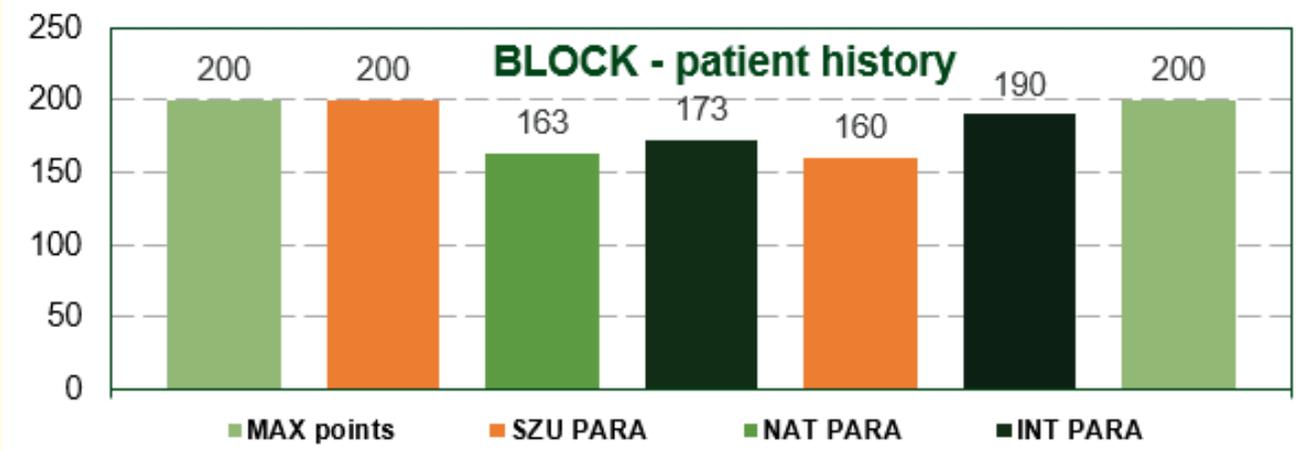


Graph 3



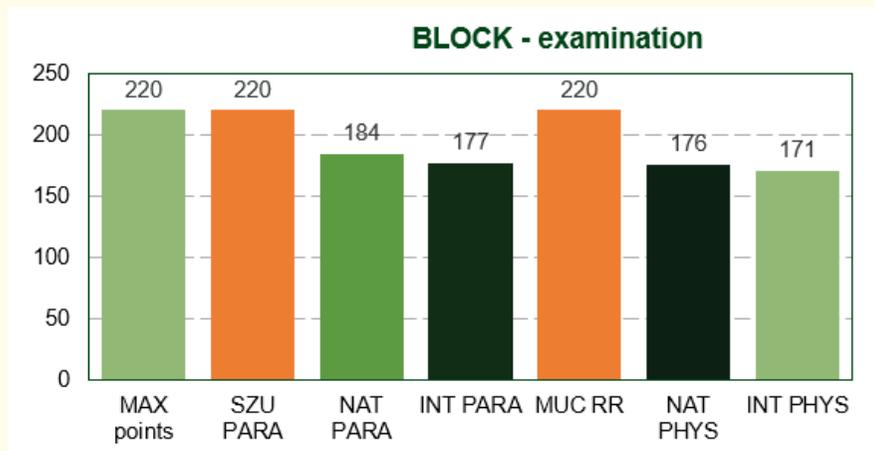
Graph 4

Partial evaluation of correct and complete patient history including pharmacological and allergic (Graph 3): our students achieved 80 to 100% from maximum points.



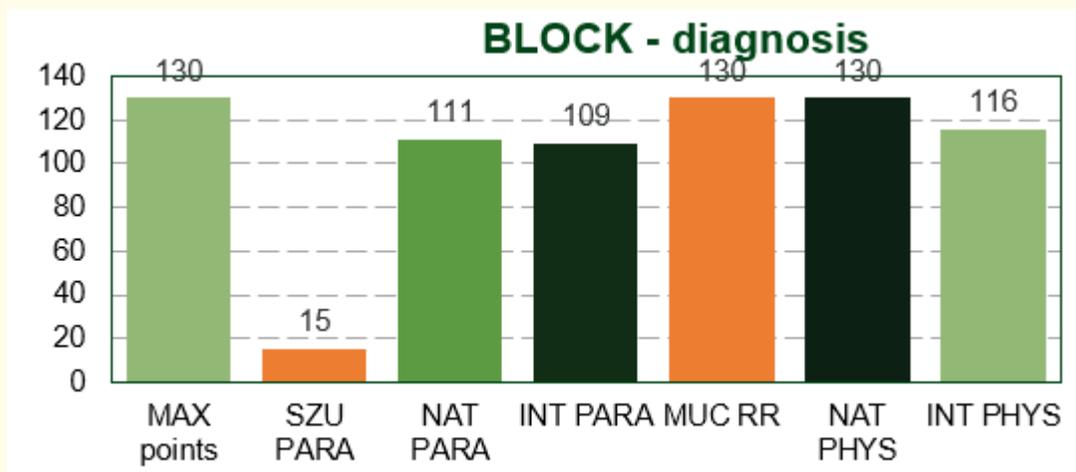
Graph 5

In physical examination students achieved full score.



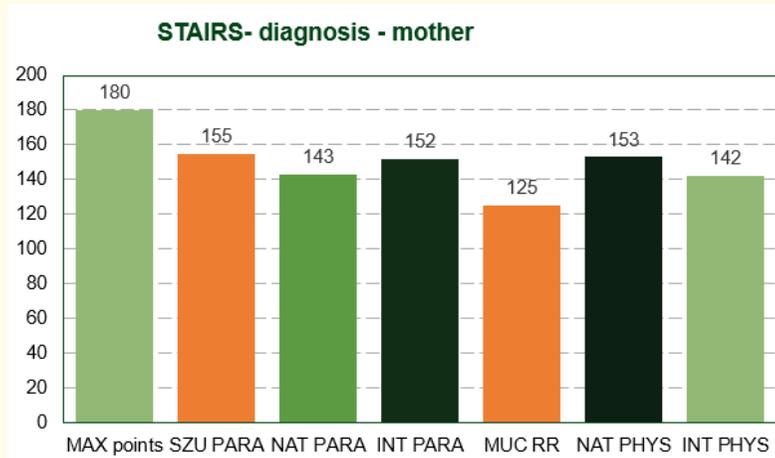
Graph 6

Paramedic students failed determining the diagnosis from ECG in scenario Block in spite of perfect examination, medical students achieved the highest score.



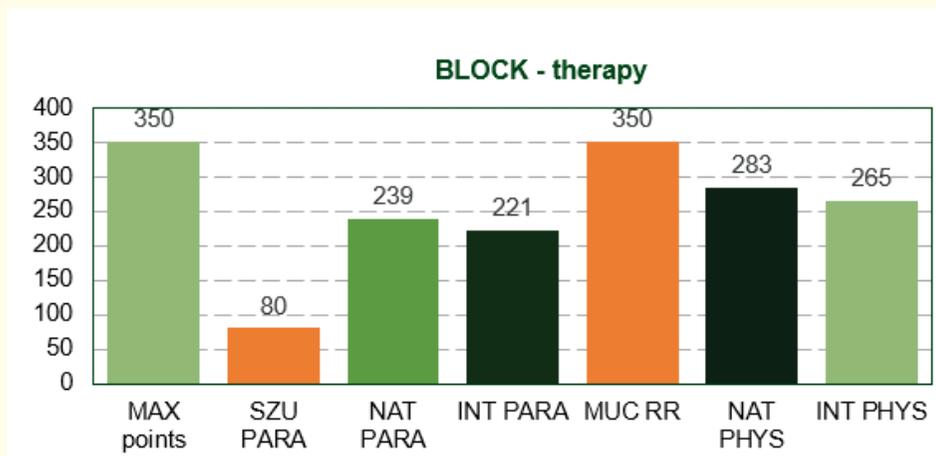
Graph 7

Paramedic students were the best at determining trauma diagnosis with 89%, medical students achieved 69% of maximum points.



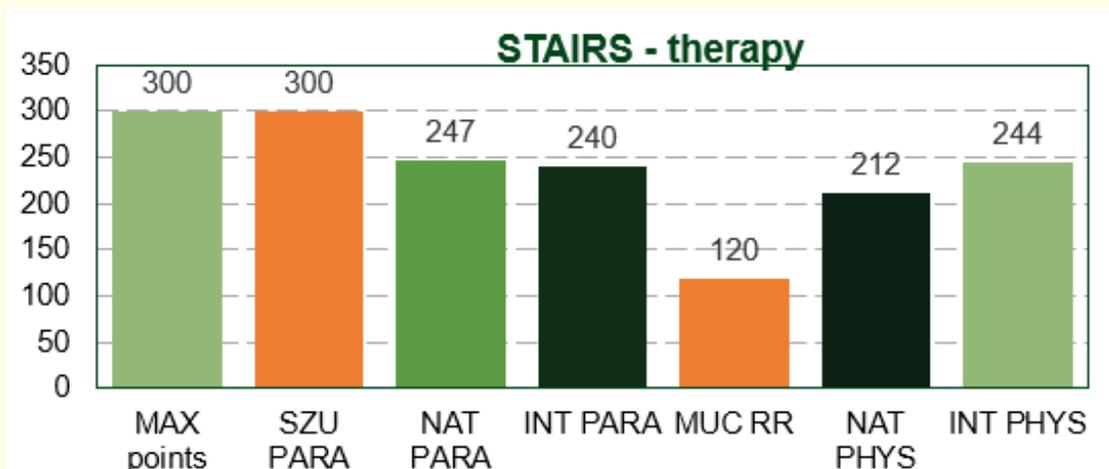
Graph 8

In partial evaluation of therapy in scenario Block are similar differences: paramedic students achieved 23%, medical students 100%.



Graph 9

In contrary paramedic students were better in treatment of trauma with 100% points in comparison to medical students.



Graph 10

Conclusion

Comparing total achieved score in scenario and score awarded for partial tasks (safety, patient history, examination, diagnosis, treatment) enables us to assess if crews are better prepared for internal or traumatological scenarios, how are they able to take complete patient history, mechanism of injury, examine and treat and lets us adjust practical training and theoretical education specially for each type of crew. Results are discussed with participants, at home with other provider member and helpt very effectively to teacher in improvement of teaching proces.

Conflict of Interests

Corresponding author and all co-authors aren't in conflict of interests.

Source of Data

<https://rallye-rejviz.com/history/>.

Acknowledgement

Corresponding author declare that data used in article are from referees sheets out of appropriate task mentioned in article. The originals in paper form are archived at Rallye Rejviz Civil Society. Conclusions, comments and recommendations are authors opinion due to many years of practice with international competitions.

Volume 4 Issue 10 October 2020

All rights reserved by V Dobias., *et al.*