

Feasibility and Effectiveness Assessment of the New Triage System Adopted by the Disaster Medicine Service of Regione Piemonte: Results of a Controlled Randomized Study

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Introduction: Validation of the new MCI Triage protocol of Regione Piemonte by comparing it with the already published and internationally used START/Jump START protocol. Compare its accuracy, execution time, over and under triage indices and the influence of any rescuer characteristics in reference to adult and pediatric victims when in use in a simulated multi-casualties event setting.

Method: We conducted a randomized controlled experimental study in a simulation setting. A group of 35 people involved in an incident (volunteer participants) was assessed by a population of trained and untrained healthcare professionals (nursing students and nurses). The participants were randomly divided into two homogenous groups to which the two protocols were explained separately and carried out the simulation in single-blind. Evaluation data were collected and statistically processed. The resulting items were used to compare the accuracy, over- and under-triage rates and any items related to rescuer characteristics for each triage system.

Results: 74 subjects were included in the study. Of these, 56.7% were healthcare professionals in training and 43.4% were trained nurses. Compared to standard criterion definitions, the MCI triage protocol showed a higher accuracy rate than START (88.4% vs 80.4%, $p < 0.01$). MCI triage had a significant lower rate of underestimation compared to START (8.9 vs 13.6%, $p < 0.01$) as well as overestimation (3.2% vs. 6.8%, $p < 0.01$). Time is only correlated with the performance of MCI triage, influencing its accuracy. There were no significant differences in the accuracy of diagnosis in pediatric patients.

Conclusion: We found that MCI method triaged adult patients more often correctly than START method. Underestimation and overestimation were lower than in the control method, although there tended to be a significant overestimation of white codes which were not present in the START system. In the assessment of pediatric patients, the protocols are equivalent.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s29

doi:10.1017/S1049023X23001140

Using a Tabletop Game to Teach Emergency Department Nurses Comprehensive Emergency Management and Hazard Vulnerability Analysis: Influences and Possible Reasons

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Introduction: Comprehensive emergency management (CEM) and hazard vulnerability analysis (HVA) are two vital concepts in hospital emergency management (EM). Teaching these two concepts by lectures may be less effective and interesting. Therefore, a tabletop game was used to teach CEM and HVA. This study aimed to evaluate the effect of teaching and possible reasons.

Method: A tabletop game was created based on the concepts of CEM and HVA. Players of the game needed to manage hospitals against six kinds of emergencies. The impact of each emergency is different. Each hospital in the game has its vulnerability. The game players needed to use different strategies of prevention, mitigation, preparedness, response, and recovery to win the game.

The player's knowledge was tested by 15 yes-no questions (10 points for each question). The interest in further learning and willingness of hospital EM participation were evaluated by questionnaire. The test and questionnaire were conducted before and after the game. Possible reasons for learning by the game were surveyed after the game.

Results: Fifteen emergency department (ED) nurses were taught by the game and completed both pre- and post-game tests and questionnaires. The post-game test average score (103) was significantly higher than the pre-game average score (84) ($p = 0.008$). The participants' interest and willingness also increased significantly after the game. The most frequently mentioned reasons for learning by the game were "the game is more interesting than lectures", "the chance to discuss with other participants in the game", "the chance to see many CEM methods in the game", and "ability to compare with other players".

Conclusion: A well-designed tabletop game can be an effective tool to teach CEM and HVA. The game can increase knowledge, interest in learning, and willingness of CEM participation, and it should be promoted in the future.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s29

doi:10.1017/S1049023X23001152

Novel Design of an Austere Medicine Elective

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Introduction: Clinicians with knowledge, skills and attitudes required in austere environments better serve their patients regardless of setting. Few opportunities traditionally exist for medical students to learn about wilderness, disaster medicine, or environmental illness. Events related to climate, disasters, and COVID-19 reinforce the need for physicians to develop