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Study/Objective: In this study, we aimed to design a questionnaire battery for course and simulation exercise evaluation, and pilot-test the battery by evaluating a course on Advanced Prehospital Trauma Care (APTC).
Background: Many course evaluations suffer from simplistic metrics, such as whether the course participants "enjoyed" the course. In contrast, the current study sought to measure (self-estimated) pre- and post-course knowledge, relevant to specific learning objectives, as well as questions pertaining to specific factors of the simulation exercises used in the course (eg, fidelity/realism, learning objective fit, transferability of tools/procedures, usefulness, among others) were selected based on simulation theory and simulation-based training literature.
Methods: Data were collected during a course on APTC. Twelve students participated. The mean professional experience was 15.5 years. The participants completed an informed consent form prior to the study. They completed a pre-course questionnaire, a post-course questionnaire, and a course evaluation form.
Results: The mean self-estimated improvement in theoretical knowledge pertaining to the course objectives was 8.23 on a 0 to 10 scale, and 8.25 for practical skills. Greatest improvement was in advanced airway management, physiological reactions to hypothermia, pneumothorax interventions, special considerations for patients injured by explosives (eg, blast injuries and burns), and medical decision making during an active shooter scenario. The evaluation of the simulation exercises received high marks (mean rating 4.53 [3.92-4.92] out of 5.0) on all aspects. The participants rated the overall course quality at 4.67 (on a 0 to 5 scale), with the simulations, practical exercises, and the structure of moving from theory to practice being mentioned as particularly positive.
Conclusion: Overall, the results showed that the APTC course received high marks on almost all measured factors. Further validation of the questionnaires is needed before general implementation of the battery can be recommended. Such implementation would benefit diverse course development and quality assurance.

Prehosp Disaster Med 2017;32(Suppl. 1):s222–s223
doi:10.1017/S1049023X17005763

An Electronic Competency-Based Evaluation Tool for Assessing Humanitarian Competencies in a Simulated Exercise

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Study/Objective: To present a novel, competency-based evaluation tool designed for rapid, electronic, offline use in a field-based simulation exercise.
Background: A growing number of humanitarian training programs are using simulation exercises in an effort to train and prepare humanitarians for work in the field. However, few field training exercises include methods and tools designed to assess the essential humanitarian competencies that participants must demonstrate in the SimEx and the field.
Methods: During a three-day humanitarian simulation event, participants in teams of eight to ten were individually evaluated at multiple injects by trained evaluators. Participants were assessed on five competencies and a global rating scale. Participants evaluated both themselves and their team members using the same tool at the end of the SimEx.
Results: All participants (63) were evaluated. A total of 1,008 individual evaluations were completed. There were 90 (9%) missing evaluations. All 63 participants also evaluated themselves and each of their teammates using the same tool. Self-evaluation scores were significantly lower than peer-evaluations, which were significantly lower than evaluators' assessments. Participants with a medical degree, and those with humanitarian work experience of one month or more, scored significantly higher on all competencies assessed by evaluators compared to other participants. Participants with prior humanitarian experience scored higher on competencies regarding operating safely and working effectively as a team member.
Conclusion: This study presents a novel electronic evaluation tool to assess individual performance in five of six globally recognized humanitarian competency domains in a 3-day humanitarian SimEx. When combined with testing knowledge-based competencies, this presents an approach to a comprehensive competency-based assessment that provides an objective measurement of competency. There is an opportunity to advance the use of this tool in future humanitarian training exercises, and potentially in real time, in the field. This could impact the efficiency and effectiveness of humanitarian operations.

Prehosp Disaster Med 2017;32(Suppl. 1):s223
doi:10.1017/S1049023X17005775

A Social Network Analysis of the Emergency Medical Command During a Live CBRNE Exercise

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Study/Objective: During major incidents, it is crucial that all actors in the emergency medical command have correct and