was developed. The most common criticism of ETS was its lack of real patients.

Discussion: Involvement in simulated exercises (e.g. ETS) can increase confidence, knowledge, and skills of staff to manage disasters, with the biggest improvement in confidence. Whilst validating and testing plans, simulations can also uncover opportunities to improve processes and systems.

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The Use of Simulation Games and Tabletop Exercises in Disaster Preparedness Training of Emergency Medicine Residents

Dr. Lourdes Rodriguez Rivera[1,2,3], Dr. Cynthia Rodriguez Rivera[2,3], Dr. Alberto Zabala Soler[1,2], Dr. Rey Pagan Rivera[1,2], Dr. Luis Rodriguez[3], Dr. Carlos Garcia-Gubern[1,2]

1. Ponce Health Sciences University, Ponce, United States
2. Hospital Episcopal San Lucas, Ponce, United States
3. Institute of Public Health, New York Medical College, Valhalla, United States

Introduction: Emergency physicians play a frontline role in hospital disaster responses and require appropriate training.

Aim: The aim of the current study was to pilot and compare the effectiveness of two emergency preparedness teaching interventions: the first employing traditional lecture-based instruction (LEC) and the second utilizing interactive simulation/game-based teaching (SIM).

Methods: A two-group randomized pre- and post-test design was implemented into the didactic curriculum of the Emergency Medicine (EM) Residency Training Program at the San Lucas Episcopal Hospital in Ponce, Puerto Rico. Residents (n=23) completed either a LEC (control) or SIM teaching module (single day, one to two hours) focusing on emergency preparedness concepts, disaster-related clinical decision-making, and physician responsibilities during hospital disaster protocols. Knowledge-based multiple-choice exams and scenario-based competency exams were administered at three different time points: one-week pre-intervention, immediately post-training, and two-weeks post-training. Test scores were compared between groups at each time point using the Mann-Whitney U test.

Results: Following the teaching interventions, no significant differences were found between the LEC group versus the SIM group in knowledge-based exam performance (LEC 81.1%[9.4] vs. SIM 74.9%[12.1]; U=42.50, p=0.15) and scenario-based exam performance (LEC 80.0%[9.7] vs. SIM 80.2%[9.2]; U=62.00, p=0.83), suggesting both teaching methods were similarly effective. Indeed, knowledge-based exam scores improved two-fold and scenario-based exam scores improved by over 50% immediately following training relative to baseline exam scores. Two-weeks post-training, a significant decrease in scenario-based exam performance was found in the LEC group relative to the SIM group (LEC 63.1%[11.6] vs. SIM 75.4%[11.5]; U=91.50, p=0.036), suggesting residents who train with simulations show greater retention of scenario-based concepts compared to those who train with lecture-based training alone.

Discussion: The current study highlights the potential dual value of incorporating simulation training in EM emergency preparedness curriculums in improving both knowledge and concept retention of physician disaster responsibilities.

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