Poster #1

Research Study

Title: "Efficacy of an Escape Room in Reinforcing Advanced Cardiac Life Support Training"

Nicholas B. Conway; John Mark Saunders, MD; Emiri Uchiyama, MD; Gagani Athauda, MD; Juan Manuel Lozano Leon, MD, MSc; Rebecca L. Toonkel, MD

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Introduction and Objective. Training in Advanced Cardiac Life Support (ACLS) is a vital component of medical education. However, data suggests that learners are not satisfied with traditional ACLS learning formats and quickly lose mastery of the knowledge obtained. Our group has developed an online learning module followed by an innovative Escape Room simulation session. Primary objective is to determine if participation in an Escape Room activity improves knowledge on ACLS when compared with an online pre-session module.

Methods. All fourth-year medical students (n=112) in the Class of 2021 participated in an online pre-module and escape room activity. Initially, all students completed a short (16-minute) online learning module on the basics of ACLS followed by a 28-item pre-session quiz. Students then completed a high-fidelity case-based escape room activity consisting of six ten-minute stations incorporating simulators, puzzles, and clues related to ACLS concepts and algorithms. After the activity, students completed the same 28 items as a post-session quiz and a 14-item satisfaction/confidence survey. Pre- and post-session results were compared via paired t-tests

Results. All participants completed pre- and post-session knowledge assessments. Overall mean performance on pre- and post-session assessments was 90.8% (SD 8.5%) vs. 95.8% (SD 5.0%), respectively (p<0.0001). Mean pre- and post-session performance on pharmacology specific items was 86.7% (SD 13.8%) and 92.8% (SD 9.5%), respectively (p<0.0001). 111 participants (99%) completed the post-session confidence survey. On a 7-point Likert scale (1-"Strongly Disagree" through 7-"Strongly Agree"), the mean agreement with the statement "The ACLS module improved my knowledge of medical decision making for patients in cardiac arrest" was 6.6 (SD 0.8). On a 10-point Likert scale, students rated their pre- and post-session confidence in "Addressing a patient in cardiac arrest" at 7.7 (SD 2.1) and 8.4 (SD 1.6), respectively (p=0.0019)

Conclusions-Implications. Participation in the online pre-session module and escape room activity led to significant knowledge gains in ACLS content along with high levels of learner confidence. ACLS pharmacology seems to be the most difficult topic within the field. Future iterations of the session will assess student performance in mock code scenarios to assess tactile skills.