We evaluated a JITT curriculum for the procedures of intraosseous (IO) needle placement and defibrillator use in a pediatric emergency department (ED) by comparing the trainees’ comfort level in performing those procedures independently (Kirkpatrick level 2a) and trainees’ knowledge of the procedures/equipment (Kirkpatrick level 2b) before and after the JITT.

Abstract:

OBJECTIVES: Just-in-time training (JITT) is a method of simulation-based training where the training occurs within the clinical environment in a concise manner. Just-in-time training has shown effects at the learner, patient, and system-wide levels. We evaluated a JITT curriculum for the procedures of intraosseous (IO) needle placement and defibrillator use in a pediatric emergency department (ED) by comparing the trainees’ comfort level in performing those procedures independently (Kirkpatrick level 2a) and trainees’ knowledge of the procedures/equipment (Kirkpatrick level 2b) before and after the JITT.

METHODS: The study enrolled all fourth year medical students and residents (family medicine and pediatrics) who rotated through a children’s hospital ED. The JITT curriculum included group discussion on storage locations of procedure equipment in the ED and clinical indications/contraindications followed by hands-on procedure training. One of 2 attending physicians facilitated the 10- to 20-minute JITT in the ED during their shifts. Trainees completed an anonymous survey to delineate medical training level, previous procedure experiences, procedure-related knowledge, and comfort level to perform the procedures independently. Identical surveys were completed before and after the JITT. The data were analyzed using percentage for categorical variables. For comparisons between pre-JITT and post-JITT survey data, χ tests or Fisher exact tests were used.

RESULTS: There were 65 surveys included (34 pre-JITT and 31 post-JITT surveys). The comfort level to perform procedures independently increased from pre-JITT 0% to post-JITT 48% (P < 0.001) for IO needle placement and from pre-JITT 3% to post-JITT 32% (P = 0.0016) for defibrillator use. The procedure-related knowledge also increased by ≥50% post-JITT (P < 0.0001).

CONCLUSIONS: Our JITT curriculum significantly increased the comfort level of the trainees to perform IO needle insertion and defibrillator use independently. Procedure-related knowledge also increased. By increasing their comfort to perform these procedures independently, we aim to increase the likelihood that trainees can be competent contributing members of an acute medical response team in these respective roles.
Reference:
doi: 10.1097/PEC.0000000000001516.