Evaluation of a Novel Simulation Rotation for Pediatric Residents to Teach Crisis Resource Management Skills

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BACKGROUND

- Pediatric residents have little resuscitation experience and lack knowledge, skills and confidence to lead resuscitations.

OBJECTIVE

- To develop a simulation-based rotation for pediatric residents to improve capability and confidence in crisis resource management skills including leadership, airway and breathing support, circulation and arrhythmia management.

METHODS

- We created a 10-day simulation rotation for 2\(^{nd}\) and 3\(^{rd}\) year pediatric residents (Figure 1).

- Course facilitators developed most simulations, and some were adapted from previous publications.

- Residents completed a pre- and post-course survey that included a five-point Likert scale for self-perceived confidence and capability when approaching a patient needing resuscitation.

- Residents were evaluated with the Concise Assessment of Leader Management (CALM) instrument which evaluates leadership, communication, team management, and medical management (QR code).

RESULTS

- 25 residents completed the simulation rotation –10 were evaluated using the CALM tool and 17 completed the pre/post survey.

- There was significant improvement in the CALM score on the residents’ last simulation as compared to their first simulation (median of 52, interquartile range [IQR] 49-53.5 vs median of 35, IQR 29-37.5, p-value <.002, n=10; Figure 2) indicating improvement in leadership ability at the end of the course.

- Residents also reported significant improvement in self-perceived confidence (median 2 vs 4, p-value < .0002, n=17) and capability (median 2 vs 4, p-value < .0001, n=17) when approaching a patient needing resuscitation before and after the course.

CONCLUSIONS

- A simulation-based rotation for pediatric residents improves leadership skills and self-perceived levels of capability and confidence when approaching a patient resuscitation.

- Future work should focus on assessment of competency and retention of resuscitation skills.