Efficacy of Pediatric Rapid Assessment Simulations on Medical Student Comfort

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Background

Simulation-based medical education (SBME) is a form of experiential learning through which educators simulate various clinical scenarios[1]. In Pediatrics, SBME has been a highly effective educational modality in training residents and healthcare professionals[2, 3]. Despite its efficacy, few data exist to demonstrate SBME effectiveness in enhancing medical student comfort in assessing pediatric patients in a clinical setting. Through this study, we aim to support the efficacy of SBME to enhance clerkship student comfort during initial pediatric patient assessment and reaffirm the utility of SBME in pediatric medical student education.

Objectives

In this study, student comfort was assessed before and after SBME participation in five pediatric clinical scenarios. We hypothesized that participation in SBME would improve medical student comfort in response to pediatric patient presentations.

Methods

IRB approval was obtained and 331 survey responses from University of Maryland medical students during their pediatric clerkship between 2016-2019 were collected pre- and post-simulation of five scenarios (Cases 1-5 respectively): respiratory distress in a child, respiratory distress in an infant, sepsis in a child, stable fever in a child, and seizure in a child. Comfort levels were self-reported on a Likert scale of 1-5: (1) extremely uncomfortable, (2) slightly uncomfortable, (3) neither uncomfortable/comfortable, (4) slightly comfortable, (5) strongly comfortable. The Likert scale afforded the most objective and comparable parameters to assess medical student comfort. Clerkship students participated in the SBME in groups. Survey responses underwent statistical analysis to determine differences in comfort pre- and post-SBME participation.

Results

Figure 1. Mean Change in Comfort Levels Post-SBME

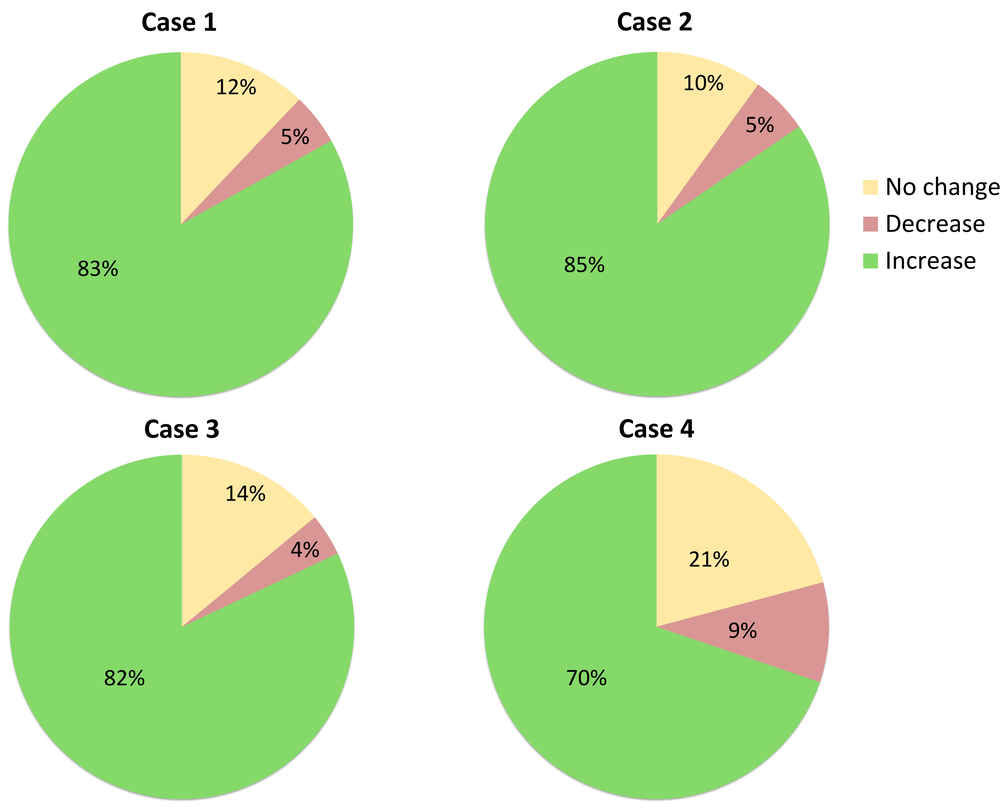
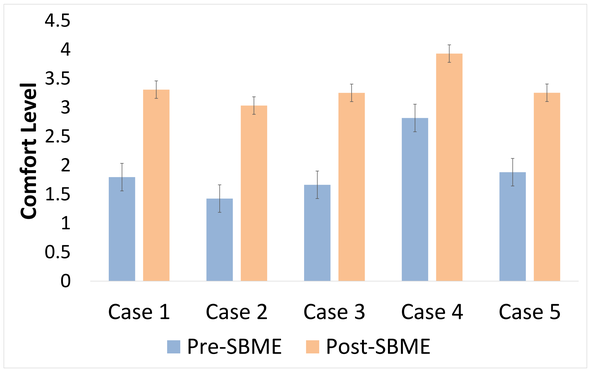


Figure 2. Pre- and Post-SBME Mean Comfort Levels



Discussion

Medical students have little exposure to pediatric patients during the pre-clerkship years. Working with pediatric patients is rather a novel experience for many third year medical students, especially scenarios in which a patient may be acutely ill. SBME aims to expose students to these scenarios and decrease the discomfort associated with these niche experiences. SBME also allows students to learn how to approach situations to which they have not had much previous exposure. The effectiveness of SBME is also rooted in deliberate practice. As students grow more comfortable with exposure and the opportunity to utilize SBME as a form of practice, students will be better equipped to assess these scenarios in the clinical setting. Therefore "comfort" was chosen as the suitable metric to measure the effectiveness of this SBME. In this study, SBME demonstrated effectiveness in improving comfort levels in pediatric clerkship students in five pediatric clinical scenarios. The average pre-SBME comfort scores were below 3, indicating discomfort in all 5 scenarios, while post-SBME comfort scores resulted in averages >3, indicating improved comfort level. While scores demonstrated improvement to a mean positive comfort score, further study regarding continued integration of SBME to fully assimilate pediatric clerkship students may result in even greater improvements in comfort. Overall, SBME is a useful tool in educating medical students and enhancing confidence in clinical skills. Its quick, interactive format can be easily integrated into clerkship curriculum for all medical students.

References

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