

Retained Medical Knowledge in Cardiopulmonary Resuscitation Affected By Simulated Mock Code Blue Session

Rachel Lipner DO

Lehigh Valley Health Network, Rachel.Lipner@lvhn.org

Katie Mastoris DO

Lehigh Valley Health Network, Katie.Mastoris@lvhn.org

Matthew Miles DO

Lehigh Valley Health Network, Matthew.Miles@lvhn.org

Sarah Park DO

Lehigh Valley Health Network, Sarah.Park@lvhn.org

Ryan Rogers DO

Lehigh Valley Health Network, Ryan.Rogers@lvhn.org

See next page for additional authors

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Authors

Rachel Lipner DO; Katie Mastoris DO; Matthew Miles DO; Sarah Park DO; Ryan Rogers DO; Stacey Smith MD, FACP; and Miranda Haslam

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Rachel Lipner, DO; Katie Mastoris, DO; Matthew Miles, DO; Sarah Park, DO; Ryan Rogers, DO; Stacey Smith, MD; Miranda Haslam
Lehigh Valley Health Network, Allentown, Pennsylvania

Introduction

- A key objective of internal medicine residency training is to provide residents with the confidence, exposure, and knowledge to lead a cardiopulmonary resuscitation event (code blue).
- Recent studies have highlighted potential deficiencies in code blue response training, as internal medicine residents have less experience handling cardiopulmonary resuscitation events due to a decreased overall number of in-hospital code blue events (Mickelsol et al.).
- One strategy proposed to combat insufficient experience is simulation training, which has been previously shown effective at yielding improvement in resident code blue responses (Wayne et al.).
- The purpose of this study was to evaluate the impact of mock cardiopulmonary arrest simulation on residents' knowledge of Advanced Cardiovascular Life Support (ACLS) guidelines for in-hospital cardiopulmonary arrest responses.

Methods

This observational quality improvement study utilized a pre-test/post-test design, executed over a one-year duration. Prior to beginning the academic year, 43 internal medicine residents at the LVHN Cedar Crest Campus completed a 20-question survey based on ACLS guidelines that was designed to evaluate clinical knowledge. 14 residents participated in a mock code blue session during their rotation in the Medical ICU. Following the scheduled session, they completed the same clinical knowledge survey. The mean and mode responses to the pre- and post- simulation surveys were analyzed to determine how simulation impacted residents' clinical knowledge.

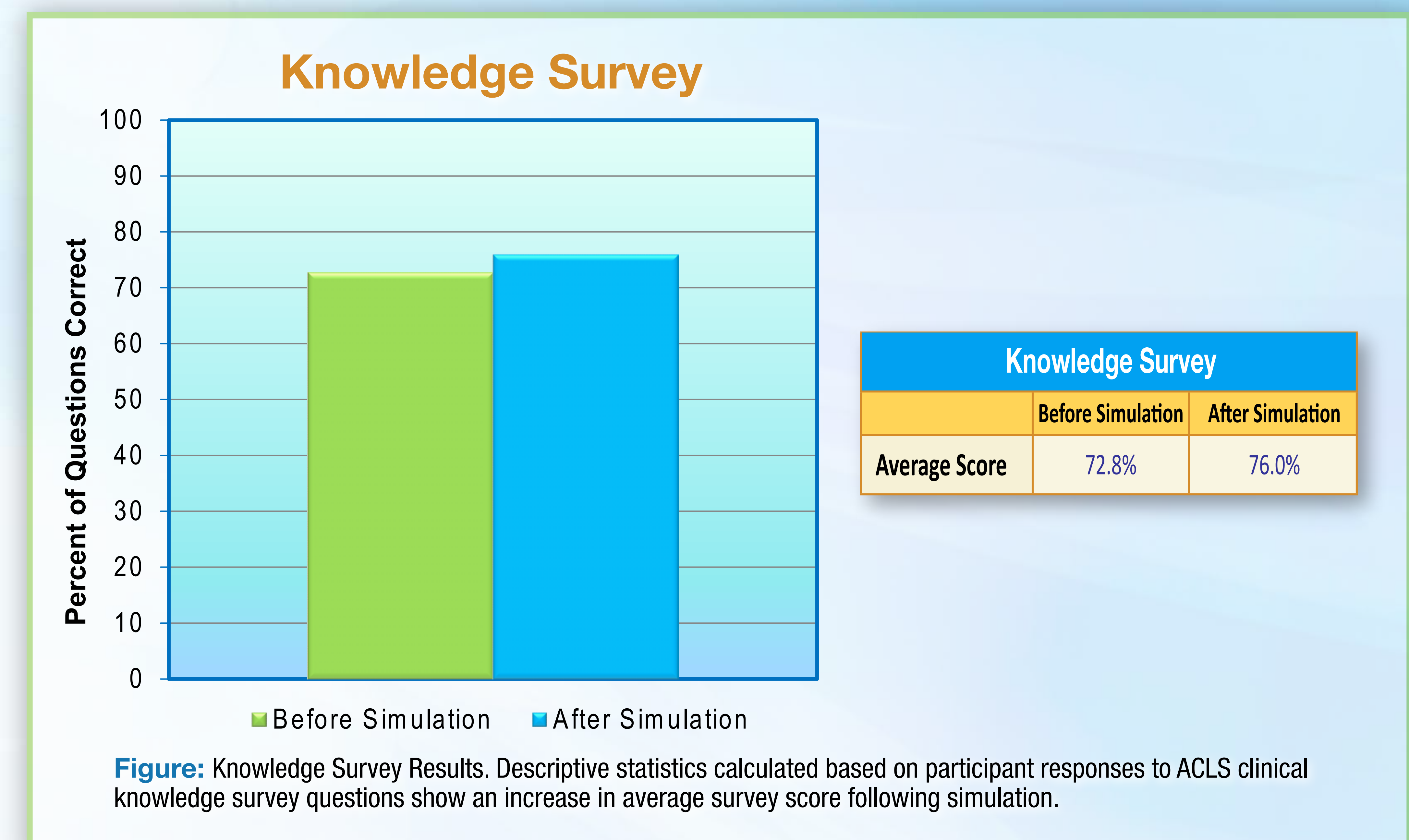


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Results

Prior to simulation, residents answered 72.8% of the ACLS knowledge survey questions correctly. After simulation, residents answered 76.0% of the ACLS knowledge survey questions correctly. The percent of correct responses received increased after simulation for all questions regarding medication selection and dosing, from 67.1% to 87.1%. Additionally, after simulation 100% of residents correctly answered all questions regarding Basic Life Support (BLS) protocol and reading rhythm strips.



Conclusion

- Internal medicine residents' clinical knowledge of ACLS guidelines improved after simulation, indicating that simulation training can be utilized to improve overall adherence to ACLS protocols and ultimately improve patient outcomes during in-hospital cardiopulmonary arrests.
- While scheduling is a common problem with simulation based medical education, as the pressures of clinical duties can often take precedence over simulation sessions (McGaghie et al.), future studies would be strengthened by a greater number of post-simulation survey responses.
- Additionally, the survey administered as part of this study was similar to but shorter than the ACLS certification test taken every three years by physicians, and future studies may benefit from utilizing a longer knowledge survey.

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