Evaluation of the Perceived Effectiveness of Simulation Education for SRNA's

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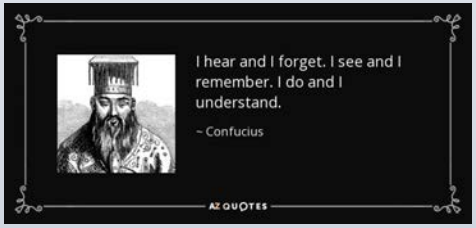
Introduction

The purpose of this quality Improvement project is to evaluate the perceived effectiveness of simulation education to prepare SRNA's for entry to clinical practice.

In this evaluation SRNA's received low-fidelity training for mask ventilation and intubation and three high-fidelity simulated anesthesia inductions with a faculty preceptor. Each SRNA performed a skill check for mask ventilation, intubation, and induction of anesthesia. The third simulation induction was evaluated by academic faculty with the same instrument used in the SRNA's clinical experience. The evaluations in simulation were compared to the clinical evaluations for each student's first month in training. We examined the link between simulation performance with performance in the clinical setting. The goal being to identify methods to improve the SRNA's preparedness to begin clinical training and ease the transition from intensive care registered nurse to SRNA.

Objectives

- To consider the perspectives of the students, faculty and clinical preceptors in identifying methods to predict and improve student success to transfer skills and knowledge gained from simulation as they enter clinical practice
- To link simulation benchmarks with preparedness to enter clinical practice
- To identify students at risk and improve their success in first entry into the clinical setting



Students performed simulated inductions in a realistic operating room set up simulation lab with functional monitors, anesthesia drugs and equipment and anesthesia machine. Anesthesia faculty adjusted high fidelity manikin response to student interventions

Materials and Methods

Using a sample of 27 first year students enrolled in the Nurse Anesthesia Program at Northeastern University in Boston Massachusetts.

Four evaluations were considered:

1. Students self evaluations after completing simulated training
2. Northeastern faculty Likert-scale evaluation of each students performance in simulation
3. Clinical preceptors Likert-scale daily evaluations compiled from the students first month of clinical training
4. Clinical preceptors qualitative evaluations reflecting how well the students were prepared to begin clinical training and explore ways to improve the process

Results

26 SRNA's had Simulation and Clinical Evaluations Compared.
(one student did not begin clinical after simulation training)

- Male: 10 students (36%), Female: 16 students (54%)
- Under 30 years: 14 (54%), 30+ years 12 (46%)

SRNA evaluations:

- 54% requested more time in simulation
- 27% felt less anxious to begin clinical assignments

What simulation experience SRNA's regarded as "most helpful":

- 58% identified practice inductions
- Students also identified practice airway skills and intubation, debriefing, discussing in groups, or observing classmates in simulation as most helpful.

Statistical Analysis of Simulation and Clinical Evaluations.

- Identified 6 of the 26 students scoring needs improvement on one or more simulation items
- No clear pattern to describe them.
- All but 1 of the 6 SRNA's scored below the class median on either skills Assessment or one of two didactic final exams and 1 student was below median on all three.
- 1 student scored at or above the median on all three measures.

Changes from Simulation to Clinical Scores

- The 6 SRNA's who scored "needs improvement" in simulation all improved in clinical scores.
- Majority of students showed improvement over their simulation scores with the largest improvement in professionalism.
- Six students had lower performance in clinical than simulation in the following categories:

~ Anesthesia care plan (2 students),

~Pre-anesthesia assessment, anesthesia induction, anesthetic maintenance anesthesia care plan (1 student each)

Results

Preceptor Evaluations:

- 33% evaluations returned representing 12 of the 26 students
- 75% identified their students as well prepared to enter clinical
- The other 25% identified their students as reasonably well prepared
- Mask ventilation, induction routine and medication knowledge were the areas identified as important in the SRNA's preparation

Conclusions

- Simulation education will continue to be a part of the SRNA preparation to begin clinical practice
- In this review there was no evidence that simulation performance could predict clinical performance
- More research is needed to verify the current teaching techniques and preparation of SRNA to begin clinical training and improve student success

Limitations

- The student subjects are all from the same Nurse Anesthesia Program
- SRNA's are evaluated at 8 clinical sites with different preceptors
- There is variability in rating between preceptors and clinical sites
- One third of the primary clinical preceptors responded to the survey
- The first month of clinical training is a time of limited expectations

Recommendations for Future

- Using a longer time period for clinical evaluations would have yielded different results in this study group therefore I would extend the clinical evaluation in future studies to 3 months
- Larger more diverse study populations from multiple Nurse Anesthesia programs are needed
- Continue to seek input from the clinical preceptors to improve preparation for clinical.

References upon request

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