Background and Significance

- Certified Registered Nurse Anesthetists (CRNAs): highly skilled professionals, trained to be independent providers
- Traditional methods of instruction in a CRNA program: classroom-based didactic instruction (professor-led via PowerPoint), simulation labs, clinical training/direct patient care
- Three primary methods of improving long-term knowledge retention of presented material:
  - Presentation style & formatting
  - Peer-to-peer education
  - Use of audience response systems

Methods

- Design: quasi-experimental, quantitative
  - Three grand rounds sessions created using an evidence-based Rutgers Nurse Anesthesia Program grand rounds framework
  - Current research related to clinical anesthesia
- Sample: 68 Nurse Anesthesia Program residents from three cohorts = varying levels of clinical knowledge
  - Half of group randomly selected to not participate in final presentation
- Measures: two exams after each presentation: immediately post-presentation (baseline/short-term knowledge retention), eight weeks later (long-term retention of presented material)
- Analysis: average exam scores between cohorts and between two points in time compared
  - T-test used to determine significance, \( p < 0.05 \)

Results

- Session 1: Perioperative Fluid Management
  - Exam one and two scores significantly lower among first- and second-year cohorts
  - Average scores of third-year cohort: no significant change

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<th>Year in Program</th>
<th>Participants: Average Exam 1 Score</th>
<th>Average Exam 2 Score</th>
<th>p-value</th>
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- Session 2: Anesthesia in Endoscopy
  - Significantly lower second exam scores in all cohorts

- Session 3: Ventilator Management
  - Significantly higher recall of information among participants than non-participants in first-year cohort
  - Significantly higher exam scores of participant group at eight weeks post-presentation

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<th>Average Exam 2 Score</th>
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- Perception Survey:
  - 85.3% response rate
  - 100%: RRNA presenters “extremely” or “very” effective
  - 100%: grand rounds will “definitely” or “probably” help to better recall discussed information in clinical practice
  - 100%: grand rounds “definitely” or “probably” were delivered in a relaxed, low-stress environment

Discussion, Conclusions, and Implications for Clinical Practice

- Many of the project objectives were met:
  - Most participants felt that peer teaching methods were effective and low-stress
  - Significantly higher exam scores of participant group vs. non-participant at 8 weeks post-presentation
- Limitations/Confounding Variables:
  - Virtual vs. in-person presentation
  - Variable response rates (64% to 100%)
  - Exam/survey fatigue, convenience sampling
  - Third year cohort: highest baseline classroom and clinical knowledge
- Grand rounds: delivered to residents through different phases of their training, providing opportunity to relate info to their own clinical experience and that of their peers
- A formalized grand rounds program can supplement traditional anesthesia provider education

References

Please scan QR code to retrieve references

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