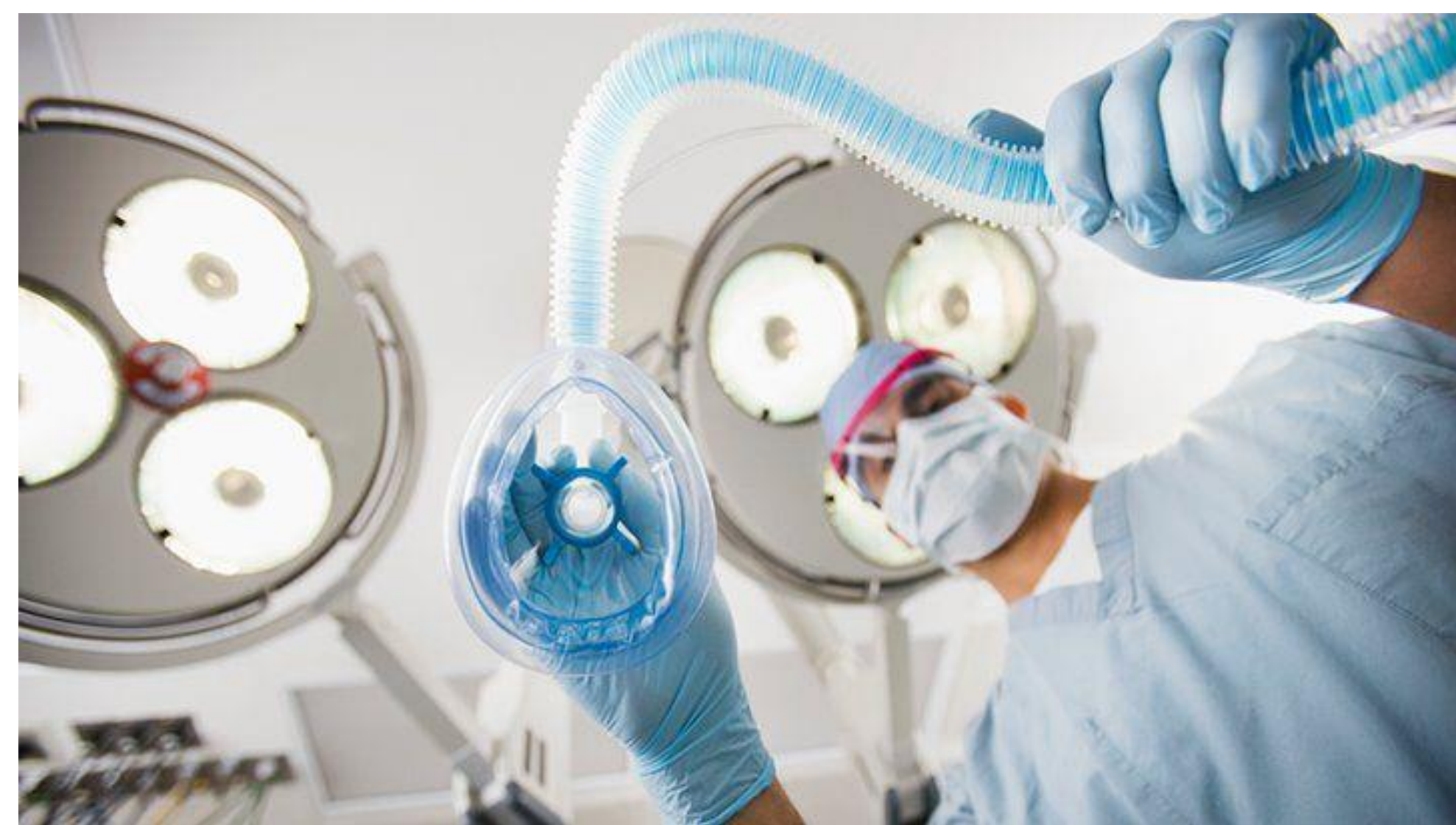


Background and Significance

- 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

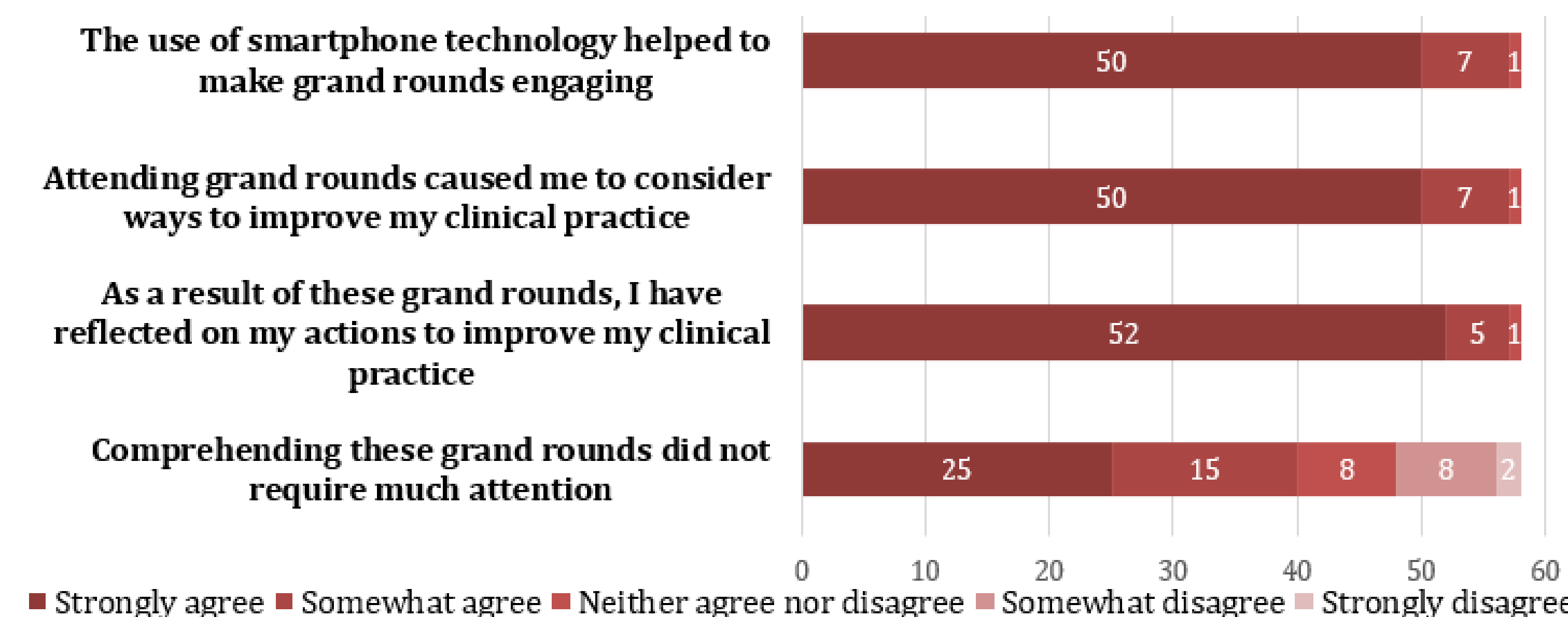
- Session 1: Perioperative Fluid Management
 - Exam one and two scores significantly lower among first- and second-year cohorts
 - Average scores of third-year cohort: no significant change

Year in Anesthesia Program	Number of participants: Exam 1	Average Exam 1 Score	Number of Participants: Exam 2	Average Exam 2 Score	p-value
1	24	82.63	14	68.21	0.019
2	24	83.57	20	60.6	-0.00004
3	19	89.27	17	83.5	0.217

- 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

Year in Anesthesia Program	Participants: Average Exam 1 Score	Non-participants: Average Exam 1 Score	p-value	Participants: Average Exam 2 Score	Non-participants: Average Exam 2 Score	p-value
1	100	51.4	8.52E-07	58.3	39.6	0.14
2	91.7	85	0.31	92.6	77.1	0.12
3	95.8	90.5	0.35	83.3	75.9	0.55

- 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



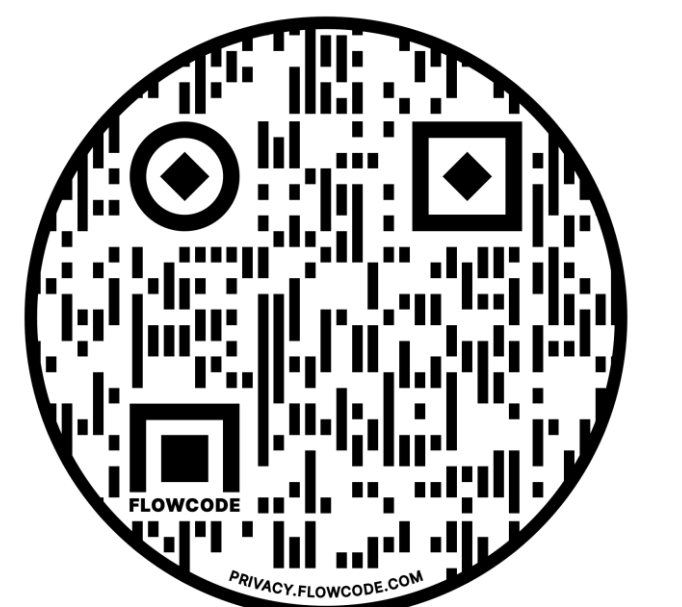
Discussion, Conclusions, and Implications for Clinical Practice

- 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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