The Use of Anesthesia Emergency Manuals for Intraoperative Crises

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Introduction

- Emergency manuals & crisis checklists are increasingly becoming a topic of discussion in anesthesia
- It has been estimated that for every 10,000 surgical operations, there are 145 OR crises per year
- Approximately 50% of adverse events that occur in the OR are avoidable errors
- Utilization of cognitive aids during life & death situations in the OR proves to be a valuable resource in improving patient outcomes and preventing adverse events
- Many practitioners choose not to utilize these aids during emergency situations
- Evidence suggests simulation training utilizing a cognitive aid enhances proper management of a crisis, leading to their increased use and maximized positive outcomes for emergent situations
- Simulation-based training incorporating cognitive aids will enhance utilization of these tools in future emergency situations in the operating-room

Background & Significance

- Anesthesia providers are often faced with new responsibilities & alterations in patient management
- High stress conditions impair clinicians’ ability to elicit evidence-based courses of management in an organized & timely manner
- Recall & prospective memory of even the most experienced providers’ declines during stressful situations
- Clinicians are expected to make important decisions quickly, while providing well-coordinated & precise care
- Time, efficiency, & execution of vital actions can be the distinction between life or death in OR emergencies
- Emergency manuals introduced in anesthesia have improved compliance to guidelines during emergencies and improves patient outcomes
- Practitioners who are introduced to cognitive aids during simulation training are more likely to use these checklists in a real emergency

Problem Statement

- Although evidence supports EM use, there are several barriers to their adoption & implementation
- Lack of awareness & knowledge of the benefit of EMs
- Lack of uniformity in introducing & implementing EMs with hospital staff
- Practitioner pride
- If SRNAs & CRNAs are educated about EMs & their efficiency is reinforced through simulation, both SRNAs & CRNAs will be more likely to utilize the EMs in professional practice

Design

- Qualitative research design
- CRNAs & SRNAs will be presented with a Stanford Anesthesia Emergency Manual
- An immediate pre-survey, immediate post-implementation survey & follow-up survey will be given to assess participants' likelihood & actual implementation into clinical practice

Setting

- Implementation was held at Rutgers University Newark Campus on September 16th & September 23rd 2019 in the simulation lab on the 10th floor
- An additional implementation was held at the New Jersey Association of Nurse Anesthetists (NJANA) fall meeting on October 4th & 5th, 2019 which was located at the Renaissance Woodbridge Hotel in Iselin, New Jersey

Study Population

- Volunteer CRNAs & SRNAs who attend the NJANA fall meeting
- Volunteer SRNAs who are currently enrolled in the doctoral nurse anesthesia program at Rutgers University
- Exclusion criteria: SRNAs who are not yet in clinical & CRNAs who are no longer practicing
- Total Population: 45 SRNAs from Rutgers University & 100 CRNAs/SRNAs at the NJANA fall meeting
- Sample Population: 54 volunteer CRNAs & SRNAs

Measures

- Data collected from the pre-surveys, post-surveys, & follow-up surveys
- The pre-survey assesses a baseline assessment on participants knowledge & use of EM in their current clinical experience. It also provides the participants opinions on the usefulness of EMs and if they would consider actual use in practice.
- The post-survey given after the presentation and simulations will collect the same data, which will be useful in evaluating the intervention.
- The follow-up survey will assess the continued acceptance and utilization of EMs in the clinical area, which further supports the intervention.

Analysis

- Convenience sampling to achieve a statistically significant sample size
- Descriptive statistical analysis was performed to interpret the data

Discussion

- An increased amount of critical steps were carried out when using the EM than when utilizing memory alone, during crisis simulations.
- Study interventions seemed to increase the willingness of future use of EMs during real OR emergency situations, as per survey responses
- Implications for Clinical Practice: utilizing EMs in real OR crisis situations will improve efficiency & management of patient care, thus leading to improved patient outcomes & decreased incurred hospital costs
- Implications for Healthcare Policy: Support & policies from both anesthesia & nursing administration/leadership will be needed to support the continued use of EMs during crises.
- Implications for Education: Simulations, although hard to coordinate in large institutions, may prove to be beneficial to maintain EM use over time.
- Implications for Quality/Safety: Debriefing after crises should occur with discussions of EM use. Management should be included, so they can learn ways to improve future use of EMs.

Results

- Pre-survey
- Post-survey
- Consideration of Emergency Manual Utilization During a Crisis
- Follow-up survey

References