Patient Safety and Capnography Monitoring: What do PACU Nurses Think?

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Introduction: Capnography monitoring is the standard for ICU intubated patients, those under anesthesia or procedural sedation, individuals using a PCA, and during CPR. However, despite its value in evaluating a patient's ventilation, it is not routinely used in the post-anesthesia care unit (PACU).

Identification of the Problem: Patients have an increased risk of airway compromise following surgery, related to anesthesia, analgesics, and underlying comorbidities. Adding capnography monitoring offers a more comprehensive assessment of ventilation, enhancing patient safety and demonstrating the potential to prevent up to 97% of postoperative respiratory depression events (Deng et al., 2021).

Purpose of the Study: This study evaluates nurses' knowledge and attitudes regarding capnography monitoring in the PACU. The results will inform future capnography policies and procedures.

Methodology: This study used a pre- and post-intervention design with 28 nurses who provided care to adult patients in the PACU. A validated survey assessed nurses' knowledge of capnography monitoring for PACU patients before and after an educational intervention. Additionally, a nursing attitude survey regarding capnography use in the PACU was administered following the intervention.

Results: No statistically significant differences were identified between the pre- and post-knowledge survey results. The nursing attitude survey revealed a statistically significant positive Pearson correlation between years of nursing practice (YONP) and age; YONP and capnography feedback immediately following surgery; YONP and capnography feedback in the context of comorbidities; and YONP and capnography data in unstable patients.

Discussion: The study found a high baseline of nursing knowledge regarding best practices for capnography monitoring in the PACU. Areas of opportunity for increased knowledge regarding how specific patient conditions, such as asthma, pulmonary embolism, or hypovolemia, affect capnography waveforms were identified. Nurses with more experience and older age groups reported valuing capnography feedback more than younger, less experienced nurses, especially for monitoring in complex clinical situations.

Conclusion: Drawing on the knowledge and experience of senior nurses may support best practices and enhance patient safety in capnography use within the PACU.

Implications for perianesthesia nurses and future research: Subsequent educational initiatives should focus on underlying patient conditions that may impact capnography readings and waveforms. This preliminary data may serve as a basis for developing updated policies and procedures regarding capnography application in the post-anesthesia care unit (PACU).