End-Tidal Capnography Use by Registered Nurses in a Rural Appalachian Acute Care Hospital

Andrew James Leslie, MSN, BSN, ASN, RN, PHRN, CEN

The importance of capnography is well-documented in the literature. Capnography has the potential to increase airway safety (Harvey & Thomas, 2011), and should be used from intubation to extubation (Cook, Woodall, Harper, & Benger, 2011). The study answered the research question: “What are the perceived barriers that registered nurses in a rural Pennsylvanian hospital have to the utilization of end-tidal capnography?”. The study examined the perceived barriers that registered nurses in a rural Pennsylvania hospital have to the utilization of end-tidal capnography. The data obtained from this research project revealed that the majority of nurses would not understand what they were doing, why they were doing it, and what the results of capnography readings meant. The study’s findings support the importance of capnography in the critical care areas and the need for increased training on the subject of capnography. The proposed solution to counter the perceived barrier of inadequate training identified in this study is to increase training on the topic of end-tidal capnography to the nurses responsible for implementing its use at the study hospital. To simply implement a policy change requiring the usage of capnography would not be effective, or safe for patients, because the majority of nurses would not understand what they were doing or using. The provision of adequate training on the subject of end-tidal capnography would ensure the nurses understood what they were doing, why they were doing it, and what the results of capnography meant, so that the patients being cared for would receive quality evidence-based care. The research project found that the responding participants differed in their opinion that they had received adequate training on capnography. Further research is needed to identify the specific learning deficits that exist. The successful implementation of capnography in critical care areas requires evaluation of the unit’s learning needs by nursing administration, and proper education of the staff, perhaps by unit champions (Wilson, Thomas, 2010). Capnography has the potential to improve airway safety (Harvey & Thomas, 2010), and by identifying the perceived barriers that rural Appalachian nurses have to its utilization, patients in rural critical care areas can benefit from this technology.

Introduction

Results

Design and Methodology

Data Analysis

Discussion

Conclusions

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Figure 1. Educational Background of Participants

Figure 2. Length of Nursing Career of Participants

Figure 3. Seek Out New Technology

Figure 4. Knowing the Indications and Results of End-Tidal Capnography Use by Registered Nurses in a Rural Appalachian Acute Care Hospital

Figure 5. Training on Indications for Capnography

Figure 6. Knowledge of Using Capnography Equipment

Figure 7. Adequate Training on Equipment Data Analysis

Figure 8. Understanding the Clinical Significance of Capnography

Figure 9. Changing Practice Habits Based on Evidence-based Research

Figure 10. Changing Practice Habits Based on Hospital Policy

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