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Evaluation of Perceived Importance, Competence, Confidence, and Satisfaction in the Implementation of Moderate Sedation by Interventional Radiology Nurses

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A B S T R A C T

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In interventional radiology (IR), registered nurses provide moderate sedation under the direction of the provider performing the procedure. The nurses identified a need to have more standardized education and training, inclusive of clinical issues, such as airway management, distress, capnography, and others. As nurse-administered moderate sedation continues to advance in part because of advances in IR procedures, nurses will need thorough continuing education to ensure safe and quality care for their patients. The purpose of this study was to explore educational interventions that will assist IR nurses administering moderate sedation in their perceived importance, knowledge, confidence, competence, and satisfaction. A pre/post survey intervention design was used to assess the change in nurses' perceived importance, confidence, competence, and satisfaction after an American Nurses Credentialing Center (ANCC)-approved educational online program and an airway management practicum by the Department of Anesthesia. Statistically significant findings from pre to post ANCC educational program including, specifically, the airway management training with anesthesia personnel had a p value of $<.001$ before and after educational practicum. Findings support an ANCC-approved online education and airway practicum with anesthesia personnel to become the standardized moderate sedation orientation for all IR nurses within the department.

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Introduction

Recognizing the unpredictability of patients' response to moderate sedation, The Joint Commission (TJC) recommends that qualified individuals administering sedation must possess education, training, and experience in evaluating patients before moderate and deep sedation. They must have the ability to rescue patients who may have slipped into deeper sedation than desired; manage a compromised airway; and handle a compromised cardiovascular system during a procedure (TJC, 2017). TJC

encourages the organization to collaborate with the Department of Anesthesiology in developing educational programs and resources (American Nurses Association [ANA], 2010).

At our institution, greater than 80% of the sedation given in interventional radiology (IR) is administered by nurses. Interdepartmentally, there are more than 20 nurses and 10 privileged licensed practitioners involved with the delivery of moderate sedation. The use of proficient nonanesthesia personnel for moderate sedation is a cost-effective practice that offers the IR nurses a unique opportunity to use their critical care skills on a daily basis.

Background

At our institution, the IR nurses have a long history of delivering most moderate sedation. Every nurse in IR is required to have some type of critical care background and experience. Historically, nursing competency is measured with reliance on annual competency examinations and the one time demonstration of the technical skill set required for the task. According to Allen et al. (2008), this way of

This research was conducted at Mercy Medical Center, 345 St Paul Street, Baltimore, MD. During the data collection phase of this study, Elizabeth Riley was the Director of Critical Care Services and currently, she has retired and serves as a Nursing Administration Volunteer.

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assessing competency does not evaluate the true abilities or the understanding of the science behind the desired set of skills.

The American Society of Anesthesiologist requires that nurses involved in the delivery of moderate sedation and analgesia be experienced in advanced cardiovascular life support (ACLS) and airway management (Caperelli-White & Urman, 2014). To validate competence, didactics with a post-test and proof of ACLS certification were required annually. All IR nurses had no difficulty successfully completing this prerequisite and were considered competent in the administration of moderate sedation.

Despite this validation of nurses' competencies, concern was voiced over the varying degrees of comfort levels of the individual nurses administering moderate sedation. The subject was raised by the nurses during a care delivery discussion at the monthly shared governance meeting. The IR director, who was present, agreed and stated that the radiologists were also feeling uncomfortable with the confidence of some of the nurses. For example, physicians were requesting certain nurses over others for their cases because of their perceived expertise. These nurses tend to be the ones who were in the original training for moderate sedation many years ago and had been working side by side with these physicians for many years. Furthermore, the department had grown dramatically over the years. The original six nurses were now 24, and the case mix was more complicated with patients having more comorbidities than in the past. Issues relating to moderate sedation between the doctors and nurses became a constant underlying irritant between them. The impact of this tension was evidenced by the 2013 nursing satisfaction scores related to registered nurse (RN)-physician (MD) interactions, where IR, for the first time, fell below the national benchmark (National Database of Nursing Quality Indicators [NDNQI], 2015). It became increasingly clear on investigation by the nurse manager that the decline in nursing satisfaction as related to RN-MD interactions pointed solely to the disagreements between doctors and nurses over moderate sedation administration. The focus of this study was to explore interventions that would assist IR nurses administering moderate sedation in their knowledge, confidence, competence, and satisfaction.

Literature review

As the practice of procedural moderate sedation and analgesia continues to evolve and expand through research and technology, nurses providing moderate sedation will need rigorous continuing education to enhance their training and ensure safe and quality care for their patients (Jest & Tonge, 2011). Organizations define the required types of rescue including a satisfactory score on a written examination; however, experts in the field are calling for a formal credentialing process for nurses delivering moderate sedation (Murphy, 2013; TJC, 2017). The ANA endorses TJC recommendation that advanced airway skills, within the nursing scope of practice, can be learned with anesthesiologist or certified registered nurse anesthetist (CRNA) support and become a demonstrated competency (ANA, 2014).

Guidelines for sedation by nonanesthetists lack clarity and are inconsistent with regard to staff preparedness and training (McCoy et al., 2013). There is very little in terms of a universally accepted program of education for practitioners using or introducing moderate sedation into their practice. There are no indicators or measures of quality available for sedation services delivered by nonanesthesia providers. As the number of procedures requiring moderate sedation continues to grow, each facility must establish evidence-based policies to ensure patient safety (Caperelli-White & Urman, 2014). The literature supports structured education and training in tandem with demonstrated competency to improve the confidence and competence of the sedating nurse (ANA, 2014; Castle, Garton, & Kenward,

2007). Although, recent evidence could not be found to appropriately assess the confidence needed to perform moderate sedation administration specifically, it has been shown that moderating factors, such as competence, continuously influence the cycle enmeshed in the process on evolving confidence. There are times that confidence levels decrease depending on the contextual setting, subject, or situation in question. Individual perceptions or self-doubt of efficacy defined by certain environments have been found to effect confidence negatively (Perry, 2011; p. 218).

Using Roger's Diffusion of Innovation Theory as a framework in creating a comprehensive training and competency program, the staff could choose early adopters to work through various training methods, in terms of complexity and compatibility, before implementing on the entire unit (Rogers, 2003). This framework provided the ability to trial and error without sacrificing quality or safety (Swanson-Fisher, 2004).

Study purpose

The purpose of the study is to evaluate perceived importance, competence, confidence, and satisfaction, in implementing a moderate sedation protocol among IR nurses.

Research question

Is there a difference in perceived importance, confidence, competence, satisfaction, and knowledge after an educational online program by the American Association of Moderate Sedation Nurses (AAMSN) and an airway management practicum with anesthesiologist/CRNA before and after educational interventions?

Hypothesis

There will be an increase in significance in perception of importance, confidence, competence, satisfaction, and knowledge after an educational online program by AAMSN and airway management practicum with anesthesiologist/CRNA between pre- and posteducational interventions.

Method

Design

A pre/post survey intervention design was used to assess change in the nurses' perceived importance, confidence, competence, and satisfaction after an educational online program by AAMSN and airway management practicum by an anesthesiologist/CRNA before and after educational interventions. A convenience sample was obtained.

Sample/Inclusion and Exclusion

All interventional radiology nurses (n = 24) who perform moderate sedation were included in this study. Nurses who did not perform moderate sedation in the IR department were excluded.

Procedure

A full institutional review board review was completed, and the study was approved. Following the Health Insurance Portability and Accountability Act regulation, the protocol was discussed with the subjects before implementing the interventions including the purpose of the study. The subjects were assigned a code to maintain privacy and confidentiality. The potential participants had the

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