



***NorthShore University HealthSystem
School of Nurse Anesthesia
&
DePaul University School of Nursing
2020 DNP Projects***

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ADAM CONLON BSN, R

***Medical Cannabis:
Knowledge, Beliefs and
Attitudes of Certified
Registered Nurse Anesthetists***

BACKGROUND

Patients who require anesthesia may have a history of using medical cannabis (MC). Illinois has had a MC program since 2013 and legalized recreational use on January 1, 2020.

OBJECTIVES

Certified Registered Nurse Anesthetists (CRNA) and Student Registered Nurse Anesthetists (SRNAs) in Illinois need to be adept at discussing MC with their patients and understand how this class of medication affects anesthesia. Multi-modal approaches to control pain are becoming the standard of care inside and outside of the operating room. It may be that MC will be found useful in narcotic-sparing approaches to anesthesia. Knowledge, beliefs and attitudes of CRNAs and SRNAs should be assessed so that an educational approach that meets their needs can be devised.

METHODS

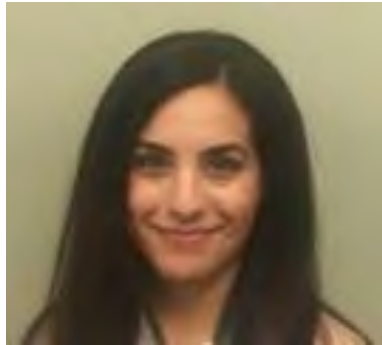
A survey was adapted from a previous study and disseminated via email to members of the Illinois Association of Nurse Anesthetists (IANA). Data from the survey was collected using Qualtrics and was evaluated using Statistical Package for the Social Sciences (SPSS) version 25.0.

CONCLUSIONS

Survey respondents reported that it was important for anesthetists to understand how cannabinoids work and that formal training was essential. Education about MC should be included in CRNA education and continuing medical education (CME).



AMANDA GALIK BSN, RN



VICTORIA SHINK BSN, RN

***Intraoperative
Management of
Lumbar Cerebrospinal
Fluid Drains: A
Reference Tool***

BACKGROUND

Lumbar cerebrospinal fluid (CSF) drains are utilized for patients suffering from neurosurgical and complex aortic conditions; the mismanagement of these drains can lead to increased morbidity and mortality.

OBJECTIVES

To develop a reference tool for basic intraoperative management of lumbar CSF drains and determine if certified registered nurse anesthetist (CRNA) and student registered nurse anesthetist (SRNA) knowledge was improved with its use.

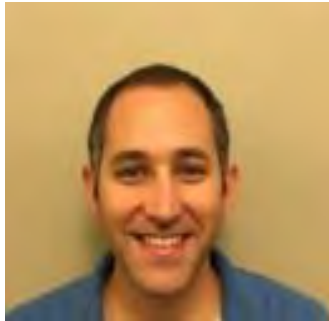
METHODS

This study utilized a pre-test/post-test design. A total of 40 CRNAs and SRNAs participated in this study;

CONCLUSIONS

The pre-test revealed significant knowledge gaps in question areas including normal CSF pressure values, drain guidelines and troubleshooting, perfusion pressure calculations, stopcock position, and drainage guidelines. This study established the use of an educational reference tool provides an improvement in knowledge for both SRNAs and CRNAs despite specialization, years of experience, and yearly number of lumbar drains managed. Recommendations for further research include a conducting a higher powered study to allow for greater generalization, evaluation of real-time intraoperative use, as well as obtaining participants feedback on the tool's ease of use.

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MAX BADER BSN, RN



JOHN GOCKMAN BSN, RN

***Improved
Representation and
Effective
Communication
Positively Impact the
Nursing Education
Experience of Male
Student and Certified
Nurse Anesthetists***

BACKGROUND

Men are an underrepresented group within nursing and numerous studies describe gender barriers faced by men in nursing school and clinical practice.

OBJECTIVES

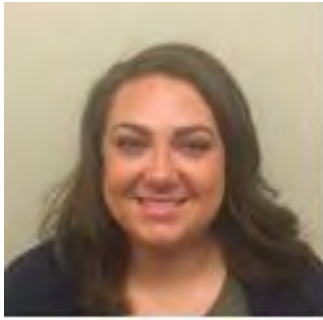
The purpose of this study was to investigate past experiences with gender barriers among male student registered nurse anesthetists and certified registered nurse anesthetists in their educational and professional careers.

METHODS

This was a descriptive, quantitative study using a survey methodology. Students and certified nurse anesthetists who were members of the Illinois Association of Nurse Anesthetists (IANA) were recruited via email and voluntarily completed the web-based Inventory of Male Friendliness in Nursing Programs 23-item survey. Most of the respondents were white with an average age of 47.83 years. 62.8% of the respondents were over 40 years old.

CONCLUSIONS

Male SRNAs and CRNAs in Illinois experience gender barriers during their nursing education. The men surveyed identified lack of male representation in nursing, few opportunities to form mentorship relationships with male RNs and faculty, and communication differences between men and women as contributing factors to perceived gender barriers. Greater attention to the needs of male nursing students could help men transition to the nursing role more easily and improve the representation of men in the field overall.



TRICIA OAKES BSN, RN



ELISABETH PREHMI BSN, RN

***IMPLEMENTING
POSITIVE LANGUAGE
IN ANESTHESIA:
UTILIZING THE
COMFORT SCALE***

BACKGROUND

Verbal numeric pain scales (ranking pain on a scale from zero to ten) are widely utilized in medicine, research has shown that verbal numeric comfort scales are as effective but much less utilized.

OBJECTIVES

The purpose of this study is to assess the impact of a video-based educational tool demonstrating the use of a comfort scale in the perioperative setting among nurse anesthesia trainees (NATs), and to examine sociodemographic factors and knowledge score for any significant association with the NATs' willingness to incorporate the verbal numerical rating scale (VNRS) comfort scale into practice.

METHODS

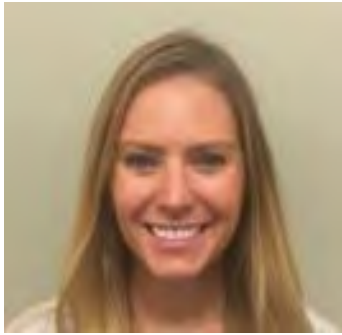
A pre-test, post-test study design was used for the conduct of the study. Fifty-six NATs from NorthShore University HealthSystem School of Nurse Anesthesia completed the pre- and post-test surveys that examined the effects of the video on the participants' knowledge regarding the use of the VNRS comfort scale.

RESULTS

The paired t test analysis revealed a statistically significant difference in the means score between the pre- and post-test surveys ($p < 0.01$; $t = -10.44$; $df = 55$). Additionally, on the post-test, 100% of NATs ($n = 56$) responded that yes, they would incorporate the comfort scale into their practice.

CONCLUSIONS

This could have significant impacts on future interactions with patients, as providers may be more inclined to use the comfort scale in their practice.



NATALIA IZQUERDO BSN, RN



EMILY MANCEWICZ BSN, RN

***CRNAS AND
SUGAMMADEX USE:
A QUALITATIVE
ANALYSIS***

BACKGROUND

The availability of Sugammadex has increased options for Certified Registered Nurse Anesthetists' (CRNAs) and their choice of neuromuscular reversal agents, however administration is impacted by a variety of provider and institutional factors.

OBJECTIVES

The purpose of this study was to examine and describe the personal and institutional factors impacting the use of Sugammadex in Illinois by CRNAs.

METHODS

A qualitative study design using an open-ended survey yielded 209 responses. The three main themes that emerged were 1) Why CRNAs choose to use or avoid Sugammadex 2) How CRNAs dose Sugammadex and 3) Practice variations existing within the clinical setting. The most commonly reported subthemes included depth of blockade/dosing of paralytic, underlying disease pathology, size of the patient, and cost considerations or availability at their institution.

CONCLUSIONS

Based upon these main themes and subthemes, it is recommended that institution wide policies be created to reduce variability in provider administration practices if Sugammadex is not widely accepted as standard reversal.

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AMANDA HEMPLE BSN, RN



JESSICA ROGERS BSN, RN

EVALUATION OF HEALTH AND WELLNESS EDUCATION COMPONENTS, MODALITIES AND TIMING ON SRNA SELF-EFFICACY AND COPING

BACKGROUND

Health and wellness education is touted as a tool for improved self-efficacy and coping for student registered nurse anesthetists but the details of the effectiveness remain unclear.

OBJECTIVES

Evaluate effects of content, modalities and timing of health and wellness education on the self-efficacy and coping mechanisms of students in a nurse anesthesia training program.

METHODS

Survey responses from 159 participants were collected online. Participants identified their General Self-Efficacy Score (GSE), Brief COPE score, average daily stress, health and wellness education components and the timing and modalities in which they were delivered, and if they assessed their education as adequate.

CONCLUSIONS

An adequate assessment of health and wellness education reflected a higher number of components delivered. Lower GSE scores were correlated with COPE avoidance behavior and higher scores correlated with positive thinking. This study established opportunity for the development of more frequent and focused health and wellness education from nurse anesthesia training programs and monitoring of student self-efficacy and coping mechanisms.



ABIGAIL HADLEY BSN, RN



OLIVIA NASSOIY BSN, RN

***THE EFFECTS OF
GUIDED MEDITATION
ON THE STRESS
LEVELS OF STUDENT
REGISTERED NURSE
ANESTHETISTS***

BACKGROUND

Student Registered Nurse Anesthetists (SRNAs) cope with both academic and clinical stressors which can lead to an increase in stress, anxiety and depression. ¹ The literature demonstrates that guided meditation is a useful tool that can be integrated into daily life to help decrease stress and improve well-being.

OBJECTIVES

The purpose of this DNP project was to describe the level of stress among SRNAs and examine the relationship between a guided meditation intervention and self-reported stress, depression, wellness, and self-efficacy among second year SRNAs.

METHODS

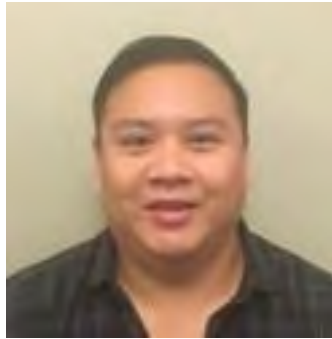
The participants were second year anesthesia students attending NorthShore University School of Nurse Anesthesia. A pre and post survey design was used to measure the impact of six, five-minute guided meditation sessions on the self-reported stress levels amongst SRNAs over a 15-week period. The 10-question survey was based on the Perceived Stress Scale (PSS). The pre-survey was disseminated prior to the first guided meditation intervention. Due to COVID-19 and class cancellations, the post-survey and final intervention were sent via email to all second year SRNAs.

CONCLUSIONS

Results showed no evidence of decreased stress levels from pre to post-survey responses. The post-survey included three additional questions relating to the application of guided meditation into their practice. Most students agreed that they would use guided meditation in their future clinical practice for stress reduction. Additionally, 66.6% noticed an improvement in concentration after the guided meditation. Lastly, 77% agreed that guided meditation should be implemented into the curriculum. Our study found that future research needs to be completed to review the use of guided meditation for stress reduction among SRNAs.



AUSTIN TUCKER BSN, RN



JAMES WONG MSN, RN

***Item Bank
Development and
Testing of the
Perioperative Non-
Opioid Modalities
Questionnaire:
A Pilot Study***

BACKGROUND

There are validated tools available to identify surgical patients at risk of persistent opioid use, as well as protocols to decrease perioperative opioid use. However, there are no validated tools to assess the barriers and facilitators to using non-opioid modalities for the treatment of perioperative pain.

OBJECTIVES

The purpose of this study was to develop the item bank for a new instrument entitled the Perioperative Non-Opioid Modalities (PNOM) questionnaire, and examine its initial psychometric properties. The PNOM was designed to examine barriers, moderators, and facilitators surrounding the nurse anesthetists' use of non-opioid modalities for the treatment of perioperative pain.

METHODS

A quantitative, survey study design was used in this pilot study of the PNOM questionnaire with a 7-point Likert type scale. Forty-two CRNAs completed the investigator-developed PNOM questionnaire then, subsequently, twenty-two of these CRNA's completed the PNOM again to determine the stability of their responses using the test/retest reliability procedure.

CONCLUSIONS

The PNOM questionnaire has shown preliminary reliability and validity as a tool to assess these barriers and facilitators. A validation study of the PNOM questionnaire is now underway to establish its reliability and validity as a clinical tool to examine the knowledge and opinions of CRNAs on the use of non-opioid modalities to curb the opioid epidemic. In its final iteration, it may be used in assessment of barriers and facilitators of non-opioid modality use, and the development of educational and training needs of the anesthesia provider in order to promote the use of non-opioid modalities.



FREDRICH RAZ BSN, RN



KRISTOPHER TORIBIO BSN, RN

***USE OF FIBEROPTIC
INTUBATION
SIMULATION TO
ENHANCE SKILL AND
CONFIDENCE AMONG
ANESTHESIA
PROVIDERS***

BACKGROUND

Anesthesia providers may lack confidence in using a fiberoptic (FO) scope since it is rarely used in the clinical setting, which provides an opportunity for re-training via simulation.

OBJECTIVES

The purpose of this study was to describe the usefulness of a video-recorded low-fidelity FO intubation simulation and its effect on anesthesia providers' confidence and skill in performing FO intubation.

METHODS

The study was conducted during the 2019 Illinois Association of Nurse Anesthetists (IANA) Airway Workshop using a post-test only study design. Participants who volunteered for the simulation were asked to watch a video-recorded instruction on FO intubation. After viewing the video, the participants completed a hands-on simulation while the investigators recorded their FO intubation times. Participants were allowed up to three recorded attempts.

CONCLUSIONS

The simulation enhanced anesthesia providers' skill and confidence in FO intubation and was found useful by the participants.



ROSS PHILLIPS BSN, RN

**CRNA CLINICAL INSTRUCTORS
KNOWLEDGE, BELIEFS,
ATTITUDES AND PRACTICES
ON PIMPING IN SRNA
CLINICAL EDUCATION**

BACKGROUND

Inquiry and research aimed to detail the prevalence of pimping in the clinical setting has been exposed within the medical community among students, but minimally among those instructing students and within the profession of nurse anesthesia.

OBJECTIVES

The study examined the knowledge, beliefs, attitudes, and practices of certified registered nurse anesthetist (CRNA) clinical instructors about the educational technique of pimping for student registered nurse anesthetist (SRNA) education, and explored the association between the sociodemographic factors of CRNA participants and their perceived beliefs and attitudes toward the practice of pimping.

METHODS

The study utilized a descriptive, cross-sectional design using a quantitative online survey and included Illinois CRNA clinical instructors of SRNAs who are members of the Illinois Association of Nurse Anesthetists. The survey included sociodemographic and pimping questionnaires adapted to fit the context of SRNA clinical education.

CONCLUSIONS

The study found a minority of CRNA clinical instructors report using pimping as an educational modality. Pimping does not appear to empower SRNAs, nor does it engender positive clinical instruction to cultivate confidence among future CRNAs. Harboring potential intimidating teaching methodologies among instructors has as much of an impact on learning as does teaching with positivity, support, and constructive teaching methods. Studies examining instructional techniques that support SRNAs learning needs are warranted. A closer look into strategies that can strengthen the position of clinical instructors as a support system for SRNAs is needed more than ever and we all have a role, voice, and responsibility in its progression.



RACHAEL TSE BSN, RN



MICHAEL QUIDORT BSN, RN

***MALIGNANT
HYPERTHERMIA
SIMULATION***

BACKGROUND

Malignant hyperthermia (MH) is a life-threatening condition in which survival is highly dependent on early recognition and prompt treatment. The purpose of this DNP project was to examine the impact of an in vivo high-fidelity malignant hyperthermia simulation and its impact on CRNA confidence in crisis management.

OBJECTIVES

Our objectives were to examine whether a high-fidelity simulation training exercise improved CRNAs' confidence in identifying signs and symptoms of MH, management and confidence in teamwork dynamics, including establishing and delegating roles, and confidence in ability to prioritize interventions during a MH crisis?

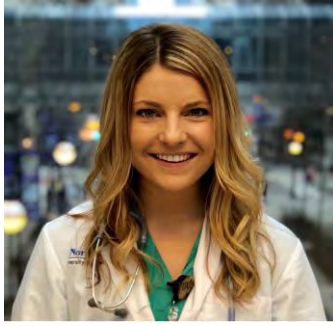
METHODS

A multigroup pre/post survey design was used to compare CRNA confidence in the management of a MH crisis. The study included a volunteer CRNAs from Advocate Christ Medical Center in Chicago IL. Participants were asked to complete a pre survey measuring confidence in the management of MH, prior to a high fidelity simulation, focused on MH crisis management. Following the simulation, a debriefing was facilitated and participants were then asked to complete a post survey.

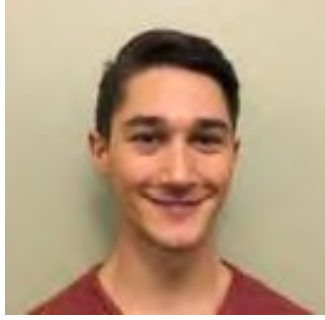
CONCLUSIONS

Three simulations were conducted to obtain a total of nine CRNA surveys. This pilot study demonstrated utilizing high fidelity simulation had a positive impact on CRNA confidence in MH crisis management. There is a need for a larger, multi-facility study in order to provide additional information on the efficacy of high-fidelity simulation on MH crisis management.

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MORGAN LEWIS BSN, RN



GARRETT SAWYER BSN, RN

CORRELATION OF MOBILE DEVICE APPLICATION USE DURING STUDENT REGISTERED NURSE ANESTHETIST TRAINING AND FIRST TIME NCE PASS RATES

BACKGROUND

Mobile devices offer access to a wide variety of medical references which are widely used by certified registered nurse anesthetists (CRNAs) and trainees. Previous research suggests that these mobile reference apps are quick, easy, and effective ways to access information but questions have been raised about students' reliance on these external references.

OBJECTIVES

This study aimed to examine whether there was a statistically significant correlation between the use of mobile apps while in nurse anesthesia training and the likelihood of a student registered nurse anesthetist (SRNA) to pass the National Certification Exam (NCE) on their first attempt.

METHODS

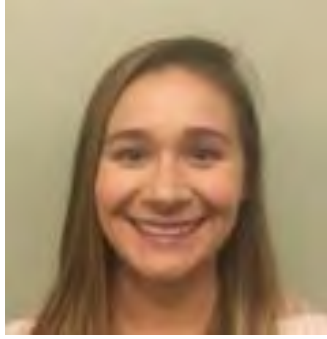
A descriptive, cross-sectional online survey design was used to identify SRNA behaviors associated with medical reference (MR) app usage during clinical training, and determine whether any correlation exists between MR app usage and test performance.

CONCLUSIONS

Younger CRNAs and SRNAs are more likely to use their phones as a medical reference. SRNAs used MR apps slightly more often than CRNAs, and are more likely to look up specific medications, specific surgical procedures, and perform clinical calculations. The study findings demonstrated no correlation between frequency of MR app usage and first-time passage of the NCE. Further studies incorporating GPA and other known predictors for the 1st time attempt pass rate in the NCE are warranted.



SHELLY PARKER BSN, RN



NICOLE STRODE BSN, RN

***ASSESSING CERTIFIED
REGISTERED NURSE
ANESTHETISTS'
KNOWLEDGE AND
UTILIZATION OF
REGIONAL OXIMETRY***

BACKGROUND

Regional oximetry (rSO₂) is a continuous, noninvasive monitor of tissue oxygen delivery and utilization. Anesthesia providers use rSO₂ to assess regional perfusion in adult and pediatric surgical patients. rSO₂ can be applied to improve post-surgical and anesthetic outcomes. rSO₂ monitoring utilization is currently limited in anesthesia practice.

OBJECTIVES

The objective of this study was to examine Illinois Certified Registered Nurse Anesthetists' (CRNA) current knowledge and utilization of rSO₂ and evaluate the impact of an educational tool on CRNA knowledge and prospective utilization of rSO₂ intraoperatively.

METHODS

Descriptive pre- and post-online survey methodology was used to provide quantitative information regarding the utility of an educational tool to assess improvement in knowledge and prospective utilization of rSO₂ among Illinois CRNAs.

CONCLUSIONS

Pre-survey data found deficient knowledge among Illinois CRNAs. After viewing the educational tool, an increase in knowledge from pre- to post-survey mean scores was demonstrated. Study participants' prospective utilization of rSO₂ in anesthesia practice increased by 51%. An educational tool improved knowledge and prospective utilization, but a follow up study is necessary to determine actual increase in rSO₂ utilization.