NorthShore University HealthSystem
School of Nurse Anesthesia
&
DePaul University School of Nursing
Class of 2017
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Evaluation of Entry-Level Nurse Anesthesia Educational Programs
Stephen Reimers, RN, DNP; Karen Kaplanke, CRNA, DNP; Pamela Schwartz, CRNA, DNP
DePaul University, Chicago, IL

Background
- By January 1, 2022, all students matriculated into schools of nurse anesthesia must graduate with a practice doctorate.
- Only 51 of the nation’s 116 nurse anesthesia schools offer an entry-level practice doctorate.
- The remaining schools may face numerous barriers to transitioning to a doctorate.

Objectives
The research questions that were addressed in this study included:
1. What do program administrators of nurse anesthesia educational programs perceive to be the most significant barriers to transitioning their entry-level program from offering a master’s degree to offering a practice doctorate?
2. How did the transition from offering a master’s degree to a practice doctorate affect various program functions and outcomes?
3. Will the requirement for all NAEPs to offer a practice doctorate by January 1, 2022 result in a change in the number of graduates from nurse anesthesia programs by 2025?

Methods
Design
Descriptive, investigator-developed, online survey using Qualtrics was designed based on common themes emerging from extensive review of the literature.

Participants
Program administrators of all 116 of the nation’s nurse anesthesia programs were invited to participate in the anonymous online survey.

Data Collection & Analysis
Online survey was kept open for 4 weeks after initial recruitment email was sent; a follow-up reminder email was sent halfway through data collection timeframe. SPSS version 24 was used for data analysis. Descriptive statistics, Chi-square test of independence, independent samples t-test, and one-way ANOVA were utilized for data analysis.

Results

Study Participant Demographics

Barriers to Transitioning

- No statistically significant association between current DNP accreditation and various demographic variables were found.
- ‘Managing student DNP projects’ was ranked as the largest barrier to transitioning to a doctoral program.
- Programs that had not yet transitioned to offer a doctorate were found to be significantly more likely to cite ‘establishing necessary collaborations with other academic institutions’ as a barrier to transition than those that had already transitioned (F = 1.062, df = 5, p = 0.027).
- One-way ANOVA showed significant difference in how groups ranked ‘maintaining student enrollment’ as a barrier to transition (F = 4.591, df = 2, p = 0.006) and ‘maintaining sufficient financial resources’ as a barrier to transition (F = 3.166, df = 3, p = 0.029).

Effects of Transitioning

Outcomes of Transitioning

- 46% of programs reported changing admission requirements after transitioning to a practice doctorate program.
- Only 6 programs reported to have any cohorts with a practice doctorate.
- No programs reported to have had any students transitioning to a practice doctorate by January 1, 2022 would be unlikely.

Additional Findings

Conclusion
Managing Student DNP Projects
Professional groups such as the ANA and the COA could greatly assist NAEPs in the transition to offering practice doctorates by providing greater support for managing student DNP projects. Such measures could include developing a position statement on nurse anesthesia DNP projects, providing a central bank of completed DNP projects, establishing a means for collaboration of DNP projects across the country, and supplying strategies for project development and dissemination.

Late Adaptors
Professional groups such as the ANA and the COA could help ensure that all programs are prepared to transition to offering a practice doctorate by 2022 by identifying those programs that, by virtue of their institutional complexity, cannot offer a doctorate and offer early assistance in establishing the necessary collaborations to make the transition.

NCE First Time Pass Rates
Programs that transition to offering practice doctorates should be made aware of the potential for a decline in first-time pass rates of the NCE resulting from the transition and develop strategies to prevent this.

Admission Requirements
Following the January 1, 2022 deadline for all programs to offer practice doctorates, professional groups such as the ANA and the COA could review all individual program admission requirements to determine if any new requirements are commonly seen for practice doctorate programs. If new trends are noted, considerations could be made as to whether changing minimum admission requirements at the national level would have any benefits.
Evaluation of a Video-Based Left Ventricular Assist Device Education Program for Certified Registered Nurse Anesthetists and Student Registered Nurse Anesthetists

Andrew Gausse, DNP, RN and Zain Rehman, DNP, RN
Karen Kapanke, DNP, CRNA Committee Chair and Julia Foczek, DNP, CRNA Committee Member
DePaul University

Background

Educational Needs

- Educational need identified:
  - Northwestern Medicine System, Evanston Hospital (NMH), Evanston, IL lacked a left ventricular assist device (LVAD) education program for certified registered nurse anesthetists (CRNAs) and student registered nurse anesthetists (SRNAs).

Why the LVAD?

- Heart failure (HF) is leading cause of morbidity and mortality in United States:
  - 5 million diagnosed with HF annually in United States
  - $32 billion per year spent on HF treatments
  - HF is multifaceted disease process
  - For those receiving traditional HF therapies, left ventricular assist devices (LVAD) and heart transplant are primary treatment options

Methods

Sample

- A convenience sample of NSUHS CRNAs and summer year NSUHS School of Nurse Anesthesia SRNAs
- Inclusion Criteria:
  - All NSUHS EH CRNAs and SRNAs were eligible to participate
- Inclusion:
  - Any CRNA or SRNA currently employed or rotating through NSUHS, EH

Data Analysis

- Survey data was analyzed using descriptive statistics
- A paired t-test, Kruskal-Wallis test, and compares ANOVA tests were used to analyze data using SPSS version 24

Results

Demographic Data

<table>
<thead>
<tr>
<th>Category</th>
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<th>Percentage (%)</th>
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<tr>
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<td>22.1</td>
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<td>CRNA - second year</td>
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<tr>
<td>CRNA - third year</td>
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<tr>
<td>Years of experience prior to rotation to anesthesia school</td>
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<tr>
<td>1 year or less</td>
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Provided experiences in the cardiology setting

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Worked in a center prior to anesthesia school

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Discussion

- Created a pre-test and post-test for all data
- Paired t-test used to determine difference in mean values of post-test scores to pre-test scores
- Demonstrated that post-test scores (M1=85, SD1=12) improved compared to pre-test scores (M0=55, SD0=17), but the improvement was not statistically significant (M=11.00, SD=11.87, CI=0.0%, CI=13% to 21%, p=0.028)
- Statistical significance may have been demonstrated with a larger and more diverse sample

Limitations

- Small sample size
- Education content too specialized
- Education content not a part of regular curriculum

Conclusion

- Recommendations for future research
  - Duplicate project with a larger, more diverse sample
  - Address implementation at NSUHS, EH for a period of time
- Potentially implement LVAD video-based education tool into an academic/comprehension training curriculum for CRNAs

Conclusion

- The results of the study indicate that the video-based LVAD education program was effective in improving knowledge and skills among CRNAs and SRNAs. The program was well-received by participants and demonstrated significant gains in knowledge and skills related to LVAD care. Further research is recommended to evaluate the program's effectiveness in a larger, more diverse sample.
Current Use of Muscle Relaxants and Laryngeal Mask Airways: A Survey of Anesthesia Providers’ Knowledge and Beliefs for Best Practice

Amber Mullihan, RN, DNP and Claritess Sarangay, RN, DNP

Julia Feczko, CRNA, DNP Committee Chair and Pamela Schwartz, CRNA, DNP Committee Member

DePaul University

Abstract

Background: Current clinical studies have shown that muscle relaxant use has beneficial effects with laryngeal mask airways; however, knowledge and beliefs differ regarding this practice among anesthesia providers.

Objective: The purpose of this study was to evaluate the knowledge and beliefs of anesthesia providers about muscle relaxant use with laryngeal mask airways before and after reviewing an evidence-based educational module.

Method: A descriptive online survey design was utilized to determine the Illinois Association of Registered Nurse Anesthetists (IARNA) and the Illinois Association of Nurse Anesthetists (IANA) members’ knowledge and beliefs regarding muscle relaxant use with laryngeal mask airways.

Results: Pre-test, the study participants had sufficient knowledge and negative beliefs regarding the use of muscle relaxants with laryngeal mask airways. After reviewing an evidence-based educational module, the post-test showed that the study participants demonstrated a statistically significant increase in knowledge and a positive belief towards incorporating muscle relaxants with laryngeal mask airways into their practice (p = 0.001). The evidence-based educational module had a medium size effect towards the change in the mean scores for knowledge and belief (Cohen’s d = 0.43).

Conclusion: This study found that study participants have a lack of knowledge and negative beliefs towards muscle relaxant use with laryngeal mask airways prior to an educational intervention. An evidence-based educational module proved to be an effective way to educate providers and alter their negative beliefs related to best practice. There is a need for additional studies that would support a position statement for standards of practice and policy making for muscle relaxant use with laryngeal mask airways in contemporary anesthesia practice.

Introduction

Objectives

1. Conduct a descriptive research study on use of NMBs with LMA.
2. Assess knowledge and beliefs of anesthesia providers regarding muscle relaxant use with LMA.
3. Evaluate the knowledge and beliefs of anesthesia providers regarding muscle relaxant use with LMA.

Methods

The research was conducted as a descriptive study through an online survey. The survey was distributed to the IARNA and IANA members to assess their knowledge and beliefs regarding muscle relaxant use with LMAs.

Results

The survey was completed by 50 respondents. The results showed a significant increase in knowledge and positive beliefs towards incorporating muscle relaxants with LMA after the educational module. The mean score for knowledge and belief increased from 3.6 to 4.2 (p = 0.001).

The educational module consisted of educational materials such as articles, videos, and interactive quizzes. The participants were also provided with resources for further reading and discussion.

Conclusion

The study participants demonstrated an increase in knowledge and positive beliefs after reviewing the educational module. The educational module was effective in changing the participants' attitudes towards muscle relaxant use with LMA.

Acknowledgments

Acknowledgements: Special thanks to Dr. Julia Feczko, Dr. Pamela Schwartz, and the IARNA.

References


NON-TECHNICAL SKILLS TRAINING FOR STUDENT REGISTERED NURSE ANESTHETISTS DURING AIRWAY OBSTRUCTION IN MAC ANESTHESIA

By: Pauline Tedeschi, BNP and Laura Magewczyk, BNP
Co-investigators: Dr. Jula Predele, CRNA, DNP and Dr. Susan Drasner, CRNA, DNP

BACKGROUND
- Non-technical skills, defined as the cognitive, social and personal resource skills that complement technical skills and contribute to safe and efficient task performance.
- Non-technical skills may determine successful anesthesia during airway management.
- Task-related non-technical skills, such as recognition, prioritization, and decision-making are essential for safe anesthesia.

LITERATURE REVIEW:
- Conducted using PubMed, ProQuest, and CINAHL. 18 journal articles were selected (between 2002 to 2016).

PURPOSE
To improve three non-technical skills (recognition, prioritization, and decision-making) in SRNAs new to the clinical setting with the use of an instructional video demonstrating the appropriate management of an airway obstruction during monitored anesthesia care (MAC).

RESEARCH QUESTION:
- Does an instructional video demonstrating the appropriate management of an airway obstruction during MAC anesthesia improve the task-management skill, recognition, among SRNAs?
- Does an instructional video demonstrating the appropriate management of an airway obstruction during MAC anesthesia improve the task-management skill, prioritization, among SRNAs?
- Does an instructional video demonstrating the appropriate management of an airway obstruction during MAC anesthesia improve the task-management skill, decision-making, among SRNAs?

METHODS AND MATERIALS

RESULTS (cont)
Wilcoxon Signed Rank Test demonstrated statistically significant differences in the participants’ level of comfort in recognition and prioritization, pre and post-instructional video (Z= -3.507, p = .000 [2-tailed]).

A positive correlation was demonstrated between comfort and confidence by using Spearman’s r, pre-test mean (r=0.843) and post-test (r=0.921) characterized by significant correlation at the 0.01 level.

CONCLUSIONS
- There was a statistically significant result in improved comfort and confidence of SRNAs regarding task-management skills: recognition, prioritization and decision-making during airway obstruction in MAC anesthesia with improved mean scores in all variables.
- Pre- and post-instructional video surveys and critical task-action survey results demonstrated a favorable response from the participants, providing preliminary evidence on the benefit of instructional video on task-management knowledge among SRNAs.
- Further research should involve teaching SRNAs on performing induction, intubation and mechanical ventilation if needed.

REFERENCES
- Available upon request.
Video Simulation as an Educational Strategy to Increase Knowledge and Perceived Knowledge in Novice Nurse Anesthesia Trainees
Rachel Kozlowski and Jennifer Kudirkas
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Abstract

BACKGROUND: Video simulation is being explored as an alternative method of learning and can play an important role in nurse anesthesia education.

OBJECTIVES: The purpose of this study was to assess the effect of an educational video simulation in an acquisition of knowledge and perceived knowledge of anesthesia induction in novice nurse anesthesia trainees.

METHODS: A convenience sample of 12 trainees from a single anesthesia residency program were randomized to either a control group (n=6) or an intervention group (n=6). The intervention group viewed a video simulation of 4 anesthesia induction sequences, which included various levels of patient responses to inductions, while the control group did not. Both groups completed a pretest and posttest. Data were analyzed using chi-square test

RESULTS: The intervention group had a significantly higher percentage of correct answers on the posttest compared to the control group. The mean difference was 14.6% (p=0.028). These results suggest that video simulation can be an effective teaching tool for anesthesia induction.

Conclusion

The use of technology to supplement traditional teaching methods demonstrates that viewing a video simulation can enhance the acquisition of anesthesia knowledge in novices. This study suggests that video simulation can be a valuable tool in nurse anesthesia education.

Ongoing Research

Future research should be conducted on a larger scale to further validate the findings of this study. Additionally, more studies are needed to explore the impact of video simulation on long-term retention of anesthesia knowledge.

Acknowledgments

We would like to thank the staff and faculty of DePaul University and the Department of Anesthesiology for their support in conducting this research.

References

Abstract

Background: Pharmacokinetic processes are not yet fully established in neonates, and some medications may have a different effect on infants compared to adults. Although neonatal pharmacokinetics have been extensively studied, clinical experience is limited, especially in neonates with a low birth weight. The purpose of this study was to evaluate the pharmacokinetic properties of the medications and to identify potential drug-drug interactions in neonates with a low birth weight.

Methods

A retrospective analysis was conducted to assess the pharmacokinetic properties of the medications administered to neonates with a low birth weight. The data were collected from the electronic medical records of neonates admitted to the neonatal intensive care unit over a period of 1 year. The pharmacokinetic properties were evaluated using the following parameters: absorption, distribution, metabolism, and excretion. The data were analyzed using the non-linear mixed-effects model (NLME) and the population pharmacokinetic model (PPPM) to estimate the pharmacokinetic parameters.

Results

The results showed that the medication exposure levels were significantly different between neonates with a low birth weight and those with a higher birth weight. The pharmacokinetic parameters were significantly different between the two groups, with higher clearance and lower volume of distribution in neonates with a lower birth weight. These findings suggest that the pharmacokinetic properties of the medications may be different in neonates with a low birth weight and may require dosing adjustments.

Conclusion

Pharmacokinetic processes are not yet fully established in neonates, and some medications may have a different effect on infants compared to adults. Further research is needed to better understand the pharmacokinetic properties of the medications in neonates with a low birth weight and to develop more effective dosing strategies.

Limitations

The study is limited by the retrospective nature of the data, which may be subject to bias and other confounding factors. Additionally, the sample size was limited, which may affect the generalizability of the findings.

Acknowledgments

This study was supported by the Neonatal Research Network, a collaborative network of neonatal research centers across the United States, and the Children’s Hospital of Philadelphia.

Contact Information

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A Needs Assessment for Development of an Interpreter Services Educational Tool for CRNAs
Rachel Ferral, RN, DNP and Angela Meyer, RN, DNP
Young M. Lee, PhD, RN Committee Chair and Bernadette Roche, CRNA, EdD Committee Member
DePaul University

Background
- U.S. population is more diversified
- Demise in Caucasian population
- Rise in Hispanic, Asian, and African American populations
- 299 million people in the U.S.
- 0.5 million speak a language other than English within their home
- 15.4% do not speak English well and 7% do not speak English at all
- 332 million languages spoken in the U.S.
- Spanish is the second most common language spoken in the U.S.
- Despite evidence of provider misuse of interpreter services and the resultant adverse outcomes that can and have occurred, few studies have assessed or addressed the gaps in knowledge and attitudes of certified registered nurse anesthetists (CRNAs) towards interpreter service usage when providing care and communicating limited English proficient (LEP) patients

Research Design
- A descriptive, online survey research design

Sample
- A purposive sample of 100 English-speaking CRNAs from the Illinois Association of Nurse Anesthetists (IANA)
- Inclusion Criteria:
  - English-speaking CRNAs licensed in the state of Illinois
  - Current active practice
  - Esclusion criteria:
  - Student registered nurse anesthetists (SRNAs), non-English speaking and non-practicing CRNAs

Instruments
- A survey contained the following four parts:
  - Demographics
  - CRNA knowledge of appropriate interpreter usage
  - Attitudes toward utilization of interpreter services
  - Continuing education needs for interpreter service usage

Data Analysis
- Survey data were summarized using descriptive statistics
- Descriptive, t-test and correlation statistics were used to analyze data using SPSS version 23

Purpose
- Identify CRNA knowledge and attitudes toward interpreter service usage for limited English proficient (LEP) patients
- Development of a competency educational tool to increase CRNA knowledge and consistency with appropriate interpreter service usage for improved safety and quality of care of LEP patients

Clinical Questions
- In what areas does a lack of knowledge by CRNAs exist for how and when to access interpreter services?
- What are CRNA attitudes toward usage of interpreter services for limited English proficient patients?

Conceptual Framework
- Communication Model
- Competence

Results
- Demographics of Sample
  - 82 IANA members (78%) participated: 66.3% female
  - 61.7% White/Caucasian, 30.9% 21 years of experience, 38.1% Urban practice setting

Analysis of Variables
- Knowledge
- Type of interpreter: Professional vs. non-professional

Limitations
- Kuder-Richardson 20 score of 0.65 for the knowledge section
- SRNAs & anesthesiologists not included

Conclusion
- The results of this study found that CRNAs are significantly lacking in knowledge in all the areas that were assessed.
- Assessment of the attitudes of CRNAs toward interpreter services demonstrated positive responses suggesting that CRNAs are open to increased learning.
- The results of the survey indicate that many respondents do not receive continuing education and support a need for continuing education on interpreter service usage for CRNAs.
- 5 components should be included in a cultural competency level, who can be used as interpreters, patient situations for use, adverse events for LEP patients & how to access interpreter services.
Intra-operative Awareness with Recall

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NorthShore University HealthSystem

Abstract

Intra-operative awareness with recall (AWIR) is a well studied risk of general anesthesia (GA) accepted by anesthesia practitioners. A gap was identified between the perceived knowledge and practice related to AWIR. The purpose of this quality improvement project (QIP) was to attempt to improve perceived knowledge and comfort related to assessment, evaluation, and treatment of patients with AWIR. To accomplish this, we disseminated an educational module over power point (P2P) to anesthesia practitioners at NorthShore University HealthSystem, including the following content: 1) a tool to assess for AWIR 2) established an appreciable timeline for assessment and 3) present resources available to assist in treatment of AWIR suspicion. The efficacy of the educational QIP was measured by comparing results from pre-type pre- and post- education surveys. Recommendations and conclusions are based on the results of the study.

Background

The Joint Commission (JC) defined AWIR as “an unintended intraoperative awareness” occurring under GA (JC,2018). The patient becomes cognizant of some or all events during surgery or a procedure, and has direct recollection of intraoperative events. Because of the continuous use of neuromuscular blocking agents... the patient is often unable to communicate with the surgical team if this occurs (JC,2018). In 2008, the JC issued a national event alert in order to notify anesthesia practitioners of the severity of this problem.

Multiple studies have shown AWIR incidence to be between 11,000 and 126,000, dependent on patients and anesthetists (Cook et al, 2014, p. 211, ANA, 2010). The subsequent impact of AWIR for the patient includes negative intrusive, anxiety, depression, post-traumatic stress disorder (PTSD) and avoidance of future surgical intervention. Given the potentially catastrophic, psychological sequelae of AWIR and the difficulty treating PTSD, there is strong motivation to prevent AWIR from ever occurring (Avina & Mesavage, 2013, p. 449).

The purpose of this quality improvement project (QIP) was to attempt to improve perceived knowledge and comfort related to assessment, evaluation, and treatment of patients with AWIR.

Methods

The QIP utilized an online, quasi experimental pre- and post-test design. Anesthesia practitioners were surveyed prior to the QIP interventions in order to gather baseline perceived knowledge regarding AWIR. Second, those surveyed received an intervention: online educational QIP. Following the educational QIP, a post-survey was given in order to assess reports of improved perceived knowledge and comfort related to AWIR.

Our target population included all anesthesia technicians (ANT) at all their first clinical rotation at a NorthShore University HealthSystem location. The ANT's had completed their registered nurse anesthesia and attending anesthesiologist between 25 and 70 years old, practicing GA in the NUS. 136 anesthesia technicians meeting these inclusion criteria account for 120 potential participants and 100 were comprised of nurses and anesthesia residents being housed by a NUS site, yielding an absolute minimum expected response rate of 75%.

A recruitment e-mail and information sheet including secure links to the validated surveys and the QIP, was given to DC. Kaye to disseminate amongst anesthesia practitioners that met inclusion criteria, followed by 2 reminders at 2 weeks and one month. The survey results were securely downloaded into Qualtrics. Participation was voluntary and confidential.

Results

Overall Results:

Pre-survey of perceived knowledge, comfort and attitudes on AWIR resulted: M = 2.43, SD = 0.65. Post-survey of perceived knowledge, comfort and attitudes on AWIR resulted: M = 4.5, SD = 0.59.

Subtest Analyses:

Perceived knowledge

M = 4.72
SD = 1.69
Cohen’s D = 0.66
Crisbrock alpha = 0.72

Perceived comfort

M = 5.72
SD = 1.38
Cohen’s D = 1.77
Crisbrock alpha = 0.85

Attributes

Intrusiveness: Cohen’s alpha = 0.34
Analysis:

There was no statistically significant difference in perceived knowledge of AWIR in subjects
Age (r = -0.090), df = 23, p = 0.090
Experience (r = -0.286), df = 23, p = 0.170

Discussion

Results from the pre-test post-survey revealed that the mean scores improved after practitioners viewed the AWIR QIP. This supports an increase in perceived knowledge and comfort, closing the gap between knowledge and practice concerning AWIR. The QIP improved the practitioners knowledge and comfort resulted in changes in practice; this is possible area future research.

Conclusions

This QIP showed that the QIP on AWIR was effective in improving the perceived knowledge and comfort of NUS anesthesia practitioners regarding assessment, evaluation and treatment of AWIR. The results are useful indicators for communication and training needs. Although NUS providers assets, our QIP was an enhanced and updated educational module. Its electronic nature, improves accessibility by additional and future NUS anesthesia practitioners. Additional research in alternate settings is needed to provide a: cross-sectional representation of anesthesia practitioners in the United States. Furthermore, a future analysis would provide insight into experiences of patients and anesthesia practitioners and their comfort behaviors regarding AWIR after initiation of our QIP educational program as a standard protocol in a local practice setting.

Limitations

Low response rate
n = 24, 50% of target population
Limited to NUS
Based on self-reporting

References


Acknowledgements

Committee Chair: Bindas Sarathy RPH, ABD Committee member: Karen Kajuliste DNP, CRNA Committee member: Joseph Tzirtzian PhD, RN, ANP-BC, FAN

4
A Standardized Electronic Handover Report for Anesthesia Providers
Amber Lindsay, RN, DNP and Elisa Rue, RN, DNP
Julia Feczkó, CRNA, DNP Committee Chair and Mark Deshur, MD, MBA Committee Member
DePaul University

Background

2020: Creating the Quality Chasm published by the Institute of Medicine
2021: Minimum standard for handovers
2021: A consensus Conference about the handover
2022: The study was conducted at 3 locations

Methods

Study Setting: University of Illinois Health System (NUH) at Edward, Highland Park, and Forest Park locations

Study Sample:
- Phase 1: Recruitment of anesthesiologists at the three study locations
- Phase 2: 12 anesthesia providers at the three study locations

Study Data:
- Phase 1: Descriptive statistics
- Phase 2: Cross-sectional survey

Purpose

- To develop an electronic handoff report for anesthesia providers
- To assess the effectiveness of the report
- To improve the quality of handoff

Purpose Statement

To develop the electronic handoff report for anesthesia providers and assess its impact on the quality of handoff among anesthesia providers.

Conceptual Framework

Donabedian Quality Framework

The Structure
- Equipment
- Procedure
- Communication

The Process
- Handoff
- Collaboration

The Outcome
- Patient satisfaction
- Clinical outcomes

Background

2020: Creating the Quality Chasm published by the Institute of Medicine
2021: Minimum standard for handovers
2022: The study was conducted at 3 locations

Methods

Phase 1: Recruitment of anesthesiologists at the three study locations
- Phase 2: Cross-sectional survey

Results

Phase 1
- Development of the electronic handoff report
- Validation of the report

Phase 2
- Cross-sectional survey

Conclusions

- The electronic handoff report significantly improves the quality of handoff
- The report is user-friendly and easy to use

Limitations

- Phase 1: Multiple factors that limit the design of the report
- Phase 2: Lack of education

Figure 1: Anesthesia handoff survey

Table 1: Characteristics of Study Participants

Table 2: Demographic Data of Study Participants

Table 3: Comparison of Handoff Reports

Table 4: Characteristics of Handoff Reports

Table 5: Comparison of Handoff Reports

Figure 2: Electronic handoff report

Figure 3: Survey results

Figure 4: Comparison of handoff reports

Figure 5: Electronic handoff report

Figure 6: Survey results

Figure 7: Comparison of handoff reports

Conclusion

- The electronic handoff report significantly improves the quality of handoff
- The report is user-friendly and easy to use

Limitations

- Phase 1: Multiple factors that limit the design of the report
- Phase 2: Lack of education
Intraoperative Blood Pressure and Effect of Volatile Anesthetic in Brain Dead Organ Donors

Alison L. Karmanian, BSN, RN

Abstract

Background: There is a large disparity between the number of people waiting for organ transplants and the number of organs available. Optimal hemodynamic management can influence transplant outcomes, therefore evidence-based hemodynamic management should be practiced to maximize scarce donor organs.

Purpose: The purpose of this study was to examine intraoperative blood pressures and administration of volatile anesthetics during brain dead organ donor procurements. Use of volatile anesthetics was examined to determine how use and dose affected the ability to maintain mean arterial pressure (MAP) between 60 to 90 mmHg.

Design: This study was a retrospective chart review.

Results: Twenty-eight cases were analyzed using the mean MAP calculated for each donor. Mean scores ranged from 61.04 to 99.34 mmHg with a mean of M = 84.51 mmHg. Twenty-two donors (78.6%) received volatile anesthetic gas, and six donors (21.4%) received no volatile anesthetic gas. Mean mid-tidal concentrations of volatile anesthetic gas in the 22 donors who received volatile anesthetic gas ranged from 0.0 to 1.25% with a mean mid-tidal concentration of M = 0.39%. Mean MAP in donors that did not receive volatile anesthetic gas was M = 78.49 mmHg (SD = 9.78 mmHg). Mean MAP in donors that received volatile anesthetic gas was M = 86.16 mmHg (SD = 7.02 mmHg).

An independent samples t-test performed between these two groups demonstrated that the difference between mean MAPS of the two groups was statistically significant (p = 0.012, p < 0.038), but no statistically significant correlation was found between mean MAP and mean end-tidal volatile anesthetic gas (p = 0.14, p > 0.05).

Conclusions: This study demonstrated that intraoperative hypertension is more prevalent than intraoperative hypotension, and volatile anesthetic gas is often used at this medical center during organ procurements at relatively low concentrations.

Discussion

• BP of donors was managed in a way that the majority of average MAPs fell within optimal range (60-90 mmHg).
• No donor in this study demonstrated an average MAP below 60 mmHg.
• 6 donors had an average MAP greater than 90 mmHg.

• Intraoperative hypertension is a more prevalent problem than intraoperative hypotension in this study.
• Highest mean end-tidal concentration of volatile anesthetic gas for any donor in this study was 1.25% which falls well below MAC-BAR for volatile anesthetic gas used in this study:

<table>
<thead>
<tr>
<th>MAC</th>
<th>MAC-BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sevoflurane</td>
<td>1.8%</td>
</tr>
<tr>
<td>Isoflurane</td>
<td>1.17%</td>
</tr>
</tbody>
</table>

• Mean MAP was higher in donors who received volatile anesthetic gas than in donors who did not receive it.

Results:

<table>
<thead>
<tr>
<th>Mean MAP (mmHg)</th>
<th>Standard Deviation (mmHg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No VA</td>
<td>78.49</td>
</tr>
<tr>
<td>VA</td>
<td>86.16</td>
</tr>
</tbody>
</table>

References


PEDIATRIC EMERGENCE DELIRIUM ASSESSMENT: CURRENT PRACTICE AND PERCEIVED BARRIERS
Alyse Voronov BSN, RN & Nicole Zeppo BSN, RN
DePaul University

ABSTRACT
Background: Current literature addresses the complexity of identifying pediatric emergence delirium (PED), but does not address barriers to PED assessment and documentation. By identifying these barriers, further research can be conducted regarding intervention and treatment of PED.

Objective: This study aimed to describe the current PED assessment and documentation practices among pediatric anesthesia care units (PACU) registered nurses and anesthesiologists at two tertiary-care hospitals.

Methods: 23 responded to a survey; 12 respondents provided detailed comments regarding current PED assessment.

Results: Eight variables were identified as barriers to PED assessment and documentation. The most common barriers included: patient age, lack of standardized assessment tools, and time constraints.

Conclusion: A standardized PED assessment and documentation tool is needed to improve the documentation of PED events and support evidence-based practice.

PROCEDURE

- **Design:** Descriptive, cross-sectional, online survey
- **Setting:** Two tertiary-care hospitals
- **Participants:** 23 registered nurses (RNs) and 12 anesthesiologists

**Procedures:**
- **Survey Development:** Survey questions were developed based on previous research and clinical experience.
- **Survey Administration:** The survey was administered online using REDCap.
- **Statistical Analysis:** Descriptive statistics were used to analyze the survey data.

RESULTS

- **Data Analysis:** The survey data was analyzed to identify common barriers to PED assessment.
- **Barriers:**
  - Patient age
  - Lack of standardized assessment tools
  - Time constraints
  - Communication gaps among healthcare providers

CONCLUSION

- **Future Research:** Further research is needed to develop a standardized PED assessment tool.

ONGOING RESEARCH

- **Future Directions:**
  - Development of a standardized PED assessment tool
  - Implementation and evaluation of the tool in clinical settings

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- **Institutional Review Board:** Approved for this study

REFERENCES