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Leah M. Gordon
St. Catherine University

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Assessment of Student Nurse Anesthetist Feelings About a Post-Certification

Pediatric Fellowship

Leah M. Gordon

St. Catherine University

Abstract

Specialty training for the newly graduated Certified Registered Nurse Anesthetist (CRNA) is a concern of the American Association of Nurse Anesthetist (AANA) Council on Accreditation (COA). In response to this, in 2014 the COA announced the implementation of new guidelines for the creation of specialty post-certification fellowships. The purpose of this study was to assess present student nurse anesthetist (SRNA) experiences with pediatric patients, and, to determine if they would have an interest in specialty pediatric training post certification. This study was conducted June of 2015. It was hypothesized that student nurse anesthetists would have a great interest in post-certification pediatric training. A seven question based online survey tool was used to rate SRNA thoughts about pediatric fellowships. Surveys were distributed to 156 first, second, and third year SRNAs. Principle findings demonstrate that SRNAs have great interest in a fellowship opportunity post certification.

Key words: nurse anesthetist, fellowship, anesthesia, education, pediatrics

Introduction

The education and post-certification training requirements of the Certified Registered Nurse Anesthetist (CRNA) is a process that is in a state of transition. As many areas of healthcare are increasing certification expectations and post-certification educational opportunities, CRNA educators and certification bodies are looking to do the same.^{1, 2, 3} One such method of training CRNAs is post-certification fellowships in subspecialties such as pain management, obstetrics, pediatrics, and regional anesthesia. In February 2014 the Council on Accreditation (COA) of nurse anesthetists formally created an application process and listed detailed requirements for all education programs seeking to start a specialty fellowship for CRNAs.⁴ At present, fellowships or residencies for any type of advanced practice nurses (APRNs), which includes CRNAs, are extremely under researched. The few articles available describe pioneering APRN Fellowship efforts, and anecdotally confirm the overall benefit of APRN fellowship training.⁵ In addition, no formal studies have been conducted to specifically assess the preparedness of the CRNA graduate for entry into pediatric practice.⁶ What is known is that residency opportunities in many healthcare disciplines including dentistry, pharmacy, and medicine are becoming more prevalent⁷ and financially supported by schools and government⁸, yet the evidence demonstrates that advanced nursing education seems to be still lacking in support and prevalence.⁹

Although there is minimal study available regarding APRN residencies, the nursing literature is rife with data supporting new graduate registered nurse (NGRN) residencies created to assist the transition of the NGRN as they move from the student role into clinical practice¹⁰ and therefore vacancy rates remain high¹¹. These residency programs, which have been in existence for nearly 20 years, have been strongly advocated by the Institute of Medicine,

American Organization of Nurse Executives, American Association of Critical-Care Nurses (AACN), Nursing Organizations Alliance, American Nurses' Credentialing Center, American Association of Colleges of Nursing and multiple other professional organizations.^{12, 13} These programs have also acknowledged and established criteria for nursing education taking into account the professional, exceptional, healthy, rewarding, charismatic, and effective work setting.¹⁴

The literature about NGRN residencies supports that that they have been successful in four key areas: cost effectiveness; staff retention and organizational commitment; job and practice satisfaction; and competency, independence, and confidence.^{15, 16} Nurse Residency Programs (NRPs) are believed to improve the patient outcomes and may also prove to be the major organization transformation set up by nurses in recent years.¹⁷ Nurses with bachelor degrees (Bachelor of Science in Nursing (BSN)) are thought well-planned and ready to meet the current demands of the healthcare requirements. However, post BSN fellowships or residencies can more likely enhance the skills of nurses; this includes skills in health promotion, critical thinking, case management, leadership and their aptitude and competency to practice across diversity of outpatient and inpatient settings.¹² The registered nurse residency programs travel analogous and overlapping paths like bachelor's degrees but more sophisticated and comprehensive in their mission of imparting first-rate training and knowledge.¹⁸ Certified Registered Nurse Anesthetists practicing in the pediatric anesthesia setting are responsible for highly complex care of children that are commonly critically ill. It is therefore believed that post certification Fellowship training for pediatric anesthesia offers the next major step for preparing the CRNAs to fulfill the challenges and intricate demand of pediatric anesthesia specialty via negotiation, advanced evaluation, collaboration and planning skills.

The purpose of this research is to explore SRNA feelings and perceptions of the benefits of a post certification pediatric fellowship.

Methods

An observational cross-sectional study was conducted over the month of June 2015. This study designed was used because it utilizes different groups of individuals who differ in the variable of interest, but may share attributes like educational background, ethnicity or socioeconomic status.¹⁹ This study was also preferred because it offers to select people who are incredibly alike in most areas except age.²⁰ An observational cross-sectional study makes inferences regarding likely associations and perceptions and also collects preliminary data in to order to support experimentation and further research.²¹ Using this design method, inferences were made from the perceptions/feelings of student nurse anesthetists and data was gathered for future research and implementation.

An online question based survey tool was used to rate whether or not SRNAs would have an interest in a post-certification pediatric fellowship. This seven question survey was distributed to 156 SRNAs from accredited programs in Minnesota. The participants (SRNAs) were from three different schools of nurse anesthesia including one doctoral program and two master's degree programs. The SRNAs were at various stages of nurse anesthesia and pediatric anesthesia experience. An informed consent was also taken before the presentation of survey. The data was collected and stored in the computer system. Anonymity was guaranteed (i.e. all results were kept confidential). Data collection and analysis were congruent and took place concurrently.

Results

A total of 156 students received the link for the survey. Of them, 74 SRNAs (47%) completed the survey. The results obtained from the survey are presented in detail below.

Previous Working Experience in Pediatric Healthcare

A large number of student nurse anesthetists (78.38%) responding to the survey had prior working experience in pediatrics. About 48.65% had previous working experience but only in the nursing school while 29.73% worked with pediatrics on a more routine employed basis. The remaining (21.62%) did not have any prior healthcare experience working with pediatrics before going to the anesthesia school as shown below in figure 1.

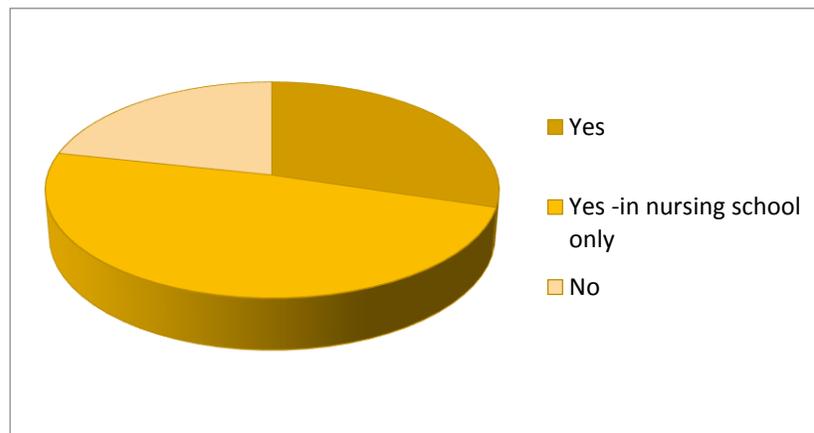


Figure 1: Previous Working Experience in Pediatric Healthcare

Cumulative Months in Anesthesia School

When asked about cumulative months since SRNAs had been attending the anesthesia school, 58.11% SRNAs reported attending the anesthesia school (at the time of taking this survey) for a period of 12 months or less. 39.19% had been in the anesthesia school for a period between 13 to 24 months. Only 2.70% had been in the school for a longer duration of 25 months or above. Figure 2 demonstrates cumulative months in the anesthesia school.

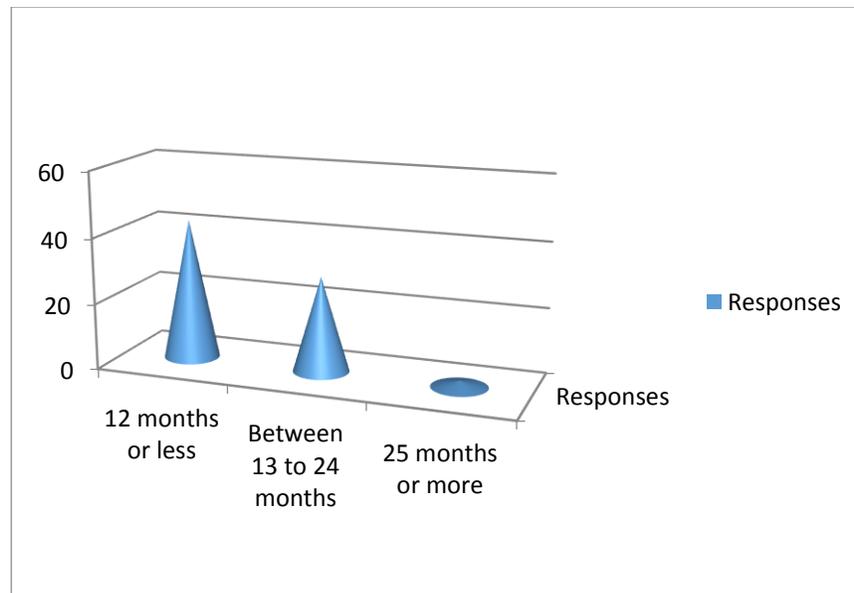


Figure 2: Cumulative Months in Anesthesia School

Exposure to Pediatric Patients During Clinical Anesthesia Rotations

In response to this question, 72 SRNAs replied and 2 skipped it. The majority of the SRNAs (41.67%) had no exposure to pediatric patients (0-17 years) in their clinical anesthesia rotations as shown in figure 3. This means that they had not completed any pediatric cases to date, however the majority of students completing the survey were only in their first year of school and likely had not encountered a pediatric anesthesia rotation at the time of the survey. Nevertheless, 18.06% did complete 50 or more pediatric cases during their clinical anesthesia rotations, 15.28% had completed 25 to 49 pediatric cases, while just 10 to 24 cases were completed by 1.39% SRNAs. About 23.61% reported completing up to 9 cases so far.

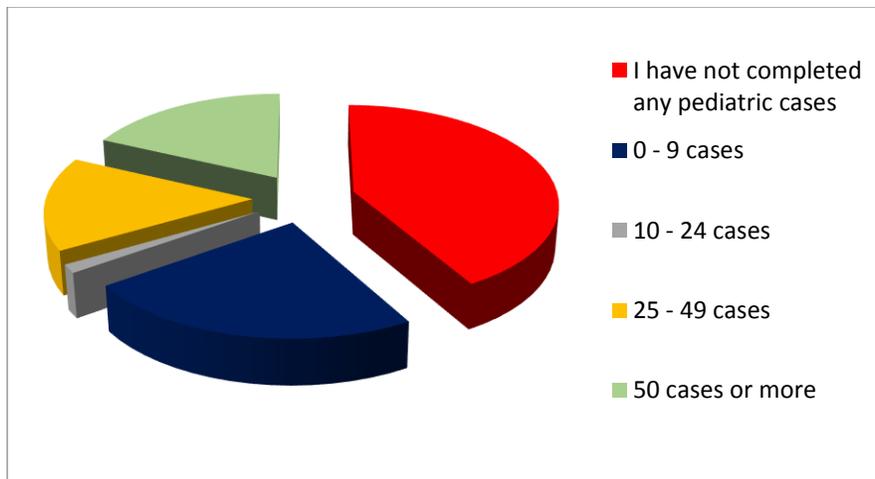


Figure 3: Exposure to Pediatric Patients During Clinical Anesthesia Rotations

Completed Pediatric Anesthesia Rotations

Regarding the completion of a pediatric anesthesia rotation, out of 73 students 68.49% reported incompleteness of a rotation, with 27.40% having completed their pediatric anesthesia rotation, and 2.74% were currently completing their rotation (figure 4). There were students (1.37%) who stated that their school did not offer a pediatric rotation despite the fact that the three schools surveyed do offer formal pediatric training.

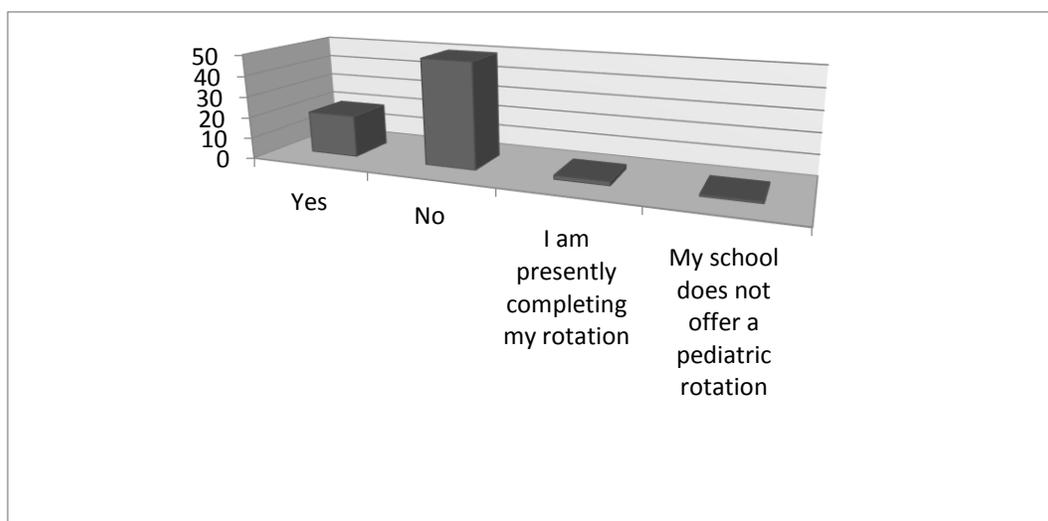


Figure 4: Completed Pediatric Anesthesia Rotations

Preparation of SRNAs to Practice Anesthesia on Healthy Pediatric Patients

SRNAs were asked about their preparation (based upon their clinical experiences at the time of the survey) for the practice of anesthesia on healthy pediatric patients at some point in their life; out of 73 respondents, 65.76 % did not feel prepared whereas 34.25% SRNAs declared being ready to practice anesthesia on healthy pediatric patients in the future. Those who were not prepared also provided reasons behind it. About 40% stated that they were not ready because they had not received “any” clinical pediatric anesthesia training while 26.03% stated that they had not received “enough” clinical pediatric anesthesia training to date. Figure 5 below depicts the number of students who gave their respective opinions.

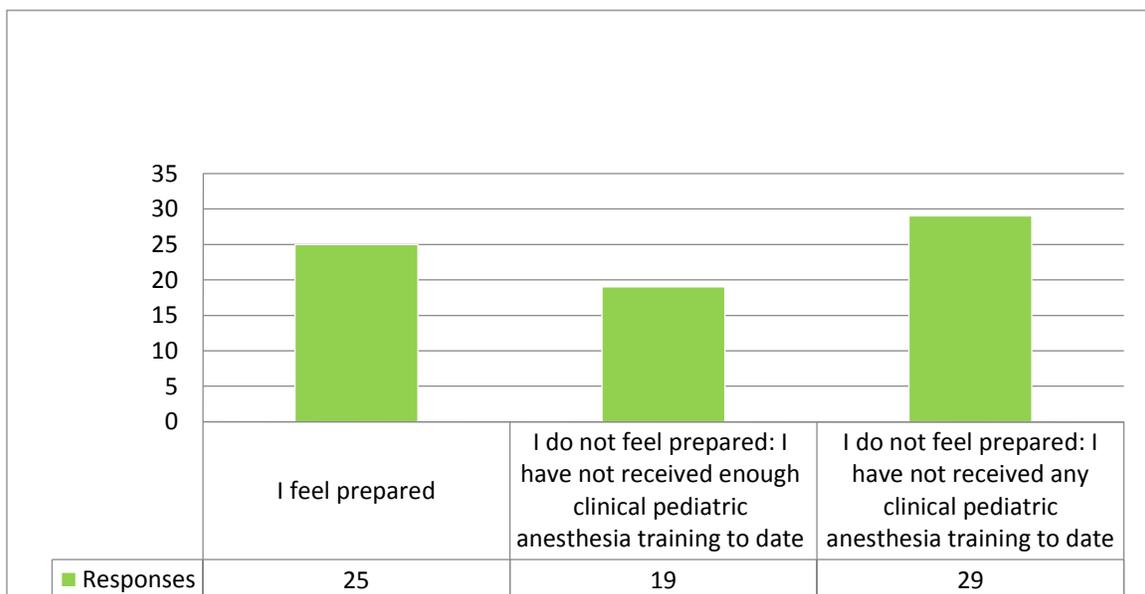


Figure5: Future Preparation of SRNAs to Practice Anesthesia on Healthy Pediatric Patients

Advantage of a Post-Certification Fellowship Experience

About half of the student nurse anesthetists (65.75%) responded that they believe they would benefit substantially from additional pediatric training in the form of a post-certification fellowship experience if they were to take a position in a facility that cared for critical pediatric patients. Approximately 25% were of the opinion that they would somewhat get a benefit from additional critical pediatric training, while 9.59% were uncertain about it (figure 5).

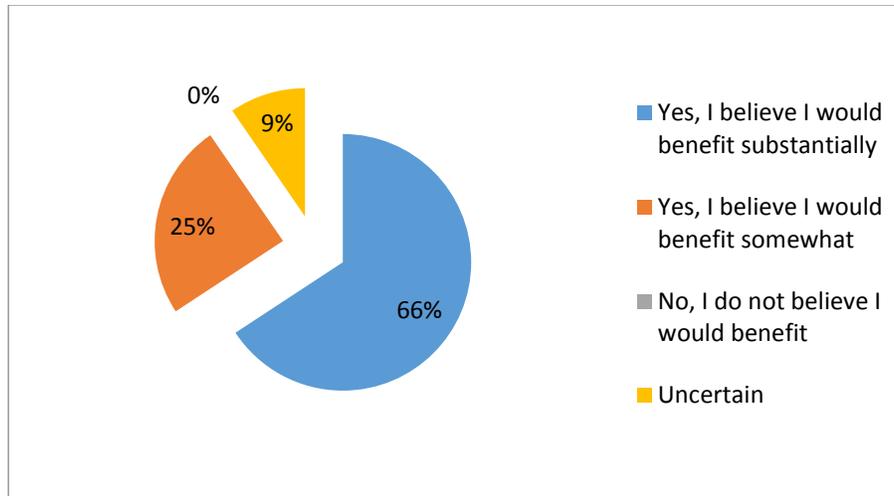


Figure 6: Advantage of a Post-Certification Fellowship Experience

Time SRNAs Will Dedicate For a Post-Certification Fellowship in Pediatrics

SRNAs were asked about the maximum amount of time that they would commit to fellowship training if they completed a fellowship after their certification in pediatrics. Relatively few (19.44%) of the SRNAs felt that they would want to commit 10 months to one year more for this additional educational process, 23.61% expressed a willingness to complete a 7-9 month post-certification fellowship in pediatrics, and over half (54.17%) of the respondents indicated that they would commit to 3 to 6 months for this purpose. There were also students (2.78%) who clearly stated that they would not want to dedicate any post-certification time to a pediatric anesthesia fellowship.

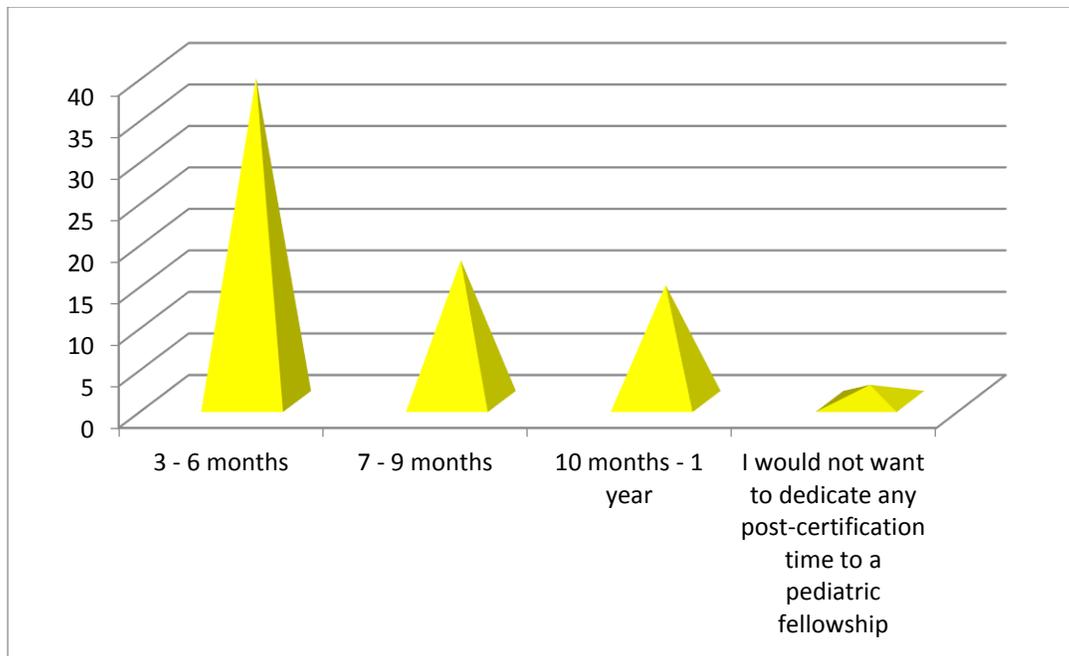


Figure 6: Time SRNAs Will Dedicate For a Post-Certification Fellowship in Pediatrics

Discussion

This survey was given to SRNAs at all different levels of education in their nurse anesthesia programs. Responses were collected from first year, second year, and third year anesthesia students. The findings of this survey demonstrated that the majority of the participants (41.67%) had no exposure to pediatric anesthesia patients at the time of the survey. In addition, the survey demonstrated that the students felt they overwhelmingly were not prepared to care for healthy pediatric patients (65.76%) based upon their clinical experiences at the time of taking the survey. Despite a relatively high percentage of participants (SRNAs) reporting having prior experience working in pediatrics, the majority of them expressed their desire for post-graduation training in pediatric anesthesia. Indeed, the results of this survey suggest student nurse anesthetists believe that if they were to be employed in a facility that cared for pediatric patients, a fellowship in pediatric anesthesia would significantly benefit their practice. They also reported an optimistic view about the likely benefits they would get from the additional pediatric training

in a post-certification fellowship experience. A large number of participants wanted to get the benefits of fellowship training so as to prepare for their role for the care of critical pediatric patients. The SRNAs reported they were ready to commit to 3 to 9 months for this particular cause post certification, with a few of the respondents even ready to commit 10 or more than 10 months for fellowship training.

Pediatric anesthesia is practiced within numerous resources, systems of information and service collaboration existing within the clinical arena.²² It is therefore important for all anesthesia care providers to become involved in organizing, experiencing and coordinating the hospital systems related to anesthesia care for children.²³ The anesthesia care provider is responsible to take the pre-op history of a child undergoing surgery or any procedure and share this necessary information with the necessary surgical team members.. The anesthesia care provider is also responsible for fluid maintenance, pain management and airway management during and after surgical procedures; additionally, they have to deal with the anesthesia related complications that tend to be more prevalent in children (i.e. thermoregulation, seizures, and malignant hyperthermia).²⁴ The anesthesia care provider must also recognize and manage the appearance of delirium in children and make all the arrangements and availability of necessary medicines and emergency equipment to tackle the situation safely.²⁵ It is thus very important to be able to manage critical problems and this even becomes more imperative when pediatric patients are involved due to age and communication barriers. Children cannot always express what is troubling them and cannot always reply to certain medical questions. Children cannot always be tolerant and cooperative during a physical medical examination. Additionally, infants and neonates consist of the age group in which dissimilarities from grown-ups are most discernible and are at higher risk for adverse peri-operative and postoperative events.²⁶ These

patients warrant special considerations concerning physiologic, anatomic, and pharmacologic variations from adults.^{27,28} Therefore, CRNAs caring for critical pediatric patients should be trained to examine, handle and treat children in a cooperative and comforting way, which is a skill that can take significant time to master.

Given the health effects and rare diseases children are presenting with today, it is imperative that pediatric providers be highly experienced.²⁹ Since anesthesia practice entails examining patients systematically and carefully while applying both pharmacological and physiological understanding to best care, a pediatric anesthesia fellowship could help achieve these targets in most situations and also help promote interdisciplinary dialogues to better understand the roles and skills of each of the colleagues.³⁰ Successful management of children needs leadership and efficient interdisciplinary teamwork.

CRNA training produces highly skilled and educated providers who are capable of implementing complex care plans on patients of all sizes. CRNAs are able to deal with the toughest patients in any critical situation and are competent to lead their care team effectively and efficiently. CRNAs who have already undergone an exceptionally demanding environment during their training are generally better able to cope with challenging, stressful situations;³¹ however, a post certification fellowship in pediatric anesthesia would permit CRNAs to carry out the most efficient healthcare practice under any situation. During the fellowship of pediatric anesthesia, the participants are exposed to difficult surgical procedures comprising pediatric cardiac as well as general pediatric surgery. Post graduate fellowship training can polish CRNAs further and prepare them in the cognitive, affective and psychomotor learning domains.³² Studies have shown that to inspire and train the future CRNA leaders there is a need for continuous education and training so as to enhance understanding of the current clinical practice changes,

critical appraisal, evidence-based healthcare, self-reflection and several other essential skills.³³ Due to more advanced and complex diseases and situations that CRNAs encounter today, the postgraduate or advanced training in the form of a fellowship is ideal.³⁴ Additionally, there are potential benefits of post-certificate fellowship training, such as the trainee may be able to learn extra subspecialist skills and knowledge that are not constituent of the obligatory specialty curriculum.³⁵ The trainee may also likely improve their service development understanding and research experience which can augment their curriculum vitae to make it more attractive for future leadership opportunities.

The time for clinical practice and learning is short. Exposure to all kinds of diagnoses, patients, and procedures is always welcomed and encouraged while in training, however, there is always opportunity for more learning. The new graduate CRNA will require supplementary knowledge, support, dexterity, and fostering to advance from novice to higher beginner and then increasingly to becoming skilled, expert, and practiced providers. Specialized fellowship training offers an evolution from nurse anesthesia school to qualified practice.

This study, as well as other studies, has demonstrated that new graduate registered nurses and advanced practice nurses often find fellowships to be advantageous to not only themselves but also to healthcare, and eventually to patients.^{36, 37, 38} This higher level of education enhances core competencies and boosts the confidence of newly graduated students.³⁹ It also provides direction and support which can facilitate these students to productively manage several stressors and noteworthy adjustments during their early year of practice and work.^{40,41} A specialty fellowship also serves as a way of staying within the same organization and also connected to current clinical practices.^{42, 43, 44} Thus, the same is true for the field of pediatric anesthesia where this competency, connection, and tackling of many stressors are often needed by CRNAs.

Conclusion

The outcomes of this study indicate that the student nurse anesthetists (SRNAs) surveyed consider a post-certification fellowship program to be something they would benefit from. The SRNAs also demonstrated hope for beneficial effects of a fellowship related to enhanced skills and clinical practices in their CRNA practice. In short, fellowship programs for nurses and advanced practice nurses have been successful in improving the skills, capabilities and proficiencies of the trainee. The pediatric anesthesia fellowship program especially offers a training opportunity to advance the expertise, skills and knowledge in critical pediatric anesthesia. It is hoped that the findings of this study, along with the information presented, will offer an improved understanding of the need for fellowship training in critical pediatric anesthesia.

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