Intensive Care Unit Experience and NCE Scores

Allison Frederick, BSN, RN & Christopher Mendiola, BSN, RN

Martin Rivera, DNP, CRNA; AHU NAP, Ashley Gauthier, MSN, RN; AHU Nursing; Leana Araujo, PhD; AHU

AdventHealth University Doctor of Nurse Anesthesia Practice
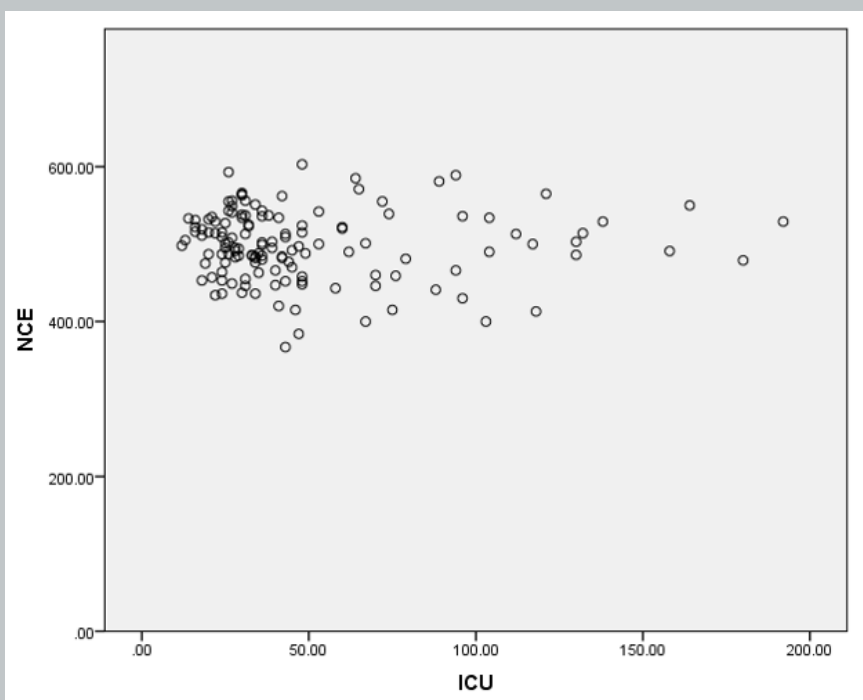
Problem

- CRNA job field is predicted to grow 31%, yet first-attempt pass rates for the NCE are declining. NAPs need a pass rate of 80% to maintain accreditation status; therefore admitting students that can pass the NCE on their first attempt and enter the job market quickly is crucial for NAPs.
- In student registered nurse anesthetists at AdventHealth University enrolled in the 2014-2019 graduating cohorts, did the number of months practicing nursing in ICU prior to the beginning of the program correlate with first-attempt National Certification Exam Scores?

Literature Review

- Overall, the literature has been ambiguous when it pertains to the number of months of ICU experience and its influence on first-attempt NCE scores.
- Zaglaniczny (1992) found that graduates with more nursing experience scored higher on the NCE but had lower GPAs in their respective NAPs. However, this finding failed to be proven in other research studies.
- The NBCRNA correlates some demographics with NCE first-attempt scores but does not take months of ICU experience into account. There is a need to examine this pre-admission requirement to provide evidenced-based data analysis to help support, reject, or recommend changes that will ultimately assist NAPs to select candidates who will ultimately go on to pass the NCE on their first attempt.

Methods

- This scholarly project was conducted with a quantitative, retrospective, correlational design.
- All ICU experience data and NCE scores were quantified and provided by the AHU NAP department and were fully de-identified prior to any evaluation or analysis performed by the scholarly project team.
- The sample consisted of 136 students that were previously enrolled at AHU's MSNA NAP in the graduating cohorts of 2014-2019.

Results

- Data could not be used from all population (21 outliers)
- Analysis was done on the adjusted descriptive statistics (n =115) using Spearman's Rank Order correlation.
- The result of the analysis was the null hypothesis was retained and no conclusion could be drawn on the correlational relationship between the quantity of ICU experience (measured in months) and NCE scores within the 2014-2019 AHU's MSNA NAP cohorts (Spearman $r_s = -0.156$, $n = 115$, $p = .096$) **(Table 1)**.

Scatter Plot

Data Interpretation

- Scatter plot above showed no linear relationship between ICU experience and NCE scores
- 21 outliers existed in data leading to not all samples were able to be used, reducing n = 115

Table 1

Spearman Rank Order correlation between the quantity (measured in months) of ICU experience and NCE scores within the 2014-2019 AHU's MSNA NAP cohorts

			ICU	NCE
Spearman's rho	ICU	Correlation Coefficient	1.000	-.156
		Sig. (2-tailed)		.096
		N	115	115
	NCE	Correlation Coefficient	-.156	1.000
		Sig. (2-tailed)	.096	
		N	115	115

Discussion & Implications

Upon review, no conclusion could be drawn on the correlational relationship between the quantity of ICU experience (measured in months) and NCE scores within the 2014-2019 AHU's MSNA NAP cohorts. Interestingly, the obtained p-value of 0.096 approached statistical significance ($p > .05$, but $< .10$). This indicated that an increased sample size was needed in order to realize a result with statistical significance.

Conclusions

-Researchers recommend:
  -Replicating this scholarly project using a larger sample size and data from more than one program to increase the chances of obtaining a result with statistical significance.
  -Incorporating a qualitative component into the study (i.e. "type of ICU experience") and perform a multiple linear regression analysis.
  - Continue to use ICU experience as an influencing factor in the admission process, but not rely on it solely regarding first-time pass rates for NCE.
 Limitations: self-reported ICU experience time frame, translation of years to months in some cases, assumption that applicants worked up until the start of the program.

Acknowledgements