Increased Knowledge in Gastric POCUS

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Abstract

Gastric point of care ultrasound (POCUS) is a bedside resource that allows the practitioner to assess the patient's residual gastric volume to assist with the perioperative anesthesia planning. With the current increase in GLP-1 agonists medications, POCUS is an invaluable tool for the anesthesia provider. A lack of knowledge in how to perform and interpret gastric POCUS leads to underutilization of this resource.

Introduction

Point of Care Ultrasound (POCUS) is a quick bedside resource that is goal-directed to help guide medical decisions and the anesthetic plan. It is a noninvasive, quick, and safe asset to guide clinical decisions, and recent advancements have made it more attainable and portable (Arumugam et al., 2023). Although the ability to perform preoperative gastric POCUS is available, most anesthesia providers still do not utilize this technology as a standard of practice (Turk, 2022).

Our clinical practice improvement project is focused on the knowledge deficit found at our regional hospital located in southeast Alabama utilizing an educational intervention. This educational intervention will look to improve CRNAs skills of POCUS while also improving patients' anesthetic and surgical outcomes. The PICO question, do anesthesia providers (P) who receive a structured educational program in POCUS (I) show increased knowledge in gastric content scanning preoperatively (O), is guiding our improvement project. We will utilize a pre- and post-examination to assess the knowledge of gastric POCUS before and after anesthesia provider education.

Background

Gastric POCUS provides an imaging modality that is particularly valuable for patients at higher aspiration risk, including those using GLP-1 agonists, by detecting signs of delayed gastric emptying or gastric stasis. Moreover, gastric POCUS is non-invasive and easily performed at the bedside, facilitating timely decision-making, and improving patient outcomes. Integrating gastric POCUS into anesthesia practice enhances patient care by optimizing perioperative management and reducing the risk of aspiration-related complications (Perlus & Kruisselbrink, 2021).

Methods

The anesthesia providers were given a pretest to assess their current knowledge of gastric POCUS. Upon completion of the pretest, the anesthesia providers were instructed to watch the PowerPoint presentation on gastric POCUS. The following week, the anesthesia providers were given a posttest, identical to the pretest. The improvement project team then collected the data from the tests to assess for improved knowledge of gastric POCUS.

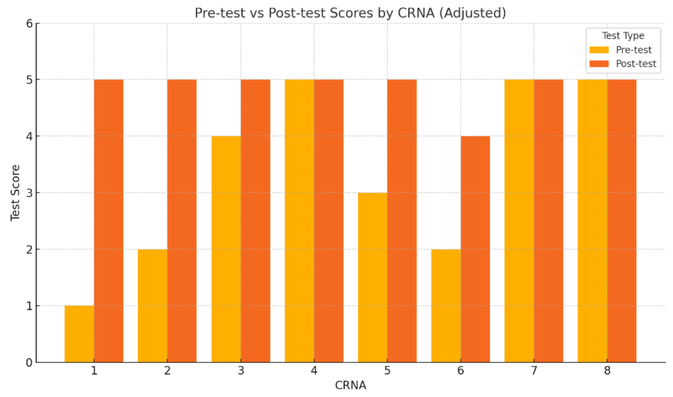
Participants

= 7

= 1

Results

The post-test was taken by all selected CRNAs during the week of November 11th. CRNAs were instructed to complete the post-test on their own time but only after viewing the audio-recorded presentation on gastric POCUS ultrasound. The post-test could not be accessed until the educational presentation, delivered via PowerPoint, had been fully reviewed. This ensured that all participants were exposed to the same educational material prior to taking the post-test.



Discussion

The results of this project were extraordinarily positive. Only two of the eight CRNAs had prior education in gastric POCUS, leaving a huge gap of knowledge in the anesthesia department. Upon completion of the educational content, the scores improved significantly, proving that there is a knowledge deficit among the providers. The goal of the educational content was to showcase the lack of knowledge and to improve the anesthesia provider's understanding of gastric POCUS and the benefits of it perioperatively.

Conclusions

Before the education, the CRNAs stated that they had no prior exposure to gastric POCUS and would not know how to interpret the data that they received. The project team communicated with the providers about the location and portability of the ultrasound machines as well as the availability of curvilinear probes for the use of gastric POCUS. With the educational training, the project team received verbal reports from multiple providers that with the new knowledge and education, they have started to utilize gastric POCUS as an adjunct to their anesthesia plan decisions. The data collected by the project team demonstrates a significant improvement in gastric POCUS knowledge which signifies the large barrier to utilization that was there before.

References

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