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Creation of an Educational Pamphlet for Patients Receiving Upper Extremity Peripheral Nerve Blocks

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Executive Summary

Introduction of the Problem

A surgery center in Edwardsville, Illinois demonstrated a need for registered nurse (RN) and patient education on upper extremity peripheral nerve blocks (PNB). This project created and implemented an educational presentation for RNs and a patient education pamphlet on PNBs to improve RN and patient knowledge. The implementation led to improved knowledge regarding PNBs, perioperative care, and patient education.

Literature Review

Peripheral nerve blocks are commonly used throughout the perioperative period (Panchamia et al., 2021). PNBs can be utilized as the sole anesthetic or in combination with another anesthetic technique in patients without contraindications (Thompson, 2018; Tsui & Rosenquist, 2017). PNB administration is increasing in anesthesia due to reduction in perioperative opioid requirements, length of stay in PACU, and central sensitization to pain postoperatively (Panchamia et al., 2021). Other benefits of PNBs include improved pain control, reduced opioid use postoperatively, higher patient satisfaction, decreased time to discharge, reduced risk of patient complications, and overall improved patient outcomes (Helander et al., 2019). Two commonly used upper extremity PNB include interscalene blocks and axillary blocks. The main pharmacologic agents used in peripheral nerve blocks are local anesthetics. Choice of which local anesthetic to administer should be based on the surgical procedure and expected pain levels (Gadsden, 2012). Adjuncts can be added to local anesthetics to speed the onset or increase the density and duration of the block (Gadsden, 2012).

Perioperative nurses are commonly involved in nerve block procedures and directly involved in patient care and patient education of those who receive PNBs. Due to the RN's role in patient care and education they are expected to be knowledgeable on patient assessment, procedures, adverse effects, complications, treatment of complications, and appropriate patient education techniques (Helander et al., 2019; Wright, 2011). Therefore, RN education promotes best practice of perioperative care of patients with PNBs. RN education should be focused on risks, benefits, procedure detail, and proper discharge teaching (Snow, 2021). Patient education should focus on preventing injury, pain management, and events that prompt patients to contact anesthesia personnel or seek medical attention (Snow, 2021; Thompson, 2018).

Project Methods

This quality improvement project aimed to promote best practice in perioperative care for patients receiving upper extremity peripheral nerve blocks at a surgery center in Edwardsville, Illinois by improving RN and patient knowledge. Knowledge enhancement was achieved through implementation of a RN education and development of a patient educational pamphlet. RN education was targeted towards PNB mechanism of action, indications, contraindications, procedure technique, complications, and perioperative care of the patient with a PNB. The educational pamphlet was designed using the most recent literature on benefits, risks, and expectations at an appropriate health literacy level. The Southern Illinois University Edwardsville Institutional Review Board deemed the project exempt due to the quality improvement design of the project.

Evaluation

A pre-implementation questionnaire and a post-implementation questionnaire were utilized to evaluate participant demographics, effectiveness of RN education and buy-in of the patient education pamphlet developed. Overall, results of the study implied the educational presentation targeted towards the perioperative RNs increased knowledge regarding PNBs, patient education, and perioperative care. Pre-implementation survey results averaged a score of 55.6% and the post-implementation survey results averaged a score of 73.3%. Demographic data identified that the RN education benefited all perioperative RN regardless of length of career and amount of experience with peripheral nerve blocks. Four questions on the post-implementation questionnaire assessed the quality and buy-in of the patient education pamphlet developed for the project using a Likert scale format. The majority of RNs who participated agreed that the pamphlet was written at an appropriate health literacy level, entailed appropriate information, would improve patient education, and would likely be utilized to promote patient education.

Limitations of the project included limited sample size, isolation to the host facility, and potential sampling bias. A convenience sample was utilized due to limited staff availability at the surgery center and time constraints. The surgery center staffs a limited number of RNs. Nine RNs participated in the study. Therefore, the results of this study may not be generalizable to a larger population due to limited sample size. Potential sampling bias is a limitation because of the non-randomization of the sample group utilized.

Impact on Practice

The immediate impact of the DNP project included improved perioperative RN knowledge of PNB, appropriate care of patient who receive a PNB, and better

understanding of PNB patient education. The staff also had immediate access to utilize the patient education pamphlets created through the project. The predicted long-term impact of the project includes promotion of best practice in perioperative care for the surgery center patients receiving PNB and improved patient knowledge regarding PNB postoperatively. Ongoing implementation can assess patient understanding after utilizing an education pamphlet. The project can expand on PNB education for perioperative RNs if the surgery center begins to utilize more PNBs.

Conclusions

Peripheral nerve blocks are commonly used in anesthesia practice, and perioperative RNs are involved in PNB procedure and perioperative care and education of patients who receive them. A surgery center in Edwardsville, Illinois identified a need for improved RN and patient education on PNBs at their facility. This project created and implemented an educational presentation targeted towards perioperative RNs and a patient education pamphlet to improve RN and patient knowledge regarding PNBs. A pre-implementation and post-implementation survey was utilized to assess effectiveness of the educational presentation and patient education pamphlet. Results of the study implied the educational presentation targeted towards the perioperative RNs increased knowledge regarding PNBs, patient education, and perioperative care and majority agreed that the pamphlet was written at an appropriate health literacy level, entailed appropriate information, would improve patient education, and would likely be utilized to promote patient education.

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