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Spring 5-2021

Development of a Protocol for Perioperative Management of the Breastfeeding Mother

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Recommended Citation

Nyseth, Kayla and Park, Kelsey, "Development of a Protocol for Perioperative Management of the Breastfeeding Mother" (2021). *Doctor of Nursing Practice Projects*. 159.

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Executive Summary

Introduction of the Problem

Breastfeeding benefits the mother and infant both physically and emotionally. According to the American College of Obstetricians and Gynecologists (ACOG), facilitating breastfeeding is a public health priority, as disruption in lactation is associated with adverse health outcomes for the breastfeeding mother and child (2016). In the United States, breastfeeding rates have risen over the last ten years (Centers for Disease Control [CDC], 2018). As women continue to breastfeed longer, there is a greater probability they will need to seek medical attention while still breastfeeding. The need to take medication, maternal illness, and hospitalization are among the most common reasons women cite for ceasing breastfeeding before their projected goal (Odom, Li, Scanlon, Perrine, & Grummer-Strawn, 2013).

The anesthesia providers at the host facility were seeking guidelines that would serve as a quick reference for the anesthetist, enabling the safe administration of anesthetics to the breastfeeding mother. This facility recently eliminated their obstetrical department. Consequently, obstetricians or lactation consultants were no longer available for consult for breastfeeding surgical patients. Providing a healthcare team that encourages breastfeeding during the perioperative period can minimize interruptions in breastfeeding and optimize the benefits for both the mother and infant (Simon, Carabetta, Rieth & Barnett, 2018). Educating clinicians on lactation pharmacology can provide a better understanding of suitable medications for the breastfeeding mother (Simon et al., 2018).

Literature Review

Breastfeeding is one of the key strategies to improve public health. Breastfeeding reduces the risk for gastroenteritis, asthma, otitis media, sudden infant death syndrome, and shows an

apparent risk reduction for childhood leukemia in infants and children (CDC, 2018). Mothers that choose to breastfeed also have several health benefits including lower risk for breast and ovarian cancer, lower incidence of cardiovascular disease, and decreased prevalence of type 2 diabetes compared to women who choose not to breastfeed (CDC, 2018). Unfortunately, unanticipated weaning and/or switching to formula commonly occurs when a breastfeeding mother presents for a surgical procedure, as there are numerous misunderstandings regarding the safety of anesthetic agents (Wenner, 2007).

Many of the recommendations for compatibility of anesthesia with breastfeeding are based on the knowledge of pharmacological properties and limited studies of drug levels transferred to milk (Smathers et al., 2016). Many of the commonly used anesthetic drugs minimally cross into the lactating ducts, and some drugs are undetectable (Chu, McCallum, & Yui, 2013). Therefore, the benefits of breastfeeding outweigh the risks of exposure to anesthetic agents. The current recommendation is to avoid interruptions in breastfeeding during the perioperative period (Chu et al., 2013).

Perioperatively, diazepam, tramadol, and codeine should be avoided if possible (Chu et al., 2013). Pain management should be focused on a multimodal approach with the lowest dose of opioids for the shortest amount of time to adequately provide analgesia (Reece-Stremtan et al., 2017). The anesthesia provider should also avoid certain cardiac medications, such as nitroglycerine and nitroprusside (Hale, 2019).

In addition to following the latest drug recommendations, there are a couple general guidelines for the anesthesia provider in the perioperative period. Preoperatively, breastfeeding patients should express milk right before surgery to prevent engorgement (Reece-Stremtan, Campos & Kokajko, 2017). If possible, the breastfeeding mother should also be scheduled as the

first case of the day to minimize the amount of time fasting and should drink clear liquids up to two hours prior to the case (Reece-Stremtan et al., 2017). Fluid given intraoperatively should account for the requirements of lactation, as well as the usual maintenance requirement (Rieth, Barnett, Simon, 2018). Postoperatively, in most cases, the mother may begin breastfeeding as soon as she is awake and alert enough to hold the infant to her breast (Reece-Stremtan et al., 2017). The infant should be monitored for any side effects during the immediate postoperative period after breastfeeding; however, these are rare and unlikely.

Project Methods

The protocol developed for perioperative management of the breastfeeding mother illustrates current practice recommendations for anesthesia providers regarding medications commonly used in the perioperative period. As this protocol integrates evidence-based findings related to breastfeeding and drug transfer, the anesthetist can confidently choose anesthetic agents and other frequently used drugs that will require little to no delay in breastfeeding after recovery from anesthesia. The protocol created utilizes reverse stoplight color coding, which allows for rapid identification of drugs that are safe or unsafe.

This project was declared exempt by the Southern Illinois University Edwardsville Institutional Review Board. After authorization, the results of the literature review and the created protocol were presented to the host facility. This educational presentation was scheduled to occur at the host facility department meeting which would include key stakeholders. However, due to the COVID-19 pandemic, the presentation was given via Zoom to an exceedingly small pool of participants. The presentation lasted approximately 30 minutes. After the presentation, the participants expressed a desire to adopt the protocol; however, further department approval must be attained.

Evaluation

As noted previously, the implementation phase was originally scheduled as an on-site department meeting in which the participants would be able to interact with the presenters and evaluate the project via a paper survey. Due to COVID-19 restrictions, the PowerPoint presentation was delivered via a Zoom meeting. The members in attendance were asked to fill out an electronic survey after implementation. The survey questions addressed the efficacy of the protocol handouts, whether or not the protocol would help guide the care and medication selection for breastfeeding mothers, and finally anesthetist comfort level when instructing patients postoperatively. The survey was electronically sent to the participants using Survey Monkey immediately following the presentation and was then analyzed to determine the effectiveness of the material presented.

Results of the survey suggested the PowerPoint presentation and protocol handouts increased staff knowledge and comfort level regarding the care of perioperative breastfeeding mothers. Only three anesthesia providers attended the Zoom meeting. In the short answer portion, respondents noted they felt the protocol would guide their overall care of the patient, and the protocol would allow them to avoid drugs that are unsafe for breastfeeding. Additionally, the respondents mentioned that the “stoplight” color and organization of the handout allowed for quick identification of the drug in question. Furthermore, the participants responded feeling more comfortable instructing breastfeeding safety in the postoperative period. One respondent noted the protocol will help create a continuity of care between anesthesia providers, which will then lead to less confusion within the perioperative nursing staff.

Limitations of this project include reduced staff participation and sampling bias. Because an extremely small convenience sample was utilized, the survey results may not reflect the

opinions of the remaining anesthesia staff. These limitations were due to time constraints, staff member availability, and restrictions placed as a result of the COVID-19 pandemic. Therefore, the findings of this survey may not be generalizable to a larger population.

In retrospect, implementation relied heavily on the key stakeholder to distribute the meeting time and link to anesthesia staff. In the future to obtain more participation, it may be beneficial to personally obtain the anesthesia staff's contact information to allow for more direct dispersal of information. The only issue that arose while working on this project as a group were the time constraints related to clinical requirements. All major aspects of this project went relatively smoothly, and we remained on task in order to meet deadlines.

Impact on Practice

This project was implemented because the host facility's anesthesia providers expressed a desire for a guideline and/or protocol to use with breastfeeding patients in order to provide continuity of care between providers. The short term impact achieved by this project was the developed protocol will serve as a quick reference tool for anesthetic management of breastfeeding patients. The primary stakeholder discussed placing guidelines in each operating room to make the protocol more accessible in the future. The long term impact of this project may lead to streamlined anesthesia care of breastfeeding mothers during the perioperative period. Also, the evidenced-based protocol may prevent unnecessary wasting of breast milk, delay of resuming breastfeeding, and possibly even termination of breastfeeding as a result of an anesthetic encounter.

Conclusions

As women continue to breastfeed longer, there is a greater likelihood they may need to undergo anesthesia for a procedure. The need to take medication, maternal illness, and

hospitalization are among the most common reasons women cite for ceasing breastfeeding before their projected goal (Odom et al., 2013). A perioperative breastfeeding protocol at the host facility may enhance the comfort of anesthesia providers when administering anesthetic drugs to breastfeeding mothers, allowing for minimal interruptions in breastfeeding. The color-coded protocol will be utilized by anesthesia staff to provide evidence-based care for breastfeeding mothers. Future projects could focus on updating the protocol when new anesthesia drugs emerge and identifying and educating breastfeeding mothers prior to the day of surgery.

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