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## Can Provision of Additional Education for Nursing Staff Increase Breastfeeding Knowledge and Feelings of Self-Efficacy?

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CAN THE PROVISION OF ADDITIONAL EDUCATION FOR NURSING STAFF  
INCREASE BREASTFEEDING KNOWLEDGE AND FEELINGS OF SELF-  
EFFICACY?

A DNP Project Submitted to the  
Graduate Faculty  
of Jacksonville State University  
in Partial Fulfillment of the  
Requirements for the Degree of  
Doctor of Nursing Practice

by

AKEBA DEQWAN THOMPSON

Jacksonville, Alabama

August 6, 2021

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August 6, 2021

## ABSTRACT

**Background:** Post-partum nurses are responsible for preparing new mothers with the necessary skills to feed and care for their infants and need proper education to effectively and confidently discuss feeding options with their patients.

**Purpose:** This quality improvement project aims to increase nursing knowledge of breastfeeding and their feeling of self-efficacy in promoting breastfeeding as an option to new mothers.

**Design Methods:** A quasi-experimental design including a pre-test/post-test used to quantify the effect of education on therapeutic communication, nursing responsiveness, and feelings of self-efficacy.

**Conclusion:** An overall increase in feelings of self-efficacy and knowledge of breastfeeding was noted amongst nursing staff resulted due to this quality improvement project

**Implications for Nursing:** Although improvement in knowledge and self-efficacy was evident in this study, there remains a need to understand how to teach an appropriate balance of expertise in an area where staff may have limited education and diverse views and experiences. This study highlights a gap in evidence about a critically important public health behavior that can positively impact some of the most vulnerable patient populations. *Keywords:* Breastfeeding education, breastfeeding obstacles, diversity in breastfeeding mothers

## ACKNOWLEDGMENTS

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# Can Provision of Additional Education for Nursing Staff Increase Breastfeeding Knowledge and Feelings of Self Efficacy?

## Introduction

The American Academy of Pediatrics recommends breastfeeding exclusively for the first six months of life to help provide a proper foundation for good nutrition (Centers for Disease Control and Prevention [CDC], 2018). Healthy People 2020 had established a goal to have 81.9% of all infants born in the United States (U.S.) breastfed for at least the first six weeks of life (Office of Disease Prevention and Health Promotion [ODPHP], 2020). Due, in part, to the numerous benefits for infants, Healthy People 2030 recommended infants be breastfed exclusively for the first six months of life (Office of Disease Prevention and Health Promotion [ODPHP], 2021). In 2015, the U.S. exceeded the breastfeeding goal, as 83.2% of all infants breastfed after birth (CDC, 2018). Although breastfeeding goals excelled in 2020, this is not the case in Alabama. At a non-profit facility in rural Alabama, breastfeeding rates of underserved, underinsured patient populations are considerably lower than those in other facilities (Baby-Friendly Hospital Initiative USA [BFHI], 2020). This quality improvement initiative provided additional training for post-partum nurses to equip them with the knowledge and necessary aplomb to participate in therapeutic communication with new mothers (BFHI, 2020).

## Background

Breastfeeding is associated with a reduced risk of asthma, obesity, ear and respiratory infections, type two diabetes, and sudden infant death syndrome (SIDS) (CDC, 2018). Breastfeeding at least one infant can lower the mother's risk for developing hypertension, type-two diabetes, ovarian cancer, and breast cancer (CDC, 2018). Despite

the multitude of benefits, infants in the south are less like to be breastfed. In Alabama, only 68.1% of infants are ever breastfed (CDC, 2018). Education, health, and economic disparities exist among the population of individuals who do not breastfeed in Alabama. Estimates indicate that lower breastfeeding rates increase the annual cost of healthcare for mom and baby by \$3 billion (CDC, 2021).

Reduced rates of breastfeeding are the result of multiple factors. Post-partum nurses often lack confidence in providing breastfeeding education to new mothers. Some staff members may have underlying opinions or biases towards breastfeeding. Many post-partum mothers experience inconsistent support from hospital staff, embarrassment, and fear (Radzynski & Callister, 2016). Thirty-seven to 49% of mothers felt the provision of pacifiers and encouraging formula use at night by hospital employees presented a contrasting narrative to exclusive breastfeeding (Radzynski & Callister, 2016). Praise, problem/solution education, encouragement, accurate information communication, and appropriate breastfeeding behaviors were factors that supported a continuation of exclusive breastfeeding (Radzynski & Callister, 2016). Nurses who have a strong sense of nursing self-efficacy will perform tasks learned in an academic setting with greater self-confidence, more readily undertake challenging tasks, and persist when facing obstacles (Cox & Simpson, 2016).

### **Problem Statement**

Post-partum nurses lack confidence in providing breastfeeding assistance to new mothers (Radzynski & Callister, 2016). The purpose of this DNP project was to assess the impact of supplemental education on nursing knowledge of breastfeeding practices and feelings of self-confidence in providing lactation teaching. One hospital in southern

Alabama that offers medical service to underserved patients has experienced consistently low breastfeeding rates. At times, the rate of exclusively breastfed infants born at this facility has been as low as 30%.

### **Organizational Description of Project Site**

The site for this project is a hospital servicing at-risk patient populations in southern Alabama. The patient demographic here demonstrates a need for intervention as evidenced by low rates of exclusively breastfed infants at discharge. Overall rates of breastfeeding were less than 50% for the last six months. The hospital exhibits a particular need for intervention in that the facility does not offer prenatal classes, nor does this organization require breastfeeding competencies of the staff for yearly evaluation. Lactation management is the primary responsibility of the bedside registered nurse after the infant has been delivered.

### **Review of the Literature**

Breastfeeding is crucial for newborns' overall health and well-being (CDC, 2019). Infants born in states with income inequality are at higher risk of infant mortality (Pabayo, Cook, & Harling, 2019). Women often cited the perception of insufficient milk supply, miseducation, and cultural beliefs as reasons for formula use (Gallo, 2019). This project planner performed a review of the literature to illustrate the impact nursing education provides on breastfeeding rates. Information from this literature review was generated by searching CINAHL and PubMed databases. This developer searched vital terms such as nursing education, breastfeeding education, quality improvement, breastfeeding rates, breastfeeding obstacles, and diversity in breastfeeding mothers. A review of these articles reveals that women from underserved populations can

significantly benefit from breastfeeding with consistent education from confident and knowledgeable nursing staff (CDC, 2019).

### **Knowledge of breastfeeding practices in doctors and nurses: A questionnaire-based survey**

Breastfeeding rates have shown a decline in recent years despite documented evidence that breast milk is the best feeding option for newborns, offering nutrition and protection from infectious disease (Shaw & Devgan, 2018). Breastfeeding initiation rates in some hospitals have fallen as low as 24.5%. In this study, 79 nurses and 34 non-specialist doctors employed at a tertiary care teaching hospital in eastern India were enrolled in this QI initiative between August 2016 and September 2016 (Shaw & Devgan, 2018). They were given a survey comprised of 10 statements regarding optimum breastfeeding practices and asked them to complete it within 10 minutes. All nurses (100%) and all doctors (100%) agreed breastfeeding should occur within the first hour of life, and most doctors and nurses (94%) felt that breastfeeding alone is sufficient for two to three-day-old neonates (Shaw & Devgan, 2018). Differences occur with 17.5% of nurses in support of supplementation for two to three-day-old twin neonates, and 5.1% of nurses felt breastfeeding was unnecessary at night and introducing a bottle when a baby cries (Shaw & Devgan, 2018). Conflicting information can confuse the new mother and discourage her from initiating breastfeeding. In conclusion, there is a need for improvement regarding breastfeeding practices amongst nurses caring for post-partum mothers.

## **Improving exclusive breastfeeding in the first 24 hours of life using Plan-Do-Study-Act cycle in a tertiary care hospital.**

Exclusive breastfeeding has proven to be one of the most effective strategies in preventing mortality in children under five (Muhammed, S., Shaw, S.C., Rawat, A., Joy, D.V., Sood, A., Venkatnarayan, K., & Gupta, R., 2020). In a study conducted by Muhammed et al. (2020), less than half of infants born in the hospital were breastfed. This quality improvement initiative's implementation phase lasted May-June 2017 and consisted of a pediatrician, two post-partum nurses, and two pediatric residents. The facility has a delivery rate of about 2,500 neonates per year (Muhammed et al., 2020). More than 2,500 infants were included in the study and experienced no signs of respiratory distress and exhibited a strong suck response. The study was a before and after intervention using a rapid-cycle Plan-Do-Study-Act approach (Muhammed et al., 2020). The baseline 15 neonates in the study. The rate of exclusively breastfed infants was determined to be 33%. The goal of the quality improvement project was to increase exclusive rates in the first 24 hours to greater than 90% over the next six weeks (Muhammed et al., 2020).

Exclusive breastfeeding excludes all supplementation for the first twenty-four hours of life. The first step of the study was to establish a breastfeeding policy and build support of the initiative through formal discussion and lectures with the staff. Breastfeeding techniques were consistently discussed with each mother through PowerPoint slides and posters by team members. All caregivers followed similar steps while supporting the breastfeeding goals of each mother in the first few feedings. Another essential purpose of the study was to promote skin to skin in each qualifying

delivery and targeted breastfeeds during the first hour of life. New staff members repeatedly engaged in discussions of the physiology of milk letdown and the disadvantages of formula feeding (Muhammed et al., 2020). Statistical software analyzed all data. A 'p' value of  $<0.05$  identified the value as significant. By the end of the QI initiative, 94% of neonates exclusively breastfed in the first twenty-four hours of life. In conclusion, this study utilized the tenets of the Baby-Friendly Hospital Initiative, focusing on the education of health care staff to improve breastfeeding exclusivity in healthy neonates (BFHI, 2020).

### **Exploring the link between self-efficacy, workplace learning, and clinical practice**

Nursing practice is composed of scientific knowledge gained via formal education and rules of engagement gained through on-the-job training and patient encounters (Cox & Simpson, 2016). Workplace learning provides nurses with the opportunity to apply disciplinary knowledge learned in formal education in real-world contexts (Cox & Simpson, 2016). Improvements in feelings of self-efficacy, problem-solving skills, and oral communication have been attributed to workplace learning.

Self-efficacy is a person's belief in organizing and executing a plan to obtain a designated outcome. Nurses who experience a strong sense of self-efficacy will perform tasks with greater confidence and persist when experiencing challenging tasks or situations (Cox & Simpson, 2016). Opportunities for face-to-face educational sessions have proven beneficial for reducing performance anxiety and improving confidence (Cox & Simpson, 2016). In conclusion, this article describes an essential connection between foundational knowledge and feelings of self-efficacy. Poor performance in one area may

be attributed to a lack of feelings of self-efficacy and not necessarily poor preparation or ignorance (Cox & Simpson, 2016).

### **Education and training of health care staff in the knowledge, attitudes, and skills needed to work effectively with breastfeeding women: a systematic review.**

Women have endorsed a need for more significant support to participate in breastfeeding effectively; however, evidence has revealed that many healthcare staff members lack the necessary knowledge, attitudes, and skills to provide a good foundation in lactation management (Gavine et al., 2017). This article discusses whether or not education and training programs impact nurses' knowledge about supporting breastfeeding. A systematic search of the literature compared/contrasted various trials involving breastfeeding education and training for healthcare staff in compliance with the Baby-Friendly Hospital Initiative (BFHI, 2020). The Cochrane Pregnancy and Childbirth Group's registry, 1192 reports were identified with a total of 250 participants. Due to the various outcome measures involved, an overarching meta-analysis was not possible. Bias risk was ranked as high to unclear (Gavine et al., 2017). In conclusion, this review highlighted a lack of robust evidence about breastfeeding and education for healthcare staff (Gavine et al., 2017). There persists an absence of standardized testing and a gap in peer-reviewed evidence on nursing education's impact on breastfeeding rates.

### **Assessing Application-Based Breastfeeding Education for Physicians and Nurses: A Scoping Review**

Providers often lack the necessary skills and confidence to educate mothers on the importance of lactation management. Poor lactation management is one result of a need for standardized education and training programs for hospitals. This study selected 10

peer-reviewed articles published between 2000 to 2018 with nurses and residents as the target-learner group (Chuisano & Anderson, 2020). Skills training had actual and simulated patient encounters. The study revealed inconsistent teaching and evaluation tools. Variability in the teaching/measurement tools mirrored inconsistencies amongst employee breastfeeding educational requirements and contributed to low breastfeeding rates amongst their clients. In contrast, hospitals whose staff training supported the tenets of the Baby-Friendly Hospital Initiative experienced an increase in breastfeeding rates (Chuisano & Anderson, 2020). This increase indicates a significant connection between standardized breastfeeding education programs and breastfeeding rates.

### **Evidence-Based Practice: Verification of Chosen Option**

Maternal factors present obstacles to exclusive breastfeeding (Radzysinski & Callister, 2016). In one study, the lack of understanding of breastfeeding correlated to the desire to formula feed. With proper education and necessary support, mothers will more likely choose to exclusively breastfeed (Vanderlinden & Van de Putte, 2017). Multiple studies reveal there is a significant increase in breastfeeding rates with proper education. Promoting self-efficacy amongst staff nurses through breastfeeding education can positively impact breastfeeding rates in patients (Alvarado, Goldman, Garcia, Johnson & Duarte, 2018).

### **Theoretical Framework/Evidence-Based Practice Model**

The Theory of Goal Attainment, developed by Imogene King, theorizes that nursing is a process of action, reaction, and interaction between nurses and patients (see Appendix A). Through communication, they set goals and achieve goals. The nurse and



patient work towards goals that support improved health Together the nurse and patient work towards goals that support improved health (Butts & Rich, 2018).

Maternal education positively correlates to increased exclusive breastfeeding rates (Vanderlinden & Van de Putte, 2017). In this DNP project, post-partum nurses will receive education focusing on effective therapeutic communication and responsive breastfeeding. These nurses provide education to mothers from underserved populations that would most benefit from formal breastfeeding education.

### **Goals, Objectives, and Expected Outcomes**

Post-partum nurses often lack confidence in their ability to provide breastfeeding assistance to new mothers (Radzynski & Callister, 2016). In one hospital in southern Alabama surrounded by an underserved patient population, exclusive breastfeeding rates were consistently low. This DNP project addressed this problem by providing education focused on adequate feedings and therapeutic communication to increase self-efficacy and increase knowledge of breastfeeding practices amongst nursing staff. Expected outcomes include nurses demonstrating advanced breastfeeding practices outlined in the Baby-Friendly Hospital Initiative (BFHI, 2020). Nurses will show an increase in self-efficacy concerning providing breastfeeding education to all mothers.

### **Project Design**

This quality improvement project aims to increase breastfeeding knowledge of nurses working in the maternal-infant unit at a level II hospital in southern Alabama. Staff members participated in education backed by the 10 steps to successful breastfeeding (BFHI, 2020). All participants provided consent (see Appendix B). Nurses

participated in a pre-test and a post-test to produce quantitative evidence for quality improvement measurements (see Appendices C and D). Educating nurses who are in direct contact with patients provides substantial results in relation to breastfeeding rates. Well-informed and confident nurses positively influence the initiation and duration of breastfeeding (Radzynski & Callister, 2016).

### **Project Site and Population**

The quality improvement initiative took place in a maternal-infant unit at a level II hospital in southern Alabama. The state of Alabama has a population of approximately 5,024,279 people. According to the Census Bureau, only 25 % hold a Bachelor's degree or higher (as compared to a national average of 36%), and about 16% live at or below the poverty level (U.S. Census Bureau [USCB], 2019). Infants born in areas with education and income inequalities are at higher risk of mortality (Pabayo, Cook, & Harling, 2019). Initiating breastfeeding reduces the risk of infant mortality by at least 20%. By three months of age, infant mortality risk is reduced by 40 % if breastfed exclusively (BFHI, 2020)

### **Setting facilitators and barriers**

The chosen facility does not provide prenatal lactation management classes. Consequentially, most education about breastfeeding occurs after delivery by bedside post-partum nurses. Resources included a platform where teaching occurs with minimal disruption of the staffing workflow. Constraints included staff members who are opposed to change.

## **Implementation Plan/Procedures**

Therapeutic communication and a thorough understanding of responsive breastfeeding are crucial for reducing health disparities within this patient population. A convenience sampling approach helped obtain volunteer post-partum registered nurses for participation. A total of 15 nurses participated in the study. A pre-test was provided (see Appendix C) to ascertain baseline knowledge. Post-partum nursing staff participated in education supporting exclusive breastfeeding practices as outlined in the Baby-Friendly Initiative (BFHI, 2020). A single group pre-test, post-test design compared the effectiveness of education on therapeutic communication, nurses' responsiveness to breastfeeding education and the staff members' feelings of self-efficacy. Nurses participated in identical knowledge inventory scales during the pre-intervention and post-intervention periods (see Appendix D). After participating in the intervention phase, participant scores increased in the ability to explain breastfeeding concepts and in self-confidence.

## **Measurement Instruments**

Quality improvement involves a systematic approach to improving performance (American Academy of Family Physicians, 2021). The quasi-experimental design pre-test post-test provided results to compare/contrast the effectiveness of education on therapeutic communication, breastfeeding responsiveness, and self-efficacy. Evidence from a single group pre-test post-test design (See Appendices C and D) compared the perceived effectiveness of education on therapeutic communication, breastfeeding

responsiveness, and self-efficacy. This program developer used a convenience sampling approach to obtain volunteers.

### **Data Collection Procedures**

Pre-Intervention: Post-partum nurses received notification via an announcement during huddle and with unit signs outlining participation in the study. A pre-test was provided with questions about breastfeeding and feelings of self-efficacy to determine baseline knowledge. During the intervention, participants had access to educational PowerPoint slides focusing on therapeutic communication and identification of responsive feeding sessions. Assessments of the pre-tests and post-tests occurred during the post-intervention stage.

### **Data Analysis**

The measures of central frequency used in this study are the mean, median, mode, variance, and standard deviation; however, the mean was the most appropriate measure of central tendency distribution as it reflects the mean for the target population (Fraenkel, Wallen & Hyun, 2011). Additionally, the mean is the only measure that uses all scores in a distribution, calculating every score. The median or the midpoint in a dataset is unlike the mean, as it considers extreme scores or outliers that may skew the actual average (Salkind, 2011). The mode is the least favorable measure as it identifies the value that occurs most frequently in a dataset and standard deviation is the most useful index of variability. There were no significant differences derived from calculating the median, mode, variance, and standard deviation as measures of central tendency. In this study, the mean was the appropriate measure as it provided the sum of all values reported by participants and an average was calculated to determine the typical response.

A total of 15 nurses participated in the pre-test. For this study, the mean response was calculated per question to ascertain participants average reaction to each item on the scale. Responses were captured prior to participants receiving any training related to this topic for this study. A scenario of a patient planning to breastfeed to ascertain nurses' breastfeeding assistance practices in questions 1 – 7. Questions 3-10 were related to self-efficacy.

The Breastfeeding Initiation Practice Posttest Scale (see Appendix D) was administered to the 15 participating nurses after receiving training. Overall knowledge of breastfeeding and feelings of self-efficacy increased as a result of the intervention. The graph shown in Appendix E suggests that on average, most nurses maintained the belief that the baby would "quite likely" correctly attach without assistance in the first hour of birth. The data also indicates a few shifts in responses in the post-test compared to the pre-test. For example, an additional nurse believed it was "unlikely" for the baby to attach correctly without assistance in the first hour. Another nurse thought it was "improbable" that the baby would attach after receiving the training.

Fewer responders stated that they would "occasionally" put the baby on the breast for the mother and two more indicated that they would "sometimes" put the baby on the breast. One additional nurse would "always" put the baby on the breast after receiving the training. The resulting data further supported increasing feelings of self-efficacy and knowledge (see Appendix E).

## Cost-Benefit Analysis/Budget

This education platform can be reproducible online. Therefore, the cost of instruction is reduced compared to in-person education. The opportunity for sustainability increases as the cost decreases. Management should oversee breastfeeding as a unique quality initiative as this measure can positively impact patient satisfaction scores and generate revenue for the hospital. Cost potential to the facility for implementation of this project includes software/hardware to develop tests and educational links, developer's time to generate the course, and lost production time for participants to take the test. Budget as follows:

Developer's cost: average salary for one 40-hour work week + Lost production time; 15 nurses X \$24 per hour (average hourly rate of nurses at this facility)/1 hour= \$1,367 + \$360= \$1,727. Benefits: Achievement of Baby-Friendly status, increased staff competence, and overall improved quality scoring (BFHI, 2020).

## Timeline

The project's timeline occurred from March 2021 until June 2021. During the initial phase of the project, nurses were recruited for participation. The pre-test and implementation of the educational module occurred from March 1, 2021- March 20, 2021. The second phase consisted of gathering post-test results. This phase occurred from March 20, 2021-March 31, 2021. The tertiary and final phase consisted of data analysis, which began in April 2021 and concluded in June 2021.

## **Ethical Considerations/Protection of Human Subjects**

Jacksonville State University Institutional Review Board (IRB) granted approval before the DNP project was initiated (see Appendix F). All participants were offered protection by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) which guaranteed patients' health information privacy. Along with my preceptor Amy Blackwell, this project coordinator carefully conducted this project following standards of care outlined for patients and staff in the hospital setting. All information collected did not include any potential patient identifiers.

## **Conclusion**

Health, economic, and racial disparities exist in southern Alabama. This quality improvement project aimed to increase breastfeeding knowledge and feelings of self-efficacy in nursing staff serving population groups that historically have lower participation in breastfeeding and higher infant mortality rates. Limitations of this study included the participation of nurses working day shift versus night, underlying bias concerning breastfeeding, and nursing experience. More involvement from night shift nurses would have helped give greater insight into the specific challenges faced in the evening with supporting breastfeeding mothers.

Every mother has the right to make an informed decision on how she wants to feed her baby (BFHI, 2020). Raising a woman's awareness of the benefits of breastfeeding may include challenging incorrect beliefs, traditions, attitudes, and raising maternal confidence in her ability to care for her baby (Jeihooni, Kashfi, & Harsini, 2019). Nursing staff that has been equipped with adequate training demonstrate a higher

level of breastfeeding knowledge and exhibit increased feelings of confidence in educating their patients.



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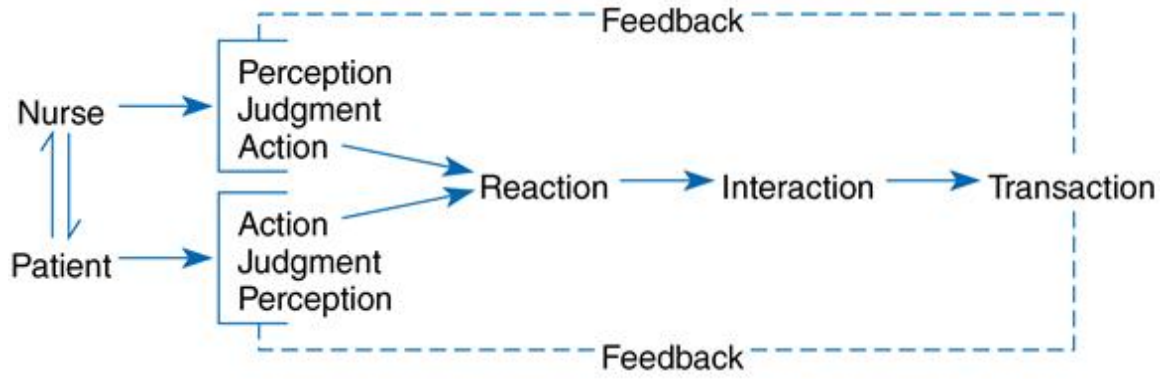
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APPENDIX A



KINGS THEORY OF GOAL ATTAINMENT

## APPENDIX B

Participant 5-digit number \_\_\_\_\_

Jacksonville State University

Consent for Participation

### **CAN PROVISION OF ADDITIONAL EDUCATION FOR NURSING STAFF INCREASE BREASTFEEDING KNOWLEDGE AND FEELINGS OF SELF-EFFICACY?**

#### Concise Summary:

The purpose of this proposed Doctor of Nursing Practice (DNP) quality improvement project is to improve nursing knowledge and feelings of self-efficacy regarding breastfeeding practices. The American Academy of Pediatrics recommends breastfeeding exclusively for the first six months of life to help provide a proper foundation for good nutrition (Centers for Disease Control and Prevention [CDC], 2018). Healthy People 2020 has established a goal to have 81.9 percent of all infants born in the United States (U.S.) to be breastfed (Office of Disease Prevention and Health Promotion, 2020). Breastfeeding is associated with a reduced risk of asthma, obesity, ear and respiratory infections, type two diabetes, and sudden infant death syndrome (SIDS) (CDC, 2018). Breastfeeding at least one infant can lower the mother's risk for developing hypertension, Type-two diabetes, ovarian cancer, and breast cancer (CDC, 2018). Although benefits of breastfeeding are well published, infants in the south, from lower economic backgrounds are less like to be breastfed. In Alabama, only 68.1% of infants are ever breastfed (CDC, 2018). Education, health, and economic disparities exist among the population of individuals who do not breastfeed in Alabama. The participant (s) will be required to voluntarily participate in this study for approximately 4 weeks. The participant (s) will be asked to complete an education session, pre-intervention questionnaire, and an additional post-intervention questionnaire. The participant (s) will spend approximately one hour and thirty minutes to complete the educational session, surveys, and questionnaires. The following are the approximate time and items that will be required by the participant (s) to complete during the project: educational session 30 minutes, pre-education questionnaire 20 minutes, post-education survey 20 minutes, and informed consent 20 minutes.

You are being asked to be a participant in a quality improvement project about improving nursing education regarding effective feedings and therapeutic patient communication conducted by DNP student Akeba Thompson, MSN, R.N., at Jacksonville State University. You have been asked to participate in the project because you are a registered nurse and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the project.

Your participation in this project is voluntary. Your decision whether to participate or not will not affect your current or future relationship with Jacksonville State University or this hospital. If you decide to participate, you are free to withdraw at any time without affecting either relationship.

The purpose of this project is to improve knowledge and feelings of self-efficacy amongst nursing staff providing education to breastfeeding mothers.

If you agree to be in this project, you will be asked to do the following things: sign an informed consent form, complete a pre-intervention test, attend an educational session, complete a post intervention survey. You will be required to provide a contact number for follow up discussion during the project.

Approximately twenty participants may be involved in this quality improvement project at this hospital in southern Alabama. The project involves no risk/discomforts and/or inconveniences to the participants. The project involves no unforeseeable risks to the participant (s). The benefits of participating in the project include gaining knowledge regarding breastfeeding and an increase in self-efficacy in providing breastfeeding assistance to mothers in the hospital setting.

The only people who will know that you are a project participant are members of the project team. No information about you, or provided by you during the project, will be disclosed to others without your written permission. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

Any information that is obtained in connection with this project and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Results of the project will be kept on a flash drive with an encrypted password known only to the project manager. The flash drive will be kept in a locked cabinet at the project manger's place of residence and accessed only by the project manager.

Participants in the project will receive a random 5-digit identification number that will be used for data tracking. All participants completed informed consents, surveys, and questionnaires will have their random 5-digit identification number placed on the left upper hand corner of the forms. The project participants completed informed consents, surveys, questionnaires, and data will be stored in a locked cabinet at the project manager's place of residence and accessed only by the project manager. All informed consents, surveys, questionnaires, and data from the project will be destroyed after one year of the project following analyses of the data.

There is no monetary reimbursement for your participation in the project. Notification of significant new findings will be discussed with this hospital in southern Alabama and Jacksonville State University Doctor of Nursing faculty body. Your participation in the project will require no additional costs to you.

You can choose whether to be in this project or not. You may decide to not participate in the project at any time. If you volunteer to be in this project, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the project. You will be provided a copy of this informed consent form.

The person implementing this project is Akeba Thompson MSN, R.N. You may ask any questions you have now. The Jacksonville State University DNP Faculty Mentor is Dr.Heather Wallace who can be reached at [hgoodwin@jsu.edu](mailto:hgoodwin@jsu.edu).

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a project participant, you may contact the

Institutional Review Board (IRB) at Jacksonville State University through the following representative:

Dr. J Walsh, *IRB Chair*

Email: [jwalsh@jsu.edu](mailto:jwalsh@jsu.edu)

**Remember:** Your participation in this project is voluntary. Your decision whether or not to participate will not affect your current or future relations with Jacksonville State University or this hospital in southern Alabama. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

You will be given a copy of this form for your information and to keep for your records.

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this project. I have been given a copy of this form.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of Participant

\_\_\_\_\_  
Participant phone number

\_\_\_\_\_  
Signature of DNP Student

\_\_\_\_\_  
Date

## APPENDIX C

### Breastfeeding Initiation Practice Pre-Test Scale

This questionnaire presents a scenario and asks about your practice assisting women with the first breastfeed. You are the nurse attending the woman, at the time of initiation of the first breastfeed. Please answer the following questions (circle the number ○ beside YOUR answer OR write your answer in the space \_\_\_\_\_ provided).

#### SCENARIO

Chloe is a 20-year-old 38-week gestation primipara.

Antenatally well, attended antenatal classes, plans to breastfeed.

Uneventful 10-hour labor, given pethidine 100 mg IMI 3 hours prior to birth.

Spontaneous Vertex Delivery (SVD) of a live healthy female infant Apgars 8/9, weight 3320 grams requiring no medical intervention. Intact perineum.

Chloe's mother is keen to find out how much the baby weighs.

Parents consented to routine newborn vitamin K and hepatitis B injections for baby.

1. How would you view the likelihood of Chloe's baby attaching correctly to the breast without assistance within the first hour of birth?

**1 Most Unlikely      2 Unlikely      3 Likely      4 Quite Likely      5 Highly Unlikely**

To assist Chloe with the first breastfeed, I would:

2. Put the baby on the breast for her.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

3. Teach Chloe how to position and attach baby for optimal breast feeding.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**



4. Encourage Chloe to take time to allow the baby to self-attach with minimal assistance and explain a newborn's natural ability to breastfeed.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

5. Ask Chloe what she would like to do and explain the natural feeding ability of a newborn.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

6. Wait until Chloe is showered and able to sit up comfortably before offering assistance.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

7. Skin-to-skin contact helps the flow of colostrum after birth.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

### **Self-Efficacy**

8. If someone opposes me, I can find the means and ways to get what I want.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

9. Thanks to my resourcefulness, I know how to handle unforeseen situations.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

10. I can solve most problems if I invest the necessary effort.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

Creedy, D., Cantrill, R.& Cooke, M. (2008) Assessing midwives' breastfeeding knowledge: Properties of the Newborn Feeding Ability questionnaire and Breastfeeding Initiation Practices Scale. *International Journal of Breastfeeding*. Retrieved from <https://doi.org/10.1186/1746-4358-3-7>

Schwarzer, R.& Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.

## APPENDIX D

### Breastfeeding Initiation Practice Post-Test Scale

This questionnaire presents a scenario and asks about your practice assisting women with the first breastfeed. You are the nurse attending the woman, at the time of initiation of the first breastfeed. Please answer the following questions (circle the number ○ beside YOUR answer OR write your answer in the space \_\_\_\_\_ provided).

### SCENARIO

Chloe is a 20-year-old 38-week gestation primipara.

Antenatally well, attended antenatal classes, plans to breastfeed.

Uneventful 10-hour labor, given pethidine 100 mg IMI 3 hours prior to birth.

Spontaneous Vertex Delivery (SVD) of a live healthy female infant Apgars 8:9, weight 3320 grams requiring no medical intervention. Intact perineum.

Chloe's mother is keen to find out how much the baby weighs.

Parents consented to routine newborn vitamin K and hepatitis B injections for baby.

1. How would you view the likelihood of Chloe's baby attaching correctly to the breast without assistance within the first hour of birth?

**1 Most Unlikely      2 Unlikely      3 Likely      4 Quite Likely      5 Highly Unlikely**

To assist Chloe with the first breastfeed, I would:

2. Put the baby on the breast for her.

**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

3. Teach Chloe how to position and attach baby for optimal breast feeding.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
4. Encourage Chloe to take time to allow the baby to self-attach with minimal assistance and explain a newborn's natural ability to breastfeed.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
5. Ask Chloe what she would like to do and explain the natural feeding ability of a newborn.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
6. Wait until Chloe is showered and able to sit up comfortably before offering assistance.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
7. Skin-to-skin contact helps the flow of colostrum after birth.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

### **Self-Efficacy**

8. If someone opposes me, I can find the means and ways to get what I want.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
9. Thanks to my resourcefulness, I know how to handle unforeseen situations.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**
10. I can solve most problems if I invest the necessary effort.  
**1 Never      2 Occasionally      3 Sometimes      4 Mostly      5 Always**

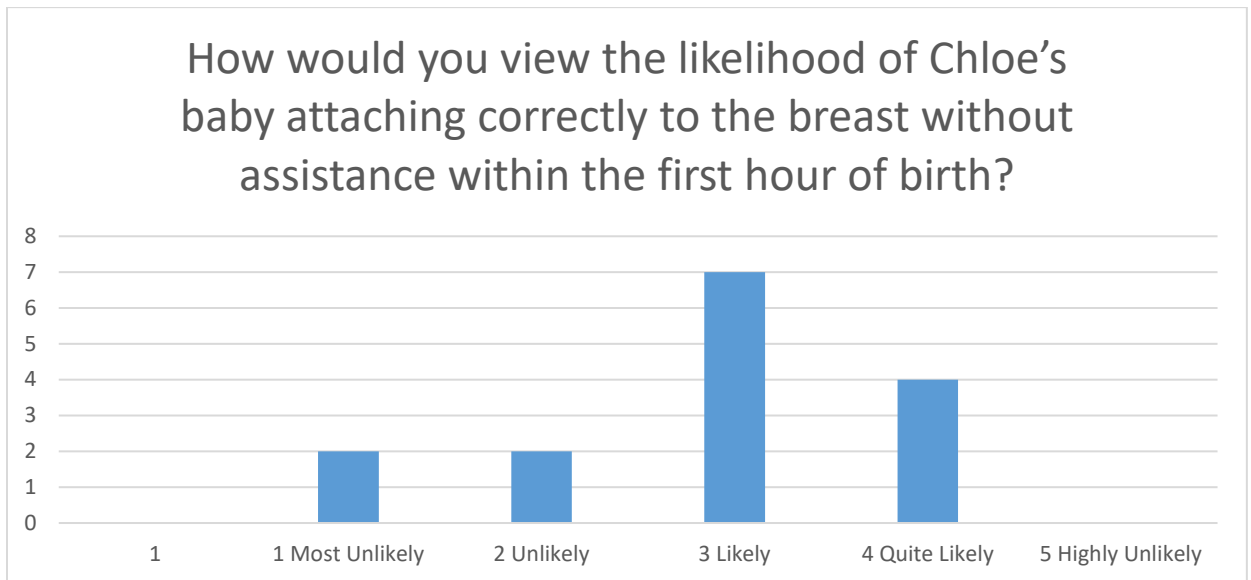
Creedy, D., Cantrill, R.& Cooke, M. (2008) Assessing midwives' breastfeeding knowledge: Properties of the Newborn Feeding Ability questionnaire and Breastfeeding Initiation Practices Scale. *International Journal of Breastfeeding*. Retrieved from <https://doi.org/10.1186/1746-4358-3-7>

Schwarzer, R.& Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON

## APPENDIX E

Responses were captured prior to participants receiving any training related to this topic for the purpose of this study. Participants were given a scenario of a patient planning to breastfeed to ascertain nurses' breastfeeding assistance practices in questions 1 – 7.

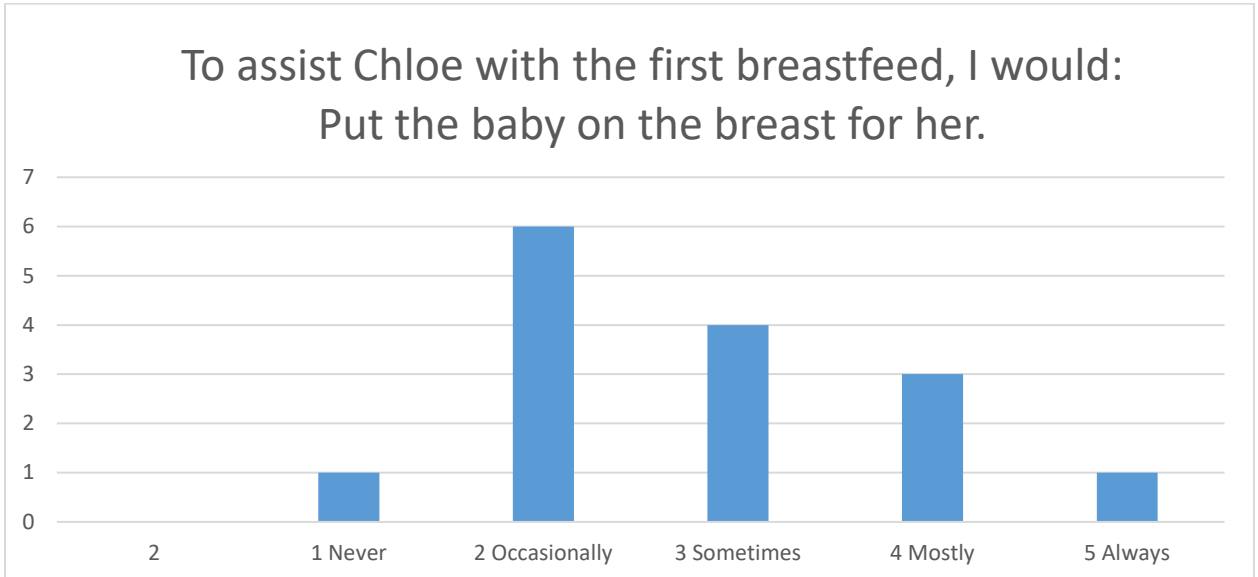
When asked about the likelihood of the newborn attaching correctly to the breast, data revealed that on average participants believed it was "likely" at the time of pre-test. The graph below displays the summation of 15 respondents on Question #1 (Q1) of the pre-test.



The table below indicates the central tendency frequency of participants responses to Q1 of the Breastfeeding Initiation Practice Pre-Test Scale by mean, median, mode, variance, and standard deviation.

Total	Mean	Median	Mode	Variance	Std. Dev
15	3	2	2	7	2.645

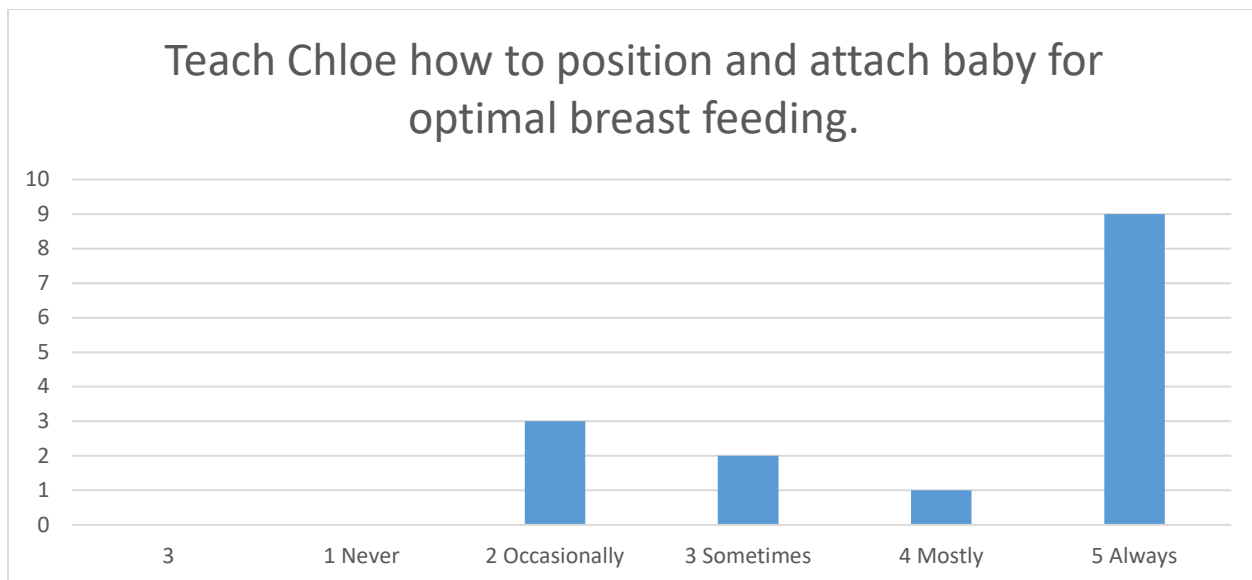
When asked about the practice of putting the baby on the mother's breast for the first breastfeed in Q2, most participants on average answered "occasionally".



Q2 central tendency frequency is listed in the table below:

Total	Mean	Median	Mode	Variance	Std. Dev
15	3	3	1	4.5	2.121

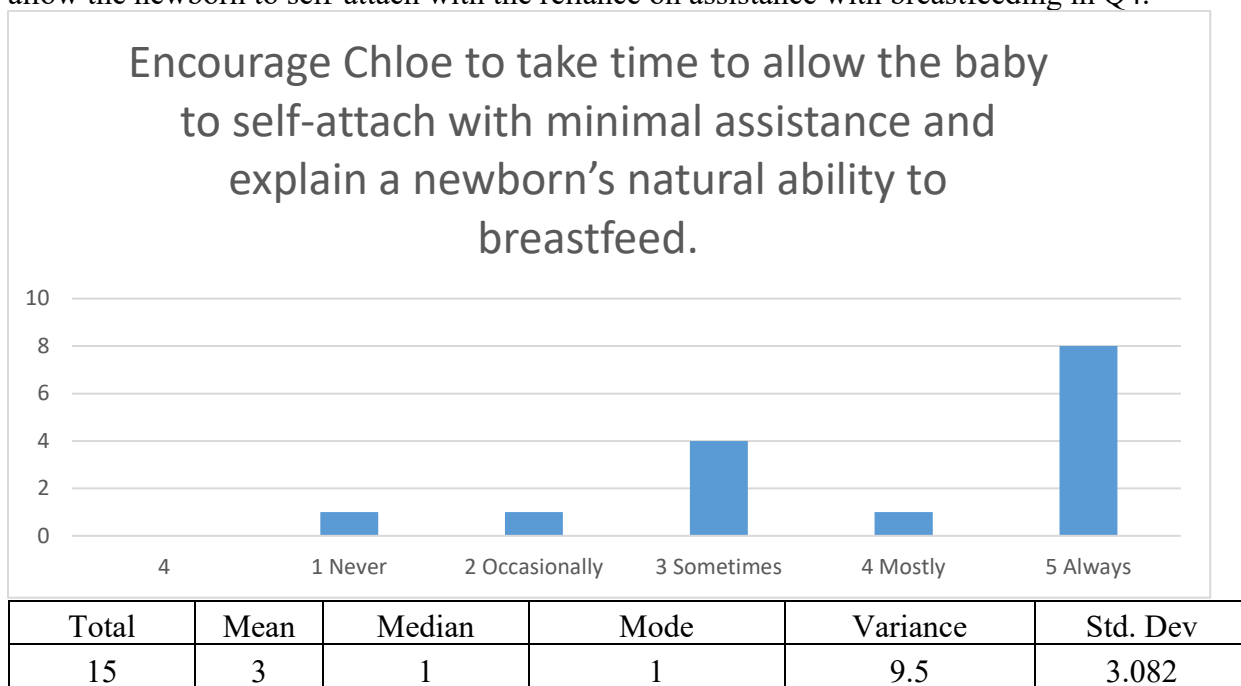
In Q3, participants were asked if they were to teach the new mother how to position and attach the baby for optimal breast feeding. Most participants responded "always".



Total	Mean	Median	Mode	Variance	Std. Dev
15	3	2	*	12.5	3.536

*\*Data did not reveal a mode or repeated pattern of a particular response needed to measure mode.*

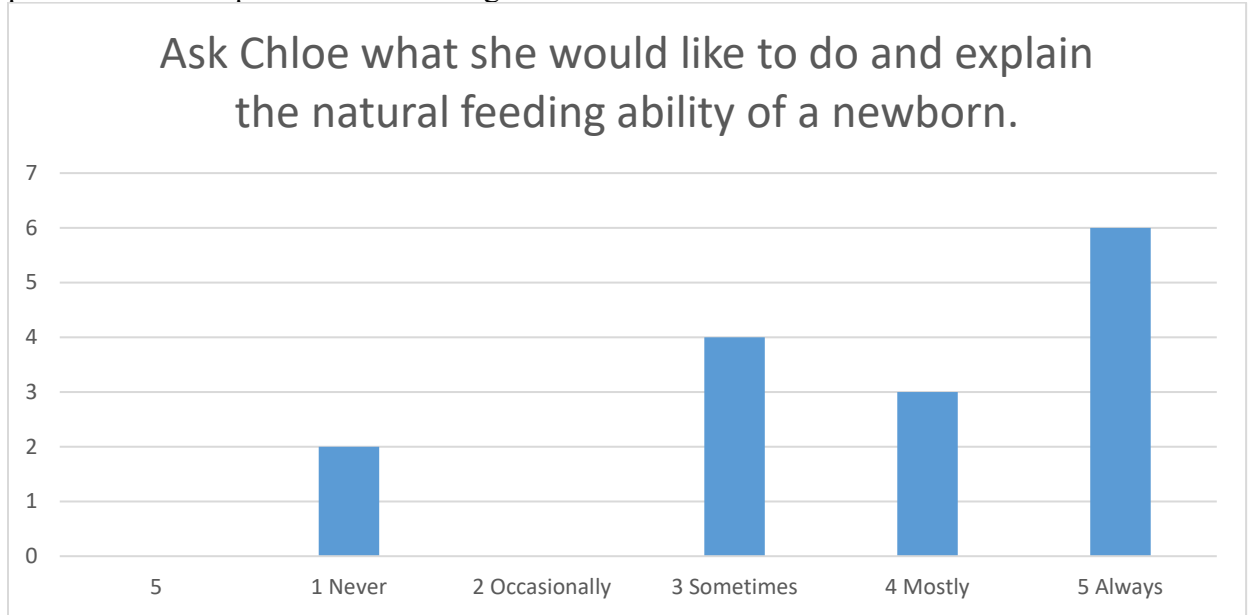
Most participants responded “always” when surveyed on encouraging the mother to allow the newborn to self-attach with the reliance on assistance with breastfeeding in Q4.



Total	Mean	Median	Mode	Variance	Std. Dev
15	3	1	1	9.5	3.082

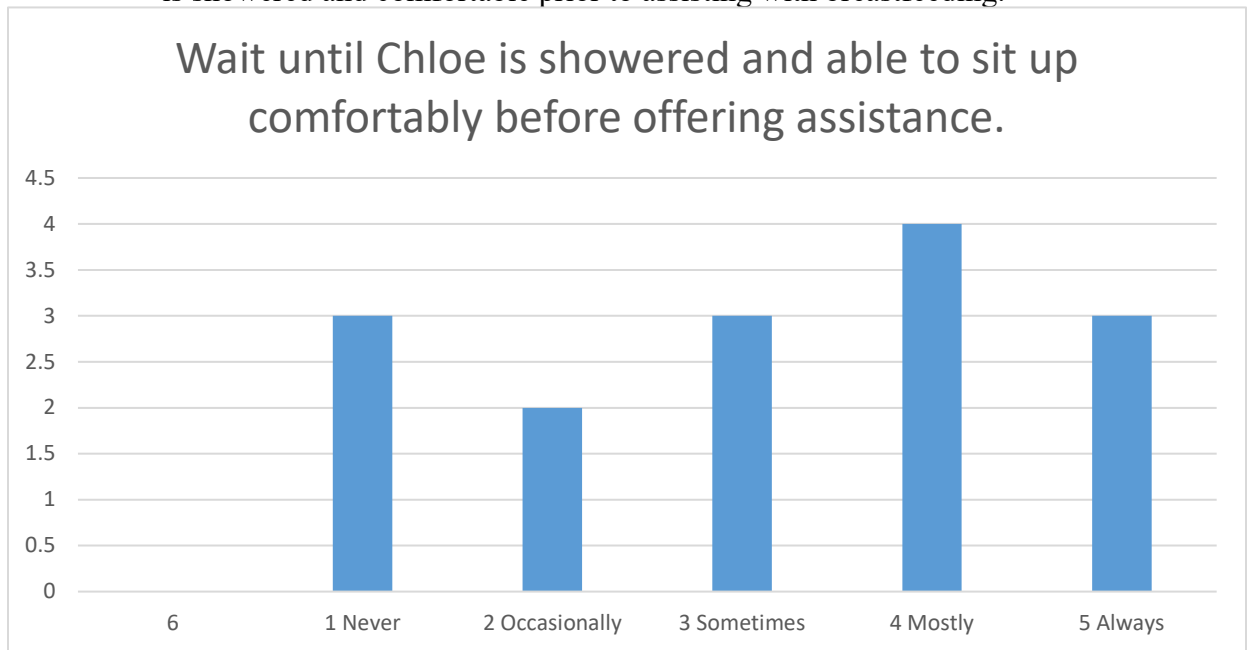


In Q5, majority of participants responded that they “always” determine the mother’s preference and explain natural feeding abilities of newborns.



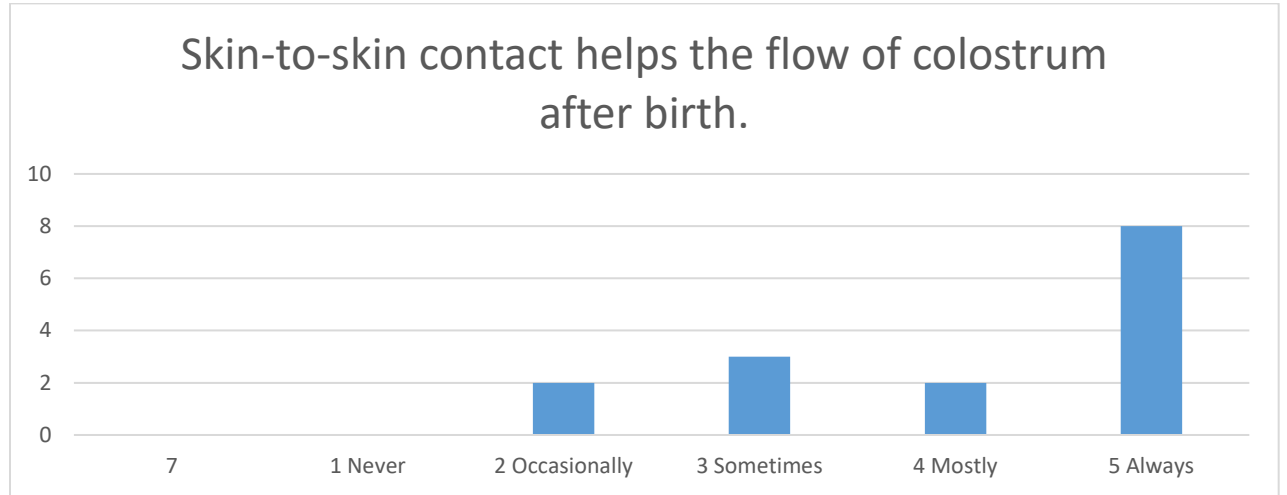
Total	Mean	Median	Mode	Variance	Std. Dev
15	3	3	*	5	2.236

In Q6, majority of participants responded that they would “mostly” wait until the mother is showered and comfortable prior to assisting with breastfeeding.



Total	Mean	Median	Mode	Variance	Std. Dev
15	3	3	3	0.5	0.707

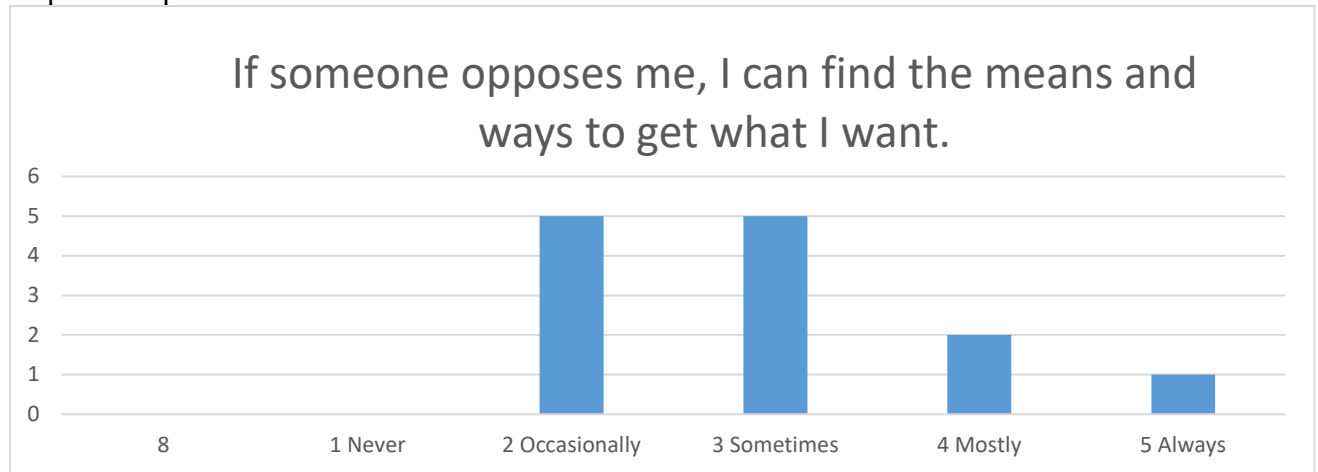
In Q7, most participants responded that skin contact “always” assists with the production of colostrum.



Total	Mean	Median	Mode	Variance	Std. Dev
15	3	2	2	9	3

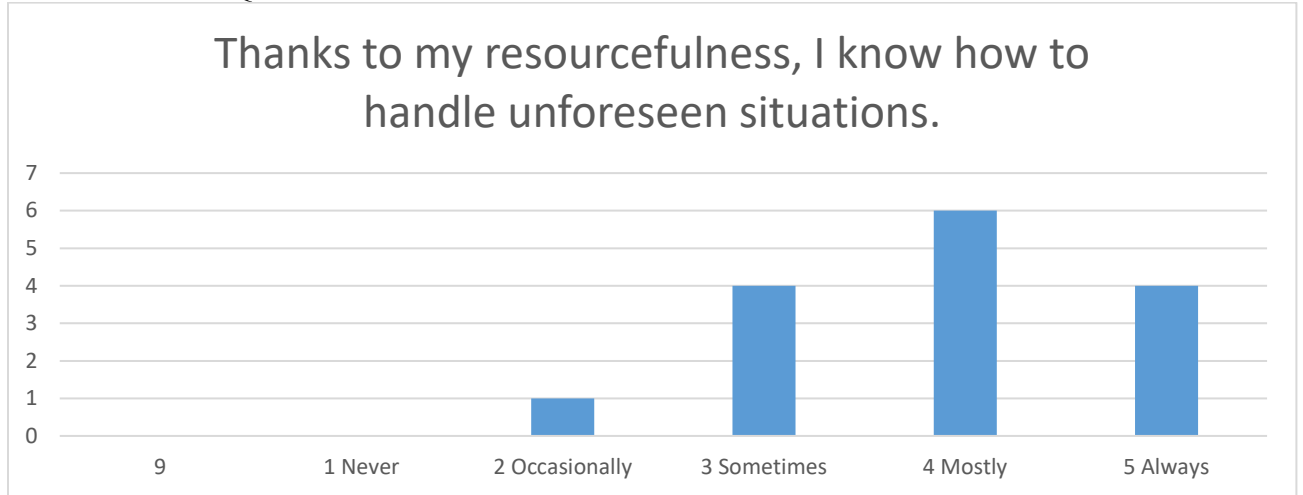
Questions 8 – 10 of the Breastfeeding Initiation Practice Scale Pre-test address the self-efficacy of nurses participating in the study.

In Q8, when asked about opposition, most respondents answered that they “occasionally” or “sometimes” find ways to get what they want. Participants #2 and #8 did not provide a response to pre-test.



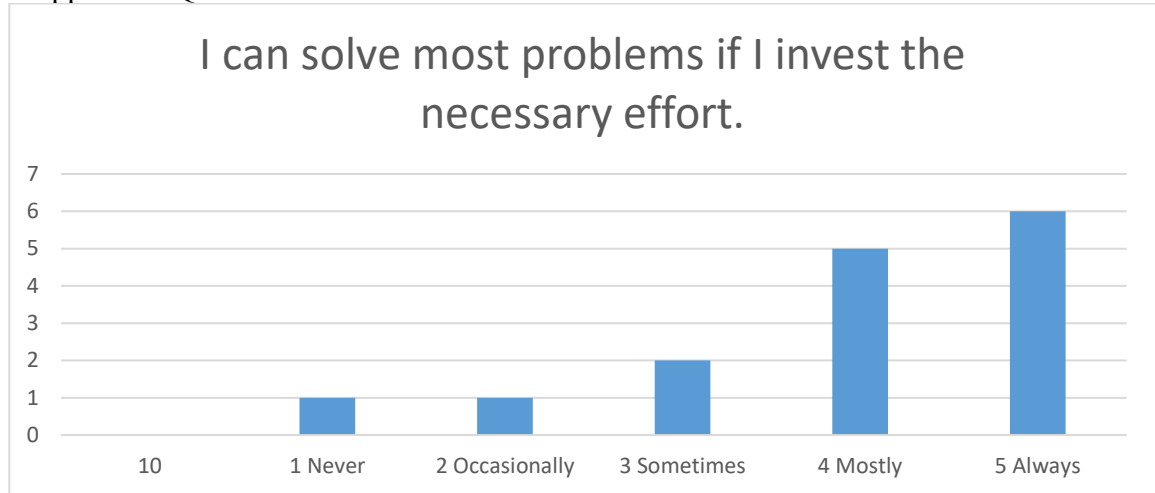
Total	Mean	Median	Mode	Variance	Std. Dev
13	2.6	2	5	5.3	2.302

On average, participants responded that they “always” know how to manage unforeseen circumstances in Q9.



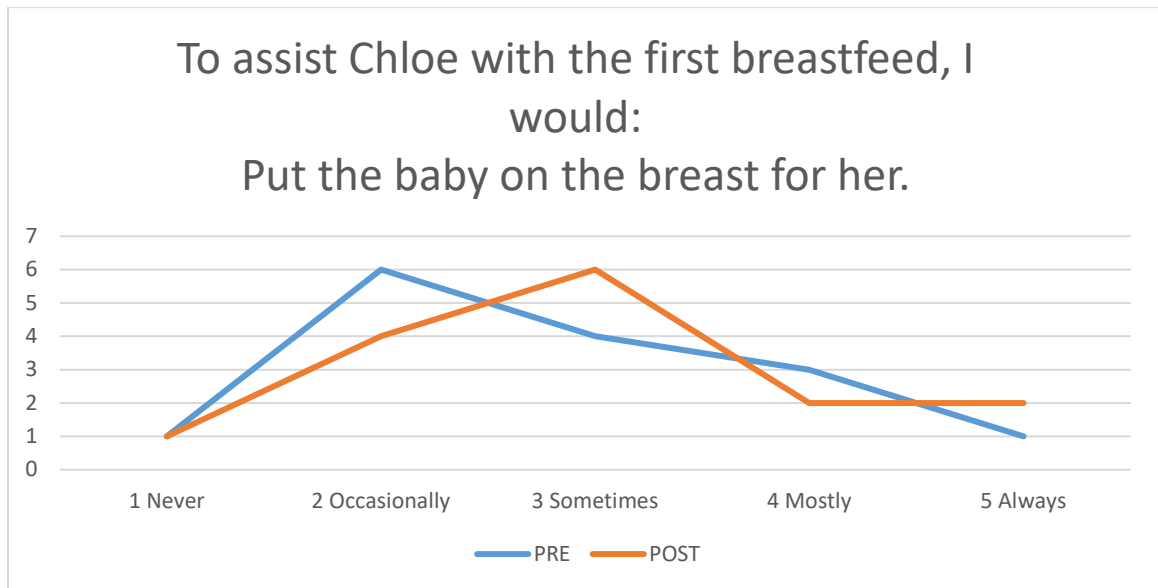
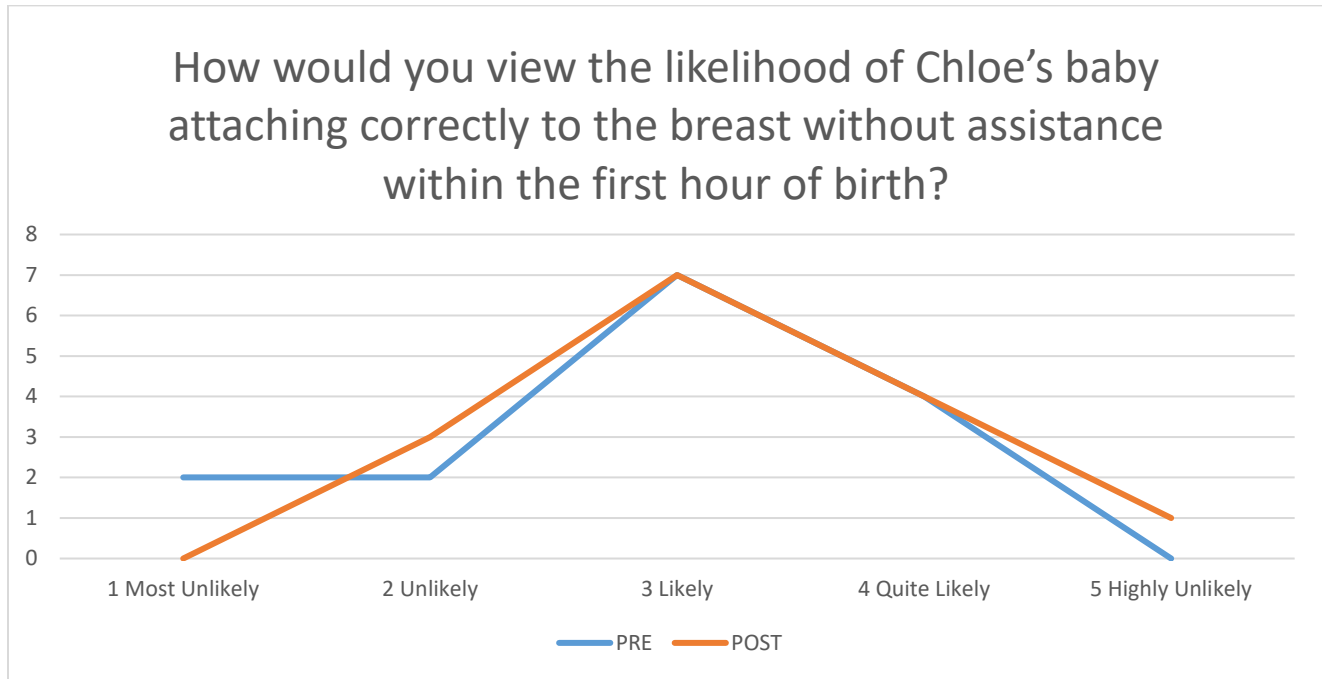
Total	Mean	Median	Mode	Variance	Std. Dev
15	3	4	4	6	2.449

Majority of participants responded largely that they “always” solve problems when effort is applied in Q10.



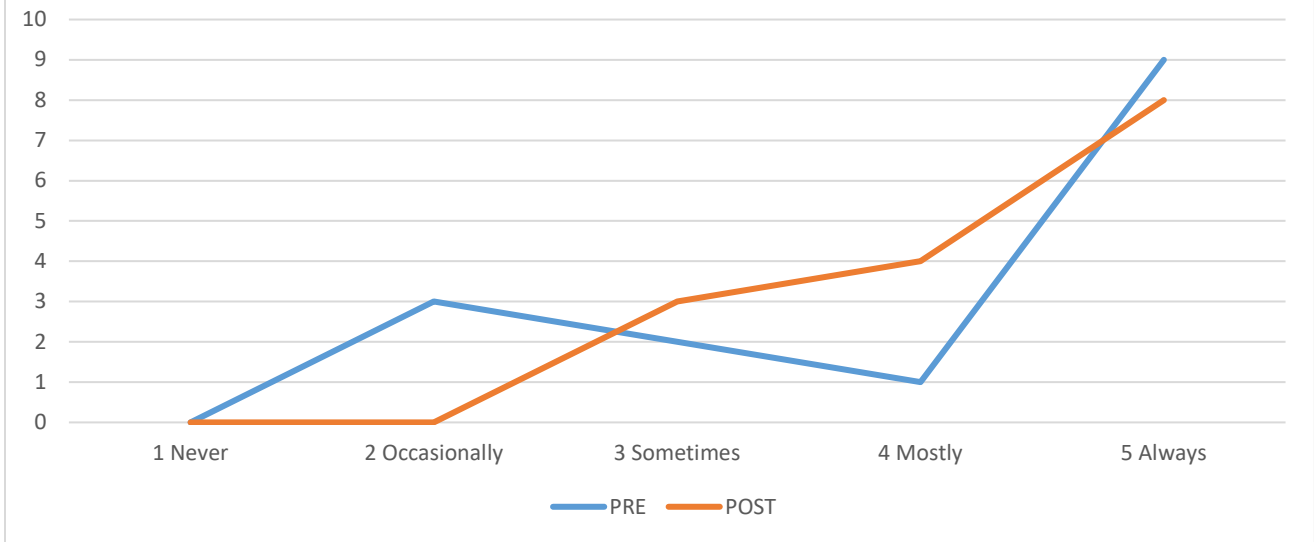
Total	Mean	Median	Mode	Variance	Std. Dev
15	3	2	1	5.5	2.345

### Breastfeeding Initiation Practice Posttest Scale Data



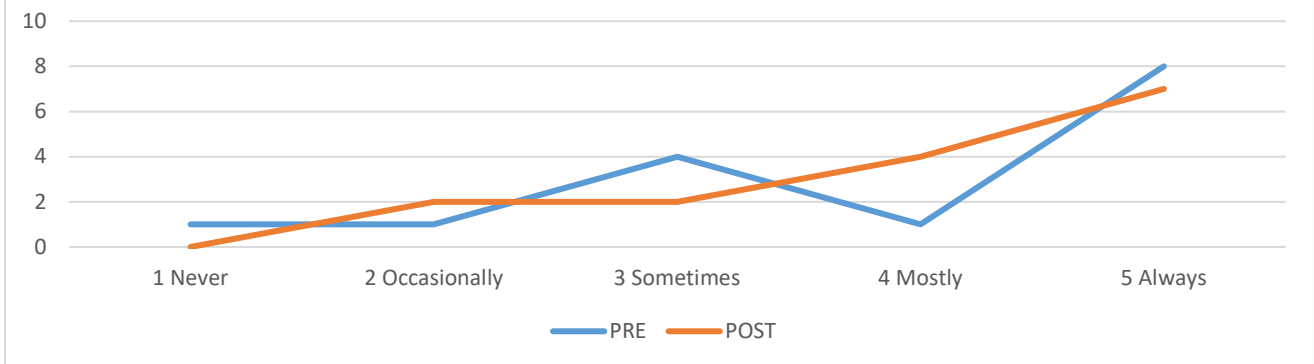
After the training, there was an increase in the number of respondents that believed that it is "mostly" or "always" important to teach mother's how to position and attach the baby for optimal breast feeding in the post-test for Q3.

### Teach Chloe how to position and attach baby for optimal breast feeding.



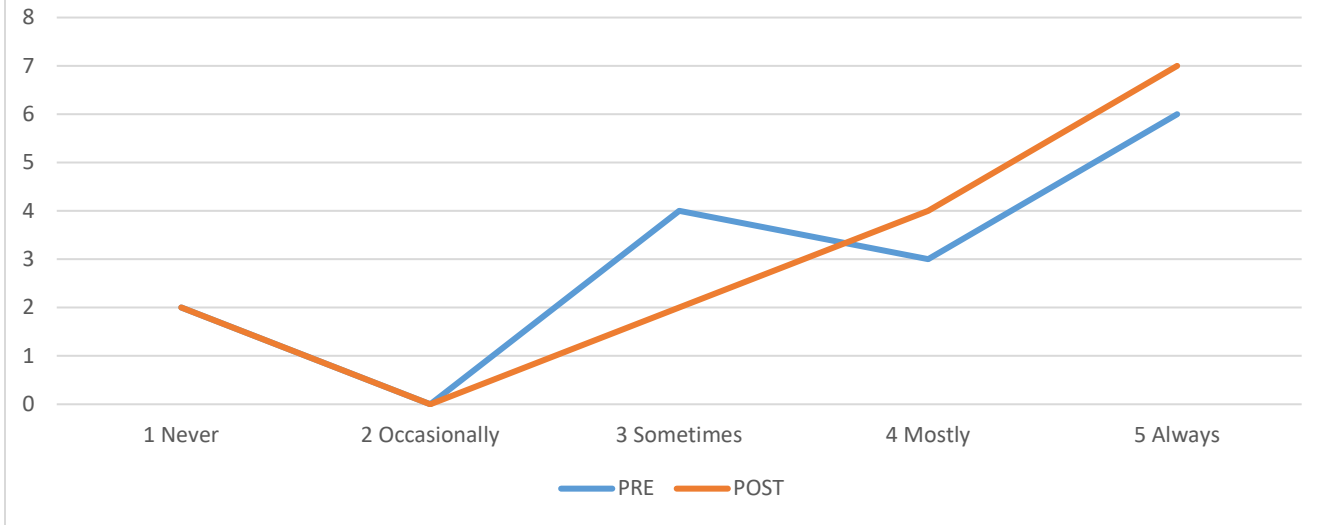
Post-test outcomes for Q4 reveal that more nurses would "mostly" encourage mothers to allow the newborns to self-attach with minimal assistance and explain the babies' ability to breastfeed to the mothers.

### Encourage Chloe to take time to allow the baby to self-attach with minimal assistance and explain a newborn's natural ability to breastfeed.



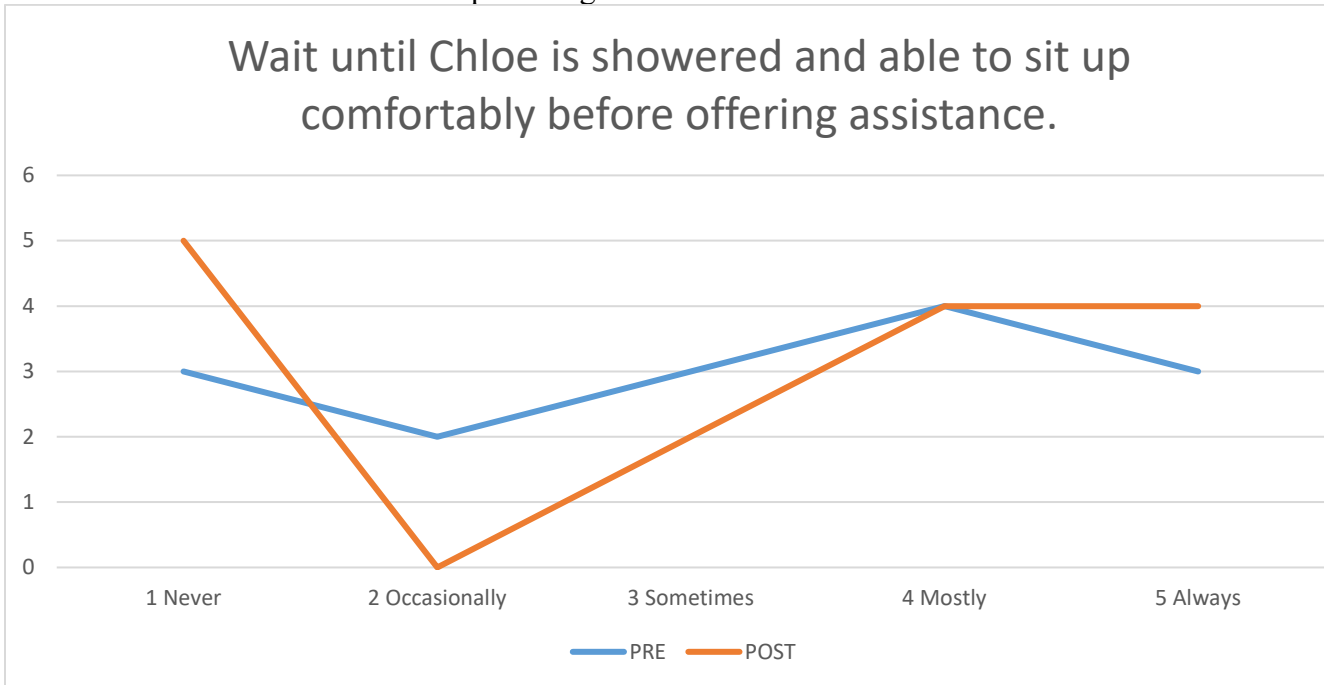
Q5 post-test data indicates that after the training, there was an increase in participants that would "mostly" or "always" ask the mother their preference and provide and explain how to naturally feed the newborn.

### Ask Chloe what she would like to do and explain the natural feeding ability of a newborn.

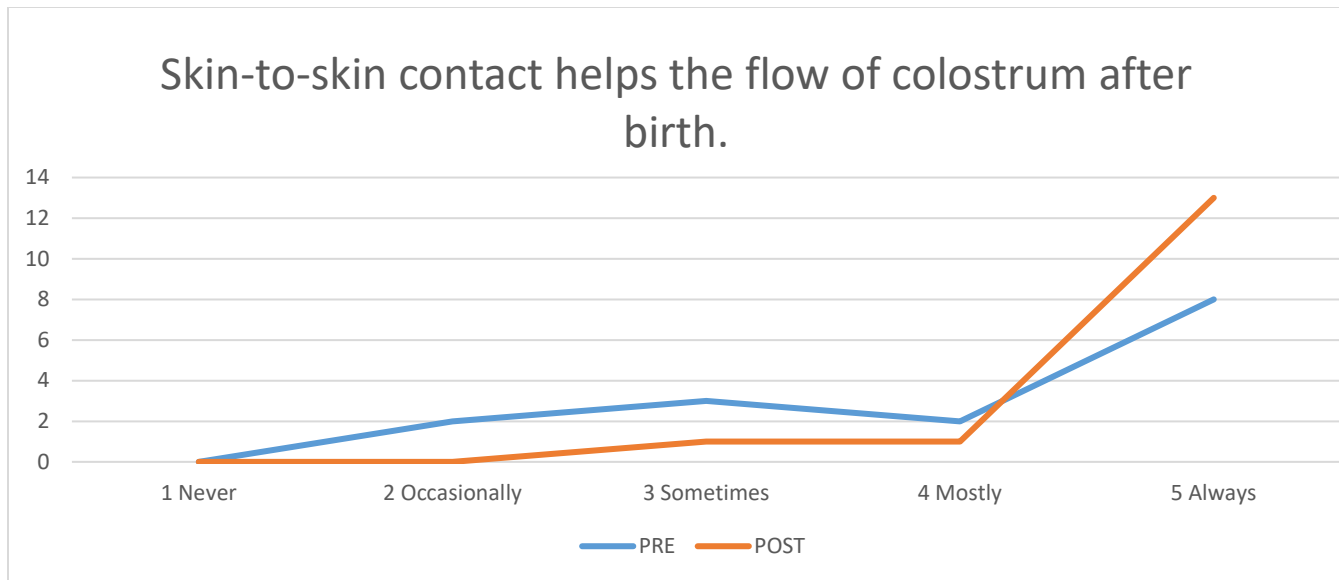


Q6 data shows that two nurses perspective shifted to “never” wait until the mother has showered, while one participant’s response changed to “always” wait until the mother has showered and is comfortable before providing assistance.

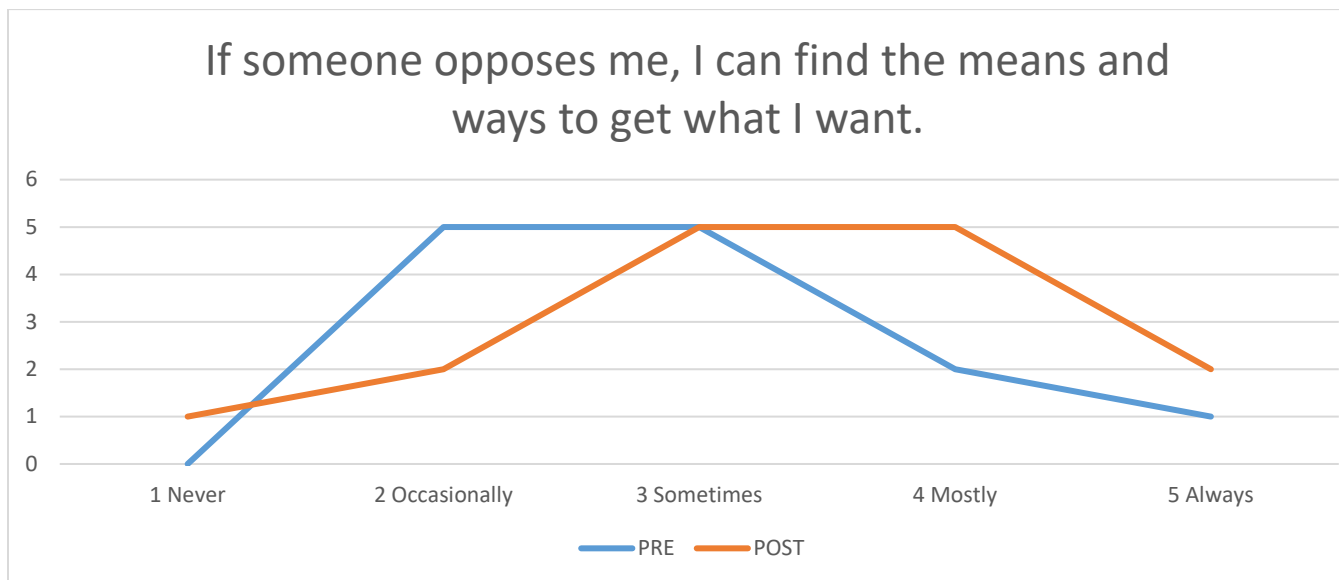
### Wait until Chloe is showered and able to sit up comfortably before offering assistance.



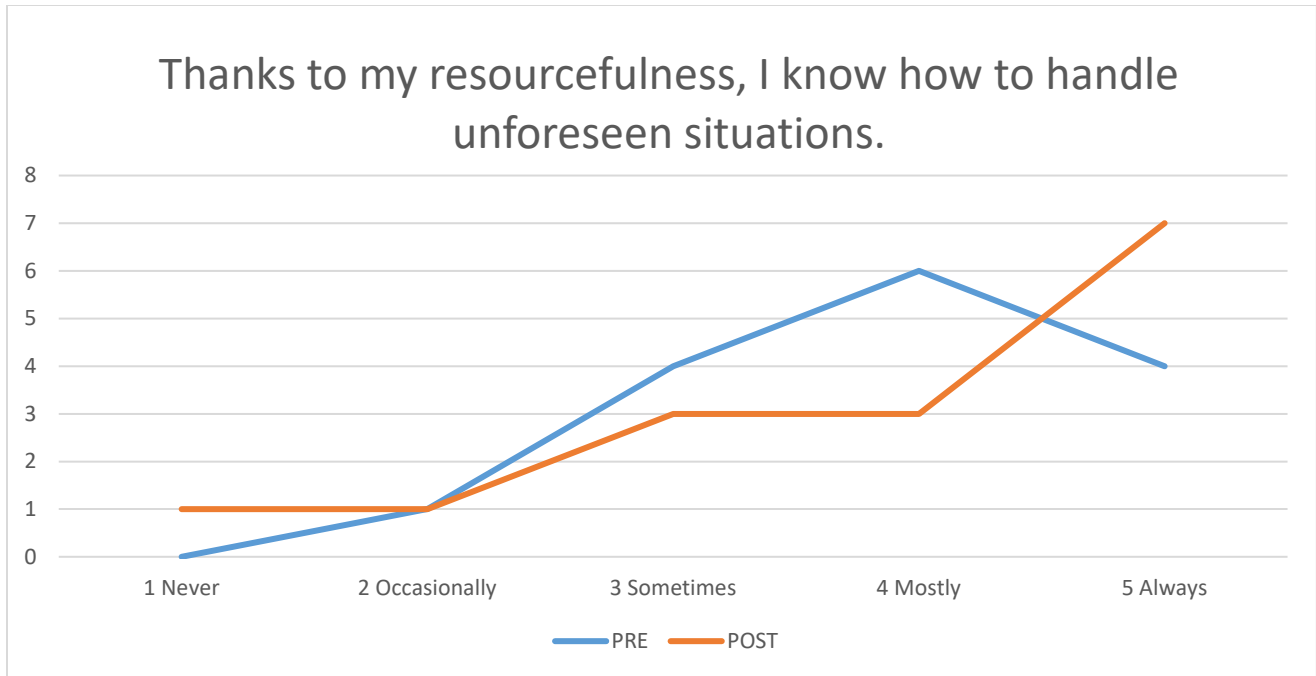
Participants indicated that nearly all participants believed that skin contact “always” increases the flow of colostrum after receiving the training.



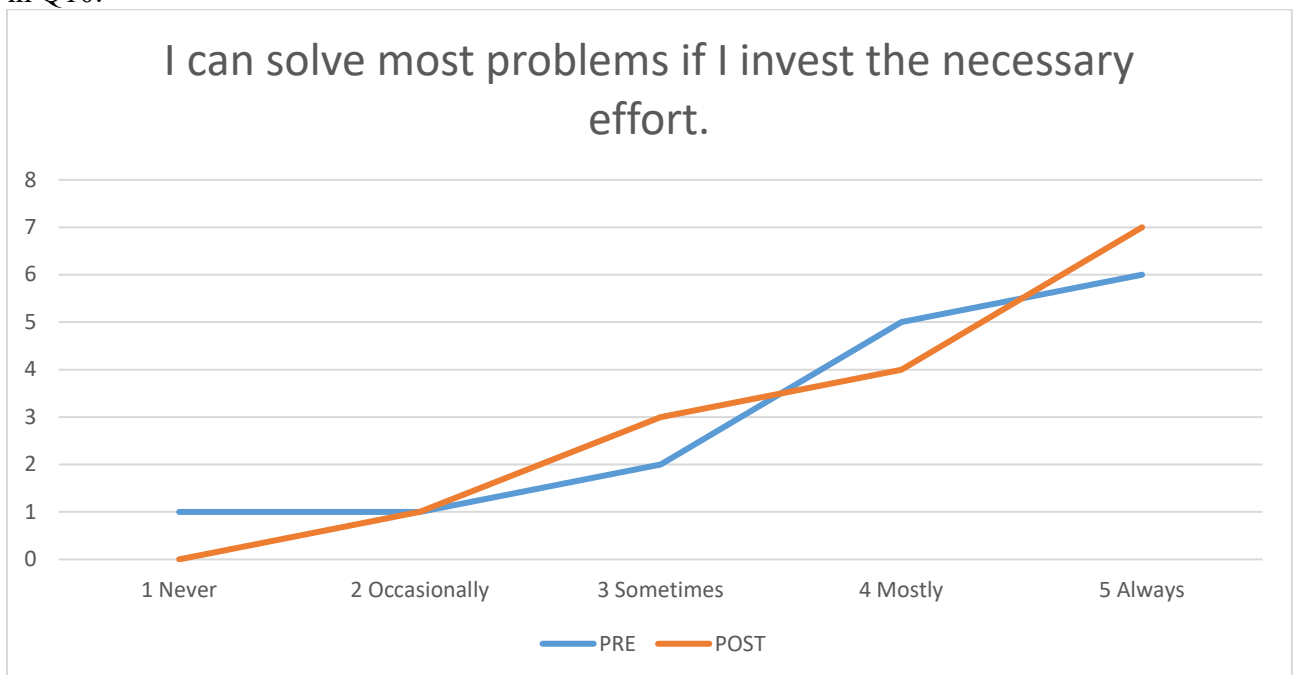
Q8 in the self-efficacy portion of the post-test suggests that more nurses "mostly" find a means to get what they want after training was offered.



Participants' response to "always" handling unforeseen situations increased in Q9 as a result of participating in the educational component of this study.



After receiving training, more nurses indicated that they believe that they can “sometimes” and “mostly” solve most problems if they invest the necessary time to do so in Q10.



This section provides an output of the total mean, median, mode, variance, and standard deviation score of post-test data by participant in effort to demonstrate the measures of central tendency of scores.



**TOTAL  
MEAN**

Participant	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
1	0.2	0	0.3	0.2	0.3
2	0.2	0	0	0.3	0.5
3	0.1	0	0.8	0.1	0
4	0.1	0.1	0.3	0.1	0.4
5	0	0.1	0	0.3	0.6
6	0.1	0.1	0.1	0.3	0.4
7	0	0	0.1	0.3	0.6
8	0	0	0.4	0	0.6
9	0	0	0.2	0.3	0.5
10	0	0	0.1	0.6	0.3
11	0	0	0.1	0.5	0.4
12	0.2	0.4	0.3	0	0.1
13	0.1	0.5	0.3	0	0.1
14	0	0.1	0	0.5	0.4
15	0	0	0.4	0	0.6

Total Mean	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
	0.0667	0.0867	0.227	0.233	0.387

**TOTAL  
MEDIAN**

Participant	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
1	0	0	0	0	0
2	0	0	0	0	0.5
3	0	0	1	0	0
4	0	0	0	0	0
5	0	0	0	0	1
6	0	0	0	0	0
7	0	0	0	0	1
8	0	0	0	0	1
9	0	0	0	0	0.5
10	0	0	0	1	0
11	0	0	0	0.5	0
12	0	0	0	0	0
13	0	0.5	0	0	0
14	0	0	0	0.5	0
15	0	0	0	0	1

Total Median	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
	0	0	0	0	0

**TOTAL  
MODE**

Participant	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	1	0	0
4	0	0	0	0	0
5	0	0	0	0	1
6	0	0	0	0	0
7	0	0	0	0	1
8	0	0	0	0	1
9	0	0	0	0	0
10	0	0	0	1	0
11	0	0	0	1	0
12	0	0	0	0	0
13	0	1	0	0	0
14	0	0	0	0	0
15	0	0	0	0	1

Total Mode	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
	0	0	0	0	0

**Total  
Variance**

Participant	1 Most Unlikely	2 Unlikely	3 Likely	4 Quite Likely	5 Highly Unlikely
1	0.178	0	0.233	0.178	0.233
2	0.178	0	0	0.233	0.278
3	0.1	0	0.178	0.1	0
4	0.1	0.1	0.233	0.1	0.267
5	0	0.1	0	0.233	0.267
6	0.1	0.1	0.1	0.233	0.267
7	0	0	0.1	0.233	0.267
8	0	0	0.267	0	0.267
9	0	0	0.178	0.233	0.278
10	0	0	0.1	0.267	0.233
11	0	0	0.1	0.278	0.267
12	0.178	0.267	0.233	0	0.1
13	0.1	0.278	0.233	0	0.1

14	0	0.1	0	0.278	0.267
15	0	0	0.267	0	0.267

<b>Total Variance</b>	<b>1 Most Unlikely</b>	<b>2 Unlikely</b>	<b>3 Likely</b>	<b>4 Quite Likely</b>	<b>5 Highly Unlikely</b>
	0.005	0.009	0.009	0.012	0.007

**Total  
Standard  
Deviation**

<b>Participant</b>	<b>1 Most Unlikely</b>	<b>2 Unlikely</b>	<b>3 Likely</b>	<b>4 Quite Likely</b>	<b>5 Highly Unlikely</b>
1	0.422	0	0.483045892	0.422	0.483
2	0.422	0	0	0.483	0.5270
3	0.316	0	0.421	0.316	0
4	0.316	0.316	0.483	0.316	0.516
5	0	0.316	0	0.483	0.5163
6	0.316	0.316	0.316	0.483	0.516
7	0	0	0.316	0.483	0.516
8	0	0	0.516	0	0.516
9	0	0	0.422	0.483	0.527
10	0	0	0.316	0.516	0.483
11	0	0	0.316	0.527	
12	0.422	0.516	0.483	0	0.316
13	0.316	0.527	0.483	0	0.316
14	0	0.316	0	0.527	0.516
15	0	0	0.516	0	0.516

<b>Total Standard Deviation</b>	<b>1 Most Unlikely</b>	<b>2 Unlikely</b>	<b>3 Likely</b>	<b>4 Quite Likely</b>	<b>5 Highly Unlikely</b>
	0.190	0.205	0.190	0.219	0.143

There were no significant differences that derived from calculating the median, mode, variance, and standard deviation as measures of central tendency. In this study, the mean was the appropriate measure as it provided the sum of all values reported by participants and an average was calculated to determine the typical response.

## APPENDIX F



OFFICE OF THE VICE PROVOST  
JACKSONVILLE STATE UNIVERSITY

December 1, 2020

Dear Akeba Thompson

Your proposal submitted for review by the Human Participants Review Protocol for the project titled: "Can Provision of Additional Education for Nursing Staff Increase Breastfeeding Knowledge and Feelings of Self Efficacy?" has been approved as exempt. If the project is still in process one year from now, you are asked to provide the IRB with a renewal application and a report on the progress of the research project.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Joe Walsh', is written over a light blue circular background.

Joe Walsh  
Executive Secretary, IRB

JW/dh

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## APPENDIX G



Baptist Health  
Institutional Review Committee  
Melissa Oates, IRC Liaison  
2105 East South Blvd.  
Montgomery, AL 36116  
(334) 747-2988

October 22, 2020

Ms. Akeba Thompson  
Health and Human Performance – Nursing  
c/o Jacksonville State University  
700 Pelham Road North  
Jacksonville, AL 36265

Re: ***Research Project Proposal*** “Breastfeeding – Can Provision of Education for Nursing Positively Impact Self Efficacy, Compliance and Improve Patient Outcomes?”

Dear Ms. Thompson,

The Baptist Health Institutional Review Committee (hereinafter IRC) acknowledges receipt of the above-mentioned study project dated October 2, 2020, requesting to participate in a retrospective chart review to examine the effectiveness of Breastfeeding Education on Patient Outcomes. The objective of the project is to examine to outcomes of breastfeeding education to underserved expectant mothers. The project study will involve nursing team members by providing educational sessions in support of breastfeeding with a goal to increase exclusive rates to 50% the following month. This study is a DNP Project for the Primary Investigator.

*After thorough review of the proposed study, the BH IRC has unanimously approved the project study on October 20, 2020.*

Study approval is granted for a period of **one year**, *effective October 22, 2020 through October 21, 2021.*

If changes are made to the protocol, or additional time beyond one year is needed to complete your review, your request must be sent to the Baptist Health IRC.

Please remember to present your findings in written format to the Baptist Health IRC upon completion of your study.

Sincerely,

A handwritten signature in black ink that reads "Melissa Oates".

Melissa Oates  
IRC Liaison  
Baptist Health Institutional Review Committee