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The Effect of Breastfeeding Self-Efficacy on Breastfeeding Initiation, Exclusivity, and Duration

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Abstract

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Project Submitted in Partial Fulfillment

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Abstract

Breastfeeding self-efficacy is considered one of the key components of a successful breastfeeding experience. The benefits of breastfeeding are well established in the literature and have been widely communicated to the public, resulting in an increasing trend of breastfeeding initiation. However, the United States still falls short of Healthy People 2020 breastfeeding goals. The purpose of this project was to examine the effects of a standardized hospital-based prenatal breastfeeding class on breastfeeding self-efficacy. Dennis's breastfeeding self-efficacy theory was the foundation for the breastfeeding self-efficacy tool used in this project. A quasi-experimental design used a convenience sample of 30 breastfeeding class participants as the experimental group and 30 postpartum women who had no formal breastfeeding education as the control group. The Breastfeeding Self-Efficacy Scale Short Form (BSES-SF) was administered to the intervention group prior to the breastfeeding class, at the end of the class, prior to hospital discharge, and at 2 weeks postpartum. The control group received the survey prior to hospital discharge and at 2 weeks postpartum. Key findings indicated that participants in the breastfeeding class demonstrated a statistically significant increase in breastfeeding confidence after the class ($t = 9.55(29)$, $p = 0.00$). There was no difference between the intervention and control groups at discharge ($t = -.412(47)$, $p = 0.686$). Nurses and lactation professionals are in a position to evoke social change by examining the impact of breastfeeding self-efficacy and using the findings to shape breastfeeding education.

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Table of Contents

List of Tables

List of Figures

Section 1: Overview of the Evidence-Based Project

Introduction

The National Institute of Health (NIH) has identified multiple benefits of breastfeeding for infants, mothers, and the economy. The benefits for infants include nutritionally balanced meals specific to the needs of the individual infant, protection against illnesses and diseases, higher rate of survival, and physical and emotional bonding (NIH, 2014). Mothers experience reduced risk of postpartum hemorrhage, depression, and certain cancers; and families save money that might otherwise be spent on formula and miss less work because children are healthier (NIH, 2014). In 2011, Surgeon General Regina Benjamin released a call to action to support breastfeeding in which she stated,

> In the United States, the majority of pregnant women plan to breastfeed, and yet there is a clear gap between the proportion of women who prenatally intend to breastfeed and those who actually do so by the time they are discharged after a brief hospital stay. (U.S. Department of Health and Human Services, 2011, p. 24)

Multiple barriers to breastfeeding have been identified, including lack of knowledge, social norms, poor family and social support, embarrassment, lactation problems, employment and child care, and barriers within the health care system (U.S. Department of Health and Human Services, 2011). This project extracted the known barriers to knowledge and support and combined them with maternal self-confidence to establish an approach to overcome the impediments to a successful breastfeeding experience.

Increased maternal breastfeeding confidence is the catalyst for shifting the bottle feeding culture to a breastfeeding one, resulting in a healthier society.

Background of Problem

The American Academy of Pediatrics (AAP) currently recommends exclusive breastfeeding for the first 6 months of life, followed by the inclusion of complementary feedings in addition to breastfeeding, through at least the first year of life (AAP, 2012). This recommendation is based upon research indicating that failure to breastfeed exclusively results in higher incidences of ear infection, eczema, GI infection, respiratory diseases, asthma, obesity, diabetes, leukemia, and sudden infant death syndrome (U.S. Department of Health and Human Services, 2011). From a public health perspective, breastfeeding infants make a significant impact on the U.S. economy. It is projected that if 90% of families in the United States breastfed their infants exclusively for the first 6 months of life, this would save 13 billion health care dollars annually (Bartick & Reinhold, 2010).

These impacts on health care prompted The Joint Commission (TJC) to release Perinatal Core Measures, and included in these measures is exclusive breastfeeding. TJC (2012) requires reporting on the number of infants who have left the hospital having received no food or drink other than breastmilk. This forces organizations to examine thoroughly the processes they have in place to assist new families in breastfeeding success. Organizations may need to retrain all of their staff and providers in innovative methods for preserving breastfeeding, especially during clinical situations that challenge the breastfeeding relationship such as feeding difficulties or jaundice. Staff also need to

be trained to explore parental requests for human milk substitutes and be prepared to offer consistent, evidence-based information coupled with compassionate support.

According to the Centers for Disease Control and Prevention (2013), the Healthy People 2020 Breastfeeding Objectives include increasing the proportion of infants who have ever breastfed to 81.9%, increasing the percentage of mothers who are breastfeeding at 6 months to 60.6%, and increasing those breastfeeding at 1 year to 34.1%. There is also a special emphasis on exclusivity, with goals for exclusively breastfeeding at 3 months set at 46.2% and for exclusive breastfeeding through 6 months set at 25.5% (CDC, 2013). The most recent data for Florida from 2014 reflected a 77% initiation rate, with 48.7% breastfeeding at 6 months and 26.9% breastfeeding at 1 year; the current breastfeeding exclusivity rates are 38.9% at 3 months and 18.3% at 6 months (CDC, 2014).

The 2014 Breastfeeding Report Card reflected a very slow progression toward breastfeeding recommendations (CDC, 2014). Since the Breastfeeding Report Card's inception in 2007, the percentage of infants who have ever breastfed has increased from 73.8% to 79.2%, those breastfeeding at 6 months has increased from 41.5% to 49.4%, and those breastfeeding at 12 months has decreased from 27% to 26.7%; exclusivity rates at 3 months increased from 30.5% in 2007 to 40.7% in 2014, and breastfeeding exclusivity at 6 months was 11.3% in 2007 and 18.8% in 2014 (CDC, 2014). This information is reassuring yet indicates that more needs to be done.

There are multiple studies that support the concept that infant feeding choice is made early in pregnancy or even preconception (Earle, 2002; Shepherd, Power, & Carter, 2000). Brenner and Buescher (2011) suggested using this knowledge to promote

breastfeeding during well-woman visits. For example, a dialogue might evolve around the reduced risk of breast cancer in breastfeeding women and their offspring during a routine breast exam.

Brenner and Buescher (2011) suggested that the focus of breastfeeding support needs to shift from a position of polite recommendation to advocacy of breastfeeding as a clinical imperative. A viable approach may be presenting breastfeeding as a complex, sophisticated, multidimensional infant support system that encompasses much more than nutrition alone. Incorporating this education into a teaching plan for both the mother and her partner provides a strong message about the importance of sustained exclusive breastfeeding.

Finally, an assessment of the mother's confidence in her ability to nourish her infant optimally is achieved through the administration of the BSES-SF. According to Kingston, Dennis, and Sword (2007), several observational studies revealed that women who demonstrated a self-reported lack of confidence in their ability to breastfeed were 2 to 3 times more likely to stop breastfeeding earlier than they intended. Identification of these women at an early point in the postpartum period may allow for timely intervention and implementation of education and confidence-building strategies (Kingston et al., 2007).

Meedya, Fahy, and Kable (2010) conducted a literature review to explore the factors that positively influenced breastfeeding for the first 6 months. The findings indicated that a woman's intention to breastfeed, her self-confidence in her ability to breastfeed, and her social support were the significant modifiable risk factors in

breastfeeding success (Meedya et al., 2010). Léger-Leblanc and Rioux (2008) also explored factors that influenced breastfeeding and concluded that primiparity (first time giving birth), having been breastfed, intention to breastfeed by 36 weeks gestation, father's education, and avoidance of formula during the hospital stay had a positive impact on both breastfeeding initiation and duration. Kessler et al. (1995, as cited by Brenner and Buescher, 2011) reported that 71% of infant feeding decisions were influenced by the baby's father and 29% of decisions were influenced by the maternal grandmother. This indicates the significance of providing breastfeeding education and encouragement in the presence of family and other key support persons.

Fathers often feel excluded from the mother/infant relationship in both pregnancy and breastfeeding; involving fathers in education and decision making is a critical strategy to gain their support (Mitchell-Box & Braun, 2012). Fathers surveyed in qualitative research reported that although they respected the right of their partner to choose the method of infant feeding, they appreciated having input into the decision-making process (Datta, Graham, & Wellings, 2012). These findings make it vitally important that partners are involved in breastfeeding education because they will be the primary sources of support. This information strongly indicates the impact of social support on breastfeeding success. It has been suggested that the traditional concept of a "breastfeeding dyad" that excludes the mother's partner should be eliminated and replaced with a family-centered "breastfeeding triad" approach (Mitchell-Box & Braun, 2012).

Problem Statement

The identified problem was the disconnection among breastfeeding initiation rates in the hospital, breastfeeding exclusivity upon discharge, and breastfeeding rates at 2 weeks postpartum. Two weeks postpartum is a well-documented time period for breastfeeding cessation (Ertem, Votto, & Levanthal, 2001).

Breastfeeding discontinuation after hospital discharge is multifaceted, and identified reasons are varied. Maternal breastfeeding self-efficacy is one of the fundamental requirements for breastfeeding success and can be achieved through both family and community support (Bandura, 1997). Bandura (1997) defined *self-efficacy* as people's belief in their ability to succeed in particular situations, such as breastfeeding an infant successfully. *Perceived self-efficacy* is defined as people's beliefs about their capabilities to achieve chosen levels of performance that influence events affecting their lives. Self-efficacy beliefs are directly linked to a person's behavior, feelings, thoughts, and motivation. High levels of self-efficacy intensify achievement and self-satisfaction. People with high confidence in their abilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided (University of Kentucky, n.d,). In turn, successful experiences increase self-efficacy and set the stage for future goal attainment.

Dennis (2006) developed the Breastfeeding Self-Efficacy Scale Short Form (BSES-SF), which is useful in predicting which mothers possess the confidence to overcome breastfeeding challenges and which are at risk for early cessation. This tool is useful when integrated into a postpartum breastfeeding support program designed to address the critical elements of breastfeeding success. Prenatal breastfeeding classes are

also an integral part of the establishment of breastfeeding confidence in both the mother and her support persons (Dennis, 2010).

Significance in Nursing and Healthcare

Brown, Raynor, and Lee (2011) conducted a qualitative study to explore the influence of healthcare professionals on infant feeding choices and discovered that lack of knowledge, support, and help with difficulties were frequently cited as reasons for breastfeeding discontinuation. Likewise, a Japanese study revealed that healthcare workers were unhelpful, were unsupportive, evoked anxiety, and gave advice that resulted in confusion among mothers who had made the commitment to breastfeed (Nagmori et al., 2010), indicating that the problem extends beyond the United States. McInnes and Chambers (2008) stated that mothers valued social breastfeeding support more than healthcare professional support and reported the promotion of unhelpful practices and conflicting advice as the primary reasons. These findings suggested that healthcare breastfeeding support is important, but as a community, healthcare workers have failed to meet the needs and expectations of breastfeeding mothers.

Breastfeeding support extends beyond nurses, physicians, and significant others; dietitians also play a significant role in the promotion of breastfeeding, as they are experts in nutrition. Incorporating breastfeeding education into the curriculum of dietetics students will increase future interdisciplinary encouragement of breastfeeding (Radcliffe & Payne, 2011). However, despite all of the education available to healthcare professionals, the true test of breastfeeding support and success lies within the community. Marsden and Abayomi (2012) explored the attitudes toward breastfeeding of

employees who worked in public places and discovered the influence society has on the confidence of breastfeeding women. They ascertained that women who already possessed a high level of breastfeeding self-efficacy were more likely to persevere in situations where there was obvious disapproval, but women who were not as confident were affected negatively by a social environment where breastfeeding was perceived as offensive.

Purpose of the Project

The purpose of the project was to increase breastfeeding initiation, duration, and exclusivity in the community. Education, self-efficacy, and support were the three intertwining concepts that drove this project, with self-efficacy at the center. It was hypothesized that increasing maternal breastfeeding self-efficacy through education and support in a hospital-based prenatal breastfeeding class would result in increased breastfeeding initiation, duration, and exclusivity. This was measured through a thorough assessment of prenatal breastfeeding education, support systems, and self-confidence using the BSES-SF.

The evaluation of these factors provided insight into current beneficial strategies and identified potential tactics that are not yet being implemented. Women who attended the hospital-based prenatal breastfeeding class were administered the BSES-SF before and after the class, prior to hospital discharge, and by 2 weeks postpartum. Women not receiving formal prenatal breastfeeding education were administered the BSES-SF prior to hospital discharge and by 2 weeks postpartum. The anticipated findings were that

women who attended the hospital-based prenatal breastfeeding class would score higher on the scale and be more resilient to the breastfeeding barriers experienced postpartum.

Ultimately, the scale was intended to identify populations of women with lower scores on the confidence scale to trigger a different set of standardized nursing discharge teaching interventions. The interventions focused on confidence-building strategies, such as situational role-playing and other elements from the breastfeeding class that could be synthesized into discharge teaching. Currently, women who do not attend the hospital-based prenatal breastfeeding class may not experience the same confidence-boosting benefits as those who attend.

Project Questions

The project addressed the following questions:

1. What are the variables that contribute to the disconnection between breastfeeding upon discharge from the hospital and breastfeeding at 2 weeks postpartum?
2. Is breastfeeding reduction or cessation the result of a lack of the mother's self-confidence in her ability to breastfeed her infant?
3. What evidence-based interventions can health care organizations develop to promote a successful start to and continuation of breastfeeding?

Framework for the Project

Self-efficacy was the primary framework of this project. Breastfeeding self-efficacy was the specific variable examined in this project.

Nature of the Project

This project used a method that began with the administration of the BSES-SF to a group of mothers attending the hospital breastfeeding class. The BSES-SF is an established tool that has been tested for reliability and predictive validity and was appropriate for this population (Dennis, 2010). The survey was administered at four key points for the intervention group: prior to the formal hospital-based breastfeeding class, at the conclusion of the class, during the postpartum period prior to hospital discharge, and by 2 weeks postpartum. A second group of mothers who did not participate in formal prenatal breastfeeding education served as the control group and received the scale prior to hospital discharge and by 2 weeks postpartum. Informed consent was obtained from participants prior to the administration of the BSES-SF. Participants were compensated for their time with one free session at either the breastfeeding clinic or the breastfeeding luncheon.

Contact with families after discharge was made via e-mail or postal mail, depending upon the indicated preference. The BSES-SF results for all four administration times for the intervention group and both times for the control group were filed with follow-up contact information for reference. Upon receipt of the final 2-week postpartum survey, the quantitative data were aggregated and a statistical analysis of the surveys was completed.

Definition of Terms

Breastfeeding discontinuation: Replacing all human milk feedings with breastmilk substitutes (Olang, Heidazadeh, Strandvik, & Yngve, 2012).

Breastfeeding duration: "Duration is the length of time for any breastfeeding, including breastfeeding through the initial stage of exclusive breastfeeding and any period of complementary feeding until weaning" (Noel-Weiss, Boersma, & Kujawa-Myles, 2012, p. 1).

Breastfeeding initiation: Providing the infant with first human milk feedings (Jana, 2006).

Breastmilk substitutes: Any milk or substance used to replace the nutrition of human milk; excludes medications (U.S. Breastfeeding Committee, 2010).

Complementary feedings: Introduction of solid foods in conjunction with breastmilk feeds; typically at around 6 months of age (World Health Organization, 2014).

Exclusive breastfeeding: Providing infant with no food or drink other than human milk; excludes medications (World Health Organization, 2014).

Prenatal: The time period during pregnancy and before birth (U.S. National Library of Medicine, 2013).

Self-efficacy: People's beliefs in their ability to succeed in particular situations (Bandura, 1997).

Supplementation: Replacement of human milk feeds with breastmilk substitutes or the addition of breastmilk substitutes to the infant's diet (U.S. Breastfeeding Committee, 2010).

Assumptions

The majority of women who receive accurate, evidence-based information about breastfeeding will choose to breastfeed their infants rather than provide breastmilk substitutes. Prior to their child's birth and throughout the child's infancy, women are exposed to conflicting opinions about infant feeding, and this information can impact the choices they make. Accurate information and support enhance self-efficacy and result in positive breastfeeding outcomes.

Scope and Delimitations

The scope of this study was the expectant and new mothers who delivered within one hospital system and might or might not have participated in the hospital-based prenatal breastfeeding class. The project was limited to a convenience sample of families who attended a standardized breastfeeding class, delivered their infants at one of three campuses within one hospital system, and provided consent and contact information for postpartum and discharge follow-up survey administration. The project was limited to the demographics and population characteristics of one metro area and may have demonstrated cultural influences that are not present in all communities.

Social Impact of the Project

It was projected that this project would impact breastfeeding rates in the community through early identification of individuals at risk for early breastfeeding cessation. Early identification of trends would be followed by an intervention of breastfeeding confidence-building education and social support follow-up recommendations. Key elements from the breastfeeding class would be extracted and

incorporated into a concise, comprehensive discharge teaching plan for mothers identified at high risk for not exclusively breastfeeding for the recommended time as evidenced by self-efficacy scores. Increased breastfeeding rates in the infant population have protective benefits from a host of diseases (AAP, 2012; U. S. Department of Health and Human Services, 2011). Breastfeeding offers lifelong risk reduction for some morbidities and can have significant positive effects on population health.

Summary

An increase in breastfeeding initiation rates has demonstrated successful national health messaging to educate the public that breastfeeding is the healthiest feeding option for infants; however, the abrupt drop in breastfeeding exclusivity and duration confirms a clear disconnect. Breastfeeding self-efficacy has been established as a noteworthy variable that impacts the breastfeeding relationship. Consistent evaluation of maternal confidence in breastfeeding and appropriate interventions may be the key to increasing breastfeeding exclusivity rates and duration. Breastfeeding exclusivity and duration have been identified as the foundation for long-term positive health outcomes. A sustainable and evolving intervention program addresses three key factors: education, self-efficacy, and support. A support system that is established prior to pregnancy may include support persons as part of the breastfeeding experience and provide the mother with the confidence to persevere when faced with barriers.

Section 2: Review of Scholarly Evidence

Introduction

An extensive review of the scholarly evidence was necessary to explore all of the facets of breastfeeding cessation and focus on the variables that were most relevant. Several nursing and social science theories serve as the foundation for breastfeeding research. These theories were explored in the literature review.

The review of the literature included available studies involving the implementation of theories to facilitate goal achievement and assessment of self-confidence as they pertain to breastfeeding success. The literature is abundant with identified barriers to achieving national breastfeeding goals, so it was important to narrow the focus to factors that influenced the mother's goals and her confidence in her ability to continue the process begun in utero of solely and completely nourishing and growing her child. The following articles examined breastfeeding goals, support, and interventions from the perspectives of the mother, health care provider, and significant other as they were explored through the application of nursing and social science theory. In addition to review of the influential theories, I have included a review of three overriding themes—support, self-efficacy, and cessation, with self-efficacy serving as the central theme.

Literature Search Strategy

The primary search engine used to locate scholarly articles was CINAHL. Breastfeeding is a very broad topic, so it was imperative to use filters for specific keywords, including *breastfeeding cessation*, *breastfeeding self-efficacy*, *breastfeeding*

goals, *breastfeeding confidence*, and *breastfeeding support*. Literature searches were also limited to publications within the past 5 years with the exception of sentinel articles. The original search yielded over 80 peer-reviewed articles and was narrowed down to 35 articles that offered relevant information. The selected articles included both quantitative and qualitative studies.

Concepts, Models, and Theories

Literature Review: Theory of Goal Attainment

Dennis's breastfeeding self-efficacy theory was developed in 1999 and was the foundation for the development that same year of the Breastfeeding Self-Efficacy Scale (Dennis, 2010). Breastfeeding self-efficacy theory addresses several influences on a mother's decision to breastfeed and her ability to sustain her personal breastfeeding goals. Goal attainment can be identified as the product of adequate breastfeeding support and self-efficacy. Parsons and Ricker (1993) applied the theory of goal attainment to the development of a questionnaire regarding breastfeeding support that was mailed to 384 OB/GYN and pediatric nurse practitioners. The survey contained 39 questions regarding demographics and breastfeeding promotion in the prenatal and postnatal period. The 140 responses revealed six key factors that impact the promotion of breastfeeding by OB/GYN and pediatric nurse practitioners. The nurse practitioners used many of the practices identified to promote breastfeeding, more pediatric nurse practitioners than anticipated met prenatally with their clients, OB/GYN nurse practitioners had less than 15 minutes to meet with their clients, time was the primary constraint on breastfeeding promotion for both OB/GYN and pediatric nurse practitioners, neither the OB/GYN nor

pediatric nurse practitioners met with the client in the early postpartum period, and neither routinely observed the mother and infant breastfeeding. Although this information is 20 years old, the identified barriers are still prevalent today, and this research offers a foundation for addressing health care provider support. It is clear that there are gaps in the time available to assess breastfeeding as well as a lack of early postpartum evaluation to address concerns or barriers.

Lewallen et al. (2006) implemented the theory of goal attainment in their descriptive study conducted to assess the role of support in early breastfeeding cessation. Three hundred seventy-nine participants were recruited in the hospital postpartum room, and an inclusion criterion was a plan to breastfeed for at least 8 weeks. Data were collected by phone using open-ended questions at 8 weeks postpartum. The results were that at 8 weeks postpartum, 68% of the participants were still breastfeeding, although 37% were supplementing with formula, for which the most common reason given was insufficient milk supply. Self-efficacy is both a force behind perceived insufficient milk supply and a product of this perception. The women also reported that most of them received breastfeeding help while in the hospital, but only 55% received help after discharge. This identifies a gap in the support available in the early postpartum period. The study did not differentiate between professional support and partner support, so further study of this topic may explore whether partner support is adequate to improve outcomes, if this gap can only be filled by professional support, or if a combination of partner and professional support ensures the greatest success.

The theory of goal attainment also applies to a cross-sectional study by Kervin, Kemp, and Pulver (2010), who evaluated by questionnaire the impact of types and timing of breastfeeding support on mothers' behaviors. Of 137 participants, 76.2% intended to breastfeed exclusively and planned to breastfeed an average of 8.5 months. At 2 days postpartum, 38.5% had stopped breastfeeding, and at 2 weeks postpartum, only 9.7% were exclusively breastfeeding. These findings suggest significant gaps in support after leaving the hospital. Of the women surveyed, over 75% reported practical support from partners and family in the form of housework, laundry, and so on but reported that professional support in the form of antepartum and immediate postpartum support interventions was very low. Again, further research is necessary to determine whether focused, structured support from partners is acceptable or whether the support must come from health care professionals.

Literature Review: Support

Eleven studies, which included 4,309 breastfeeding women and focused on the dynamics of breastfeeding support, were reviewed. The review included four qualitative designs, six quantitative designs, and one mixed method design. The four qualitative studies involved interviews of 177 participants, and three of these studies concentrated on paternal support. Sherriff and Hall (2010) discovered that fathers desired to be involved in breastfeeding but required more relevant and accessible information to be fully engaged. Fathers also indicated an uncomfortable sense of helplessness when there were breastfeeding problems that they could not resolve, which made artificial feeding an inviting option. One father stated,

> you want to resolve the issues but there doesn't seem an immediate response … you're not getting a lot of sleep and you don't need other complications … I think sometimes if you go to the formula it can be an easy option. (Sherriff & Hall, 2010, p. 472)

Other fathers struggle with being supportive in the face of breastfeeding challenges because they have been conditioned to "fix" the problem; an emotional support role is not always familiar for male partners. Tohotoa et al. (2009) developed a prenatal program with the theme that dads do make a difference. The result of this program was that the mothers felt not only supported, but also that they could not have been so successful without the support of their partner. The program provided useful strategies for supporting breastfeeding mothers.

Cross-Barnet, Augustyn, Gross, Resnik, and Paige (2012) conducted interviews from which they concluded that lack of consistent breastfeeding education and support from health care professionals negatively impacted breastfeeding duration. Many mothers were simply asked if they were breast or bottle feeding, with no expansion on the topic of infant feeding, or whether they had experienced nonmedically indicated separation from their infants that resulted in delayed breastfeeding initiation. A lack of support from hospital staff resulted in early supplementation, and mothers reported fear of giving breastmilk because of medications they received or concern that their breasts were empty (Cross-Barnet et al., 2012).

The quantitative research reviewed consisted of longitudinal cohort studies, randomized controlled trials, descriptive studies, and cross-sectional studies. Wilhelm,

Stepans, Hertzog, Rodehorst, and Gardner (2005) discovered that motivational interviewing, which included video workshops and administration of the BSES, resulted in 32% of the intervention group still breastfeeding at 6 months compared with 25% of the control group. Kervin et al. (2010) concluded that even though 76.2% of the women in their cross-sectional study intended to breastfeed exclusively, by 2 weeks postpartum only 45.1% were meeting their goal, and the mothers cited more dissatisfaction with the support they received from health care professionals than with their personal support. Another study by Bunik et al. (2010) evaluated the effectiveness of 2 weeks of daily breastfeeding telephone support and discovered that the intervention was not enough to increase overall breastfeeding duration. This finding suggested a need for dynamic and multifaceted support for breastfeeding families accomplished through drawing upon a variety of interweaving resources. Resources for breastfeeding families include postpartum breastfeeding support groups, lactation consults, post discharge phone assessments, pediatric and OB/GYN office visits, WIC counselor appointments, and informational literature that is distributed upon hospital discharge.

Literature Review: Social Cognitive Theory

Social cognitive theory is the foundation for self-efficacy theory and incorporates further examples of the significance of support. Mitchell-Box and Braun (2012) applied social cognitive theory to their qualitative study of 14 male partners of low-income pregnant women or new mothers to determine their role in the breastfeeding relationship. They discovered that though the fathers were verbally supportive of breastfeeding, most felt helpless in supporting their partners actively because they did not know how to

establish a relationship with their child with the feeding component removed or when the mother was unavailable (Mitchell-Box & Braun, 2012). These findings indicate that fathers need to have a toolbox of ways to bond with their infants, support the mothers, and be integrated fully into the parenting process. Education for expectant partners is critical in enlisting their support and engaging them to be involved in the care of their infants rather than having them feel forced to be outsiders.

Literature Review: Cessation

Much research has been conducted on the reasons for early breastfeeding cessation, and it is clear that as a nation the United States falls very short of breastfeeding goals in both duration and exclusivity. A review of six prospective cohort, qualitative descriptive, and longitudinal observational studies examined the prevalence and causes of early breastfeeding discontinuation in 4,266 new mothers. Hauck, Fenwick, Dhaliwal, and Butt (2011) reported that in most developed nations, breastfeeding initiation rates were encouraging and ranged from 74% to 99.5% in Europe, 91% to 97% in Australia, 69% to 83% in Canada, and 27% to 69.5% in the United States; however, breastfeeding at 3 months reflected a significant amount of cessation, with 42% to 71% continuing to breastfeed in Europe, 44% to 68% in Australia, 38% to 59% in Canada, and considerably lower rates of 19% to 32.5% in the United States.

So, what are the reported factors that contribute to early breastfeeding discontinuation? Brand, Kothari, and Stark (2011) discovered that although breastfeeding is frequently successfully initiated, the barriers encountered pose a significant threat to continued breastfeeding, especially within the first 2 weeks postpartum. A landmark

study by Ertem et al. (2001) examined the timing of breastfeeding discontinuation and identified two peaks for termination: during the first week postpartum and between 2 weeks and 2 months postpartum. According to Hauck et al. (2011) and Brand et al. (2011), the primary reason is insufficient milk supply, followed by infant-related reasons, pain, and finally emotional reasons; these findings are consistent regardless of cultural background or socioeconomic status.

Additional reasons cited include return to work, use of a pacifier within the first month, cultural acceptance of artificial feeding, and lack of exposure to breastfeeding in family or social circles (Gilmour, Hall, McIntyre, Gillies, & Harrison, 2009). Other common themes among women who exhibit early breastfeeding cessation include Black or Hispanic ethnicity, Medicaid versus private insurance, delivery at a facility that was not designated Baby-Friendly, single without a partner, no prenatal care, lower educational attainment, lack of support from significant other, and returning to work or school (Brand et al., 2011; Taveras et al., 2003). Ertem et al. (2001) also discovered that while women were knowledgeable about the benefits of breastfeeding, information on the actual practice was elusive to them; this resulted in inadequate preparation for breastfeeding and the misconception among mothers who gave early formula supplementation that their babies enjoyed formula feeding more than breastfeeding. The fallacy that infants preferred formula feeding may further deteriorate breastfeeding self-efficacy.

Theoretical Framework

Bandura's social cognitive theory indicates that individuals learn through experiences, verbal communication, interaction, and observation. This theory is useful in testing interventions to modify behavior (White & Dudley-Brown, 2012). Social cognitive theory was the cornerstone for this project and the foundation of Dennis's breastfeeding self-efficacy theory.

Dennis (2010) used social cognitive theory to develop the breastfeeding self-efficacy theory and scale in 1999. Dennis (2010) examined the performance accomplishments, vicarious experiences, use of verbal persuasion, and psychological and affective states of breastfeeding women and explored the factors that influenced confidence. Dennis (2010) investigated the effects of behavior choices, effort, persistence, thought patterns, and emotional reactions of breastfeeding women to establish a connection between confidence levels and response to external and internal factors. Dennis (2010) discovered that self-efficacy was affected by all of these components and predicted initiation, performance, and maintenance of breastfeeding activities.

Further research is necessary to determine which factors that strongly influence breastfeeding exclusivity and duration are directly modifiable through nursing intervention. An identified area for improvement is the gap between research and translation into practice. Replication of self-efficacy studies will further support the need for intervention.

Literature Review Related to Methods

Literature Review: Self Efficacy

Ten quantitative articles on the role of self-efficacy in breastfeeding exclusivity and duration were examined. A total of 2,487 women participated in randomized controlled trials and observational, longitudinal, and prospective studies. A mother's self-confidence plays a paramount role in her success in meeting her previously established breastfeeding goals. Pollard and Guill (2010) stated,

> Breastfeeding self-efficacy refers to a mother's perceived ability or confidence to breastfeed her newborn and influences her decisions regarding breastfeeding such as whether to breastfeed or not, how much effort she will place on breastfeeding, and how she will respond to any challenges that she confronts during the experience. (p. 5)

A baseline examination and periodic evaluations of maternal breastfeeding self-efficacy equip health care providers with a predictor of breastfeeding success and identification of mothers in need of education and intervention in order to preserve the breastfeeding relationship.

Cheezam et al. (2003, as cited by Hauck, Hall, & Jones, 2007) stated that knowledge about breastfeeding strongly correlated with self-confidence in breastfeeding. Women who perceived control and involvement in feeding decisions experienced greater feelings of self-efficacy and satisfaction. According to Kingston et al. (2007), key elements such as previous successful breastfeeding experiences, evidence-based professional assistance, seeing other women breastfeeding, positive feedback and

consistent advice, and praise were self-confidence-building strategies that helped overcome the pain, fatigue, and sense of feeling overwhelmed that can develop in the early hours and days of establishing breastfeeding. A prenatal assessment of self-efficacy and establishment of confidence-building interventions with frequent reinforcement provided mothers with the tools they needed to persevere despite the societal barriers to breastfeeding.

Literature Review: Breastfeeding Self-Efficacy Theory

McQueen, Dennis, Stremler, and Norman (2011) utilized the breastfeeding self-efficacy theory to serve as the foundation for a randomized controlled trial (n = 150) that offered three individualized self-efficacy sessions postpartum to the intervention group. The first session occurred within 24 hours of delivery, the second was also in the hospital within 24 hours of the first session, and the final session was via telephone within the first week after discharge. The study team discovered the intervention had a slight impact on breastfeeding rates at 8 weeks postpartum; 51% in the intervention group versus 45% in the control group. Overall the women in the intervention group were highly satisfied with the supportive interventions. Further research is needed to determine if early prenatal self-efficacy interventions impact success.

A study by Dennis (2006) used the breastfeeding self-efficacy theory to examine predictors of breastfeeding self-efficacy in the immediate postpartum period and described the four main influences on maternal self-confidence as: performance accomplishments (prior breastfeeding success), vicarious experiences, verbal persuasion, and physiological responses. This study was conducted as part of a longitudinal study on

postpartum depression and participants were given a survey at 1, 4, and 8 weeks postpartum; 115 of the 857 eligible participants completed the study. The study concluded that women with higher scores on the BSES had higher breastfeeding duration and exclusivity; the author also concluded that self-efficacy is a modifiable factor and is useful in identifying those at greater risk for breastfeeding cessation. This study supported other findings that have suggested that interventions designed to increase maternal breastfeeding confidence will result in improved national breastfeeding rates.

Noel-Weiss, Rupp, Cragg, Bassett, and Woodend (2006) conducted a randomized controlled trial of primiparous women (n =110) to determine if a prenatal breastfeeding intervention resulted in increased maternal self-efficacy and breastfeeding duration. The research team also utilized Bandura's theory of self-efficacy and administered the BSES prior to the workshop. Participants completed the scale again at 4 and 8 weeks postpartum. The workshop for the intervention group was given after 34 weeks gestation and resulted in higher self-efficacy scores, higher breastfeeding exclusivity, and less weaning than the control group, but little difference in the average duration in number of days of breastfeeding. The research team proposed that a first or second trimester intervention repeated throughout the pregnancy may have greater impact on breastfeeding duration and exclusivity.

Background and Context

The hospital system where this research was conducted included a 203-bed, state-of-the-art community hospital (68% of the participants), a 1217-bed tertiary care center with a Level 4 NICU (20% of the participants), and a 340-bed community hospital (12%

of the participants). Each facility delivers approximately 2600 infants annually. The 203-bed community hospital was the primary facility and has been recently awarded Baby-Friendly Designation. Designation of Baby-Friendly reflects a commitment to supporting breastfeeding within the hospital and in the community. Approximately 90% of women who deliver at the primary facility initiate breastfeeding (Florida Hospital, 2014), yet 20% to 30% of these women are not exclusively breastfeeding on hospital discharge.

The state of Florida Department of Health (n.d.) has initiated a breastfeeding promotion campaign through Women, Infants, and Children's (WIC) services that identified breastfeeding as the normal and expected method of infant feeding through the use of educational and motivational posters and flyers. Additionally, the Florida Breastfeeding Coalition (2013) offers support to hospitals and birthing centers interested in learning how to offer best maternity practices in their facilities and has created a tiered award system similar to Baby-Friendly designed to recognize those organizations. These statewide services indicate the importance of helping mothers achieve success in breastfeeding.

As an international board certified lactation consultant (IBCLC) and the chair of my organization's Baby-Friendly committee, I am passionate about helping families overcome the barriers to breastfeeding and I realize the health and societal benefits of exclusive breastfeeding for the recommended duration. As this paper has identified, there are multiple obstacles women can encounter that undermine even the best breastfeeding intentions. After much investigation into this issue, I believe a strong foundation of confidence and a solid support system are the keys to the achievement of breastfeeding

goals. A quick assessment of maternal self-efficacy followed by interventions tailored to boost confidence may be critical in the establishment of long-term breastfeeding commitment.

Summary

The breastfeeding experience is unique for each family, yet there are extractable common themes that either enable or impede breastfeeding success. Education, establishment of clear goals, confidence-building classes, support, and follow-up are recognized as imperative strategies for the accomplishment of breastfeeding goals. At the center of this model is instilling an "I can do it" attitude in the mothers and supporting them throughout their journey. This project provided an opportunity for nursing to take ownership of improving the health of the population served by ensuring that families have the resources and resilience to breastfeed successfully.

Section 3: Approach and Methodology

Introduction

This project was designed to determine the effects of breastfeeding self-efficacy on breastfeeding initiation, duration, and exclusivity. It also explored whether or not a formal, hospital-based prenatal breastfeeding class positively influenced maternal breastfeeding confidence. In this section, I discuss the specific design, methodology, evaluation, and recommendations to address the problem of early breastfeeding cessation.

Methods

A quasi-experimental approach was used to conduct the project to assess the effects of a formal, hospital-based prenatal breastfeeding class on self-efficacy. Data collection was complete once the last-born infant had reached 2 weeks of age, the survey had been sent to the mother, and a 1-week period for survey return had passed. Data from the BSES-SF (see Appendix) were aggregated with the assistance of the campus nursing research assistant. Dennis's (2010) BSES-SF was initially tested for content validity by a panel of experts through qualitative interviews with breastfeeding mothers, and further testing of the tool included internal consistency, correlations with measures of similar constructs, comparison of contrasted groups, and principal components factor analysis. Dennis (2010) obtained further support for predictive validity through demonstration of positive BSES-SF scores and infant feeding patterns at 6 weeks postpartum. A 5-point Likert type scale was used, and items with a higher score indicated higher levels of breastfeeding self-efficacy (Dennis, 2010). The results from mothers who attended the hospital-based breastfeeding class were compared with the results from

those who did not. The findings will serve as the foundation for future research and practice changes.

Population and Sampling

There were two groups that received the questionnaire: an intervention group of mothers who participated in the hospital-based prenatal breastfeeding class, and a control group of mothers who did not receive any formal prenatal breastfeeding education. The study was conducted at a 203-bed state-of-the-art community hospital (68% of respondents), a 340-bed community hospital (12% of respondents), and a 1,217-bed urban tertiary care center (20% of respondents) with combined annual births of approximately 7,800.

Recruitment

Potential participants for the experimental group were notified of the opportunity to participate prior to the breastfeeding class. Control group participants were notified of the opportunity to participate upon admission to the maternal-infant unit by means of Institutional Review Board (IRB)-approved flyers. These notifications included the times for survey administration. The flyers were available at the beginning of the breastfeeding class and in the mother/infant admission folders. Campus lactation consultants evaluated potential participant interest prior to eligibility assessment and informed consent. An IRB-approved eligibility criteria form was completed prior to survey administration. Inclusion criteria consisted of pregnancy or recent delivery, planned birth at one of the included hospitals, plan to breastfeed, ability to provide informed consent, and willingness to provide postpartum contact information for the follow-up survey.

Exclusion criteria consisted of plan to formula feed exclusively, inability to read or write English, previous formal breastfeeding class (for control group), maternal health disorder rendering the mother unable to breastfeed, or health disorder in the infant that was incompatible with breastfeeding.

Ethical Protection

Prior to any data collection, approval was obtained from both the Walden University IRB and the Florida Hospital IRB. Hospital IRB approval was required because the study included participants who were receiving health services at the facility. Eligibility criteria and informed consent were thoroughly explained to participants prior to any data collection. The Walden University IRB approval number is 12-11-14-0129809.

Data Collection Procedures

Initial contact was made with breastfeeding class attendees prior to the start of the class, and an invitation to participate in the study was extended. There were 30 total participants in the intervention group, and participants were acquired through multiple breastfeeding classes at each of the three campuses over the course of 4 months. Participants completed the 14-question BSES-SF prior to the standardized classroom instruction program, and then again immediately following the class. Pre and post breastfeeding class results were collected, and the surveys were stored in the research office. The results were compiled on an Excel spreadsheet by the campus nursing research assistant. After delivery and prior to discharge home, a third BSES-SF was administered, and all forms were kept with the follow-up contact information until

collected by the research assistant. Contact information was kept in the locked research office, which was only accessible by me. Deidentified data were aggregated by the hospital research assistant. A final survey was administered at 2 weeks postpartum via the participant's preferred contact method.

An additional 30 participants served as a control group and were recruited from postpartum women who did not attend the hospital-based prenatal breastfeeding class or any formal breastfeeding class. This group received the questionnaire prior to hospital discharge and at 2 weeks postpartum. The same eligibility assessment and informed consent were provided to each group.

This project aimed to assess the effects of prenatal breastfeeding education, postpartum inpatient breastfeeding education by healthcare professionals, and significant other support on breastfeeding initiation, exclusivity, and duration at 2 weeks postpartum. According to Ertem et al. (2001) and Hoddinott, Kroll, Raja, and Lee (2010), the majority of women make the decision of how they will feed their babies very early in pregnancy or even prior to conception. The prenatal breastfeeding class provided strategies for overcoming many of the known barriers by providing current evidence-based information for new mothers, their partners, and providers; building mothers' self-confidence in their ability to nourish their babies completely; and identifying support tools and resources for partners and providers. Observational studies have determined that women who lack breastfeeding confidence are 2 to 3 times more likely to terminate breastfeeding sooner than planned (Kingston, Dennis, & Sword, 2007).

Data Analysis

Data were analyzed using a paired *t* test and a Wilcoxon signed rank test for the pre and post class analysis, and an independent *t* test was used to compare the self-efficacy scores of the intervention and control groups. Comparisons within and between subjects were made with inferential statistics.

Project Evaluation Plan

The project was evaluated through assessment of breastfeeding exclusivity upon hospital discharge and through postpartum follow-up calls. If the exclusive breastfeeding rates through 2 weeks postpartum demonstrated an increase in the participating population, then the interventions developed would be determined successful. Ongoing evaluation will identify if there are needs that are not being addressed or if there are gaps in care.

The future plan for this project is to review the findings with nursing and lactation focus groups for the purpose of identifying barriers and developing a standardized discharge teaching plan to address the areas of the self-efficacy scale that exhibit low scores. For example, if a mother were to score low on the question concerning whether she is confident in her ability to breastfeed without using formula supplements, a planned approach could be used to incorporate confidence-building techniques that would emerge through suggestions from the focus group. Once barriers are identified, strategies will be developed for each of the identified barriers, and BSES-SF questions will be integrated into an action plan to reduce the barriers and improve breastfeeding outcomes.

Summary

The BSES-SF will provide the foundation for the establishment of standardized postpartum breastfeeding education for women who demonstrate low levels of breastfeeding confidence. Recommendations included administering the BSES-SF at 3 and 6 months postpartum and comparing BSES-SF scores of those who participate in the hospital-based prenatal breastfeeding education and those who receive the intervention education. It was important to establish the ease of survey administration and the functionality of administering the survey to women prior to hospital discharge in order to support its future use in practice.

Section 4: Findings, Discussion, and Implications

Introduction

The purpose of this project was to determine whether a hospital-based prenatal breastfeeding class positively impacted breastfeeding self-efficacy demonstrated through increased breastfeeding initiation, exclusivity, and duration. This section showcases the results of the project, its strengths and limitations, and recommendations for future research, nursing practice, and nursing education. Additionally, reflections on my growth as a nurse practitioner-scholar are presented.

Evaluation and Discussion

Summary and Evaluation of Findings

This project resulted in 100% return of the pre and post class survey and for the intervention group, a 63% return rate of the survey prior to hospital discharge, and a 3% return at 2 weeks postpartum. The control group provided 100% survey completion prior to hospital discharge and 10% return at 2 weeks postpartum. Due to a total 2-week postpartum survey return rate of 7%, a decision was made to examine the difference between pre and post class surveys and the intervention and control group prior to hospital discharge.

A paired *t* test was used to evaluate breastfeeding self-efficacy scores before and after the formal hospital breastfeeding class. The average pre class score was 32.33 (maximum score of 70) for the 30 participants; the average post class score was 48.03 (see Table 1). This demonstrated a mean score increase of 15.7, which was statistically

significant (see Table 2). A second analysis, the Wilcoxon signed rank test (see Table 3 & Figure 1), was completed to confirm rejection of the null hypothesis.

Table 1

Paired Samples Statistics

		Mean	*N*	Std. deviation	Std. error mean
Pair 1	Pre_Class	32.3333	30	12.08400	2.20623
	Post_Class	48.0333	30	11.55641	2.10990

Table 2

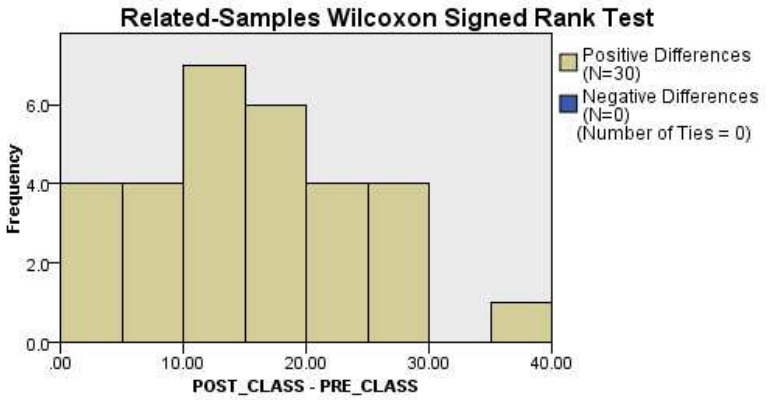
Paired Samples Test

		Paired differences							
					95% confidence interval of the difference				
		Mean	Std. deviation	Std. error mean	Lower	Upper	*t*	*df*	Sig. (2-tailed)
Pair 1	Pre Class – Post_Class	-15.70	9.00	1.64	-19.06	-12.33	9.55	29.00	.000000000185

Table 3

Hypothesis Test Summary

	Null hypothesis	Test	Sig.	Decision
1	The median of differences between PRE CLASS and POST CLASS equals 0	Related samples Wilcoxon signed rank test	.000	Reject the null hypothesis



Total N	30
Test Statistic	465.000
Standard Error	48.567
Standardized Test Statistic	4.787
Asymptotic Sig. (2-sided test)	.000

Figure 1. Related-samples Wilcoxon signed rank test.

A second statistical analysis was completed to compare the differences between the intervention and control groups prior to hospital discharge. For this analysis, the intervention group had 19 participants and the control group had 30 participants. Findings revealed no statistically significant difference between the two groups (see Table 4 and Table 5). It was hypothesized that because previous breastfeeding experience was not included in the exclusion criteria for the control group and the intervention group was primarily composed of first-time breastfeeding mothers previous successful breastfeeding experience may have played a role in this finding. It is further noted that breastfeeding confidence in the intervention group was higher prior to hospital discharge than at the conclusion of the breastfeeding class, indicating an increase in confidence and an elevation to the confidence level of the control group, which included experienced breastfeeding mothers. The mean score for breastfeeding class participants was 48.03 after the class and 52.06 prior to hospital discharge. Another possibility is that the postpartum lactation consultant visit was able to reinforce previously learned information, which was translated into higher breastfeeding self-efficacy scores.

Table 4

Group Statistics

	Group	*N*	Mean	Std. deviation	Std. error mean
Scores	1.00	19	52.053	10.222	2.345
	2.00	30	53.433	12.128	2.214

Table 5

Independent Samples Test

		Levene's test for equality of variances		*t* test for equality of means						
		F	Sig.	t	*df*	Sig. 2-tailed	Mean difference	Std. error difference	95% confidence interval of the difference Lower	Upper
Scores	Equal variances assumed	.166	.686	-.412	47	.682	-1.381	3.353	-8.126	5.364
	Equal variances not assumed			-.428	43.125	.671	-1.381	3.225	-7.885	5.123

Discussion of Findings in the Context of Literature and Frameworks

Bandura's social cognitive theory provided the framework for this study. A valid tool using a Likert scale was administered to planned and current breastfeeding mothers to assess their breastfeeding self-efficacy. Pre and post breastfeeding class survey findings indicated a significant increase in breastfeeding confidence, and confidence levels were even higher once the mothers had the opportunity to actually breastfeed. The findings support studies by Dennis (2006) and Noel-Weiss et al. (2006), which suggested that women who experienced a prenatal breastfeeding intervention, in this case a structured breastfeeding class, achieved higher levels of breastfeeding self-confidence, ultimately resulting in more breastfeeding initiation, more exclusive breastfeeding, and longer durations of breastfeeding.

Implications

The implications of this study for practice include the foundation for a standardized teaching program for women who demonstrate lower initial scores on the BSES-SF. According to Dennis (2010), the BSES-SF has clinical utility in the identification of women who are at high risk of early breastfeeding discontinuation. Administration of this survey allows providers to identify women who may need additional support and to identify women with high levels of self-efficacy who may not require further intervention. This is an easy survey that can be administered to mothers prior to discharge and used as a quick assessment of the mother's breastfeeding confidence. Mothers can be categorized as demonstrating high or low breastfeeding confidence, and postpartum discharge teaching can be standardized based upon the level of confidence a mother expresses. For example, scores of 36 to 70 indicate higher breastfeeding self-efficacy; conversely, scores of 14 to 35 indicate lower levels of self-efficacy. It is recommended that nursing discharge teaching be structured to address the mother's needs. Another option is to formulate a teaching plan for each of the 14 questions to address the specific mother's needs.

Project Strengths and Limitations

The strengths of the project included an adequate initial sample size and participants across three campuses to diversify the population. Thirty participants were recruited from three campuses over the course of 4 months. In addition, 30 control group participants were recruited from the postpartum units of the same three campuses.

Limitations were the small number of 2-week postpartum surveys that were returned and the inclusion in the control group of experienced and novice breastfeeding mothers. It is speculated that although the postpartum mothers were given the option of an e-mail or postal mail survey—and most chose e-mail—the demands of attending to a newborn infant did not afford prioritization of survey completion and return. Additionally, the control group was a mix of mothers who had breastfed multiple children and mothers who had never breastfed before.

Recommendations for Future Nursing Research

Recommendations for further research include inclusion and exclusion criteria to filter for nulliparous women versus multiparous women. Based on the project findings, it is assumed that women who have breastfed before would have higher levels of self-efficacy regardless of whether formal breastfeeding education occurred. As previously stated, a positive experience would increase future self-efficacy. Conversely, a negative prior breastfeeding experience may decrease self-efficacy. It is important to not assume that previous breastfeeding experience equates to high levels of self-efficacy. It is recommended to incorporate the survey into discharge planning for each postpartum mother to provide an immediate assessment of breastfeeding self-efficacy and an opportunity for real-time intervention.

Further research after this DNP project will include the creation of two nursing focus groups. The first will consist of frontline staff and lactation consultants; the second will consist of nurse leaders. Frontline staff will be informed of the results of the project and the barriers to breastfeeding success that were identified through the project literature

review. The group will be asked to develop useable strategies that can be implemented in the hospital to reduce postpartum breastfeeding cessation using the BSES-SF as a platform for action plan development. The nurse leader focus group will review not only the barriers identified through the postpartum phone calls, but also barriers identified by nursing and lactation staff. Process and workflow improvements that will help facilitate staff interaction and support will be identified, and an action plan will be developed. It is projected that the BSES-SF will be administered routinely to all postpartum women prior to hospital discharge, and those who demonstrate a low score will generate a different discharge teaching plan than those with higher self-efficacy. With a tailored plan to address the specific areas where confidence levels are low, longer duration and exclusivity of breastfeeding may result.

Recommendations for Nursing Practice

It is recommended that nurses elevate their practice as members of the most trusted profession and use their position to increase breastfeeding initiation, exclusivity, and duration. Nurses are in a unique position to impact lifelong health positively by being present during the first hours of breastfeeding initiation. The information, encouragement, and support provided by nurses in the first days postpartum have the potential to shape the health of the population. Therefore, it is recommended for nurses to learn about and use the tools available for assessing breastfeeding self-efficacy. Continued research in the area of breastfeeding success will add depth to the pool of resources and strengthen the resolve to achieve national breastfeeding goals.

Recommendations for Nursing Education

It is recommended that all nurses caring for breastfeeding mothers be familiar with the BSES-SF. Nursing education should include review of the survey, indications for its administration, and implications of the scores. This tool allows nursing staff to identify quickly the areas in which a breastfeeding mother's self-efficacy is vulnerable. It allows a nurse to tailor encouragement and education that address the individual mother's specific needs. Recommended education for nurses includes scripted words of support, encouragement, validation, and evidence for continued breastfeeding.

Analysis of Self

Researcher

I learned that although I intended to simplify this project, administration of the survey at four points in time for the intervention group and two points in time for the control group proved to be an overly cumbersome task. I also learned that it was ambitious to expect 2-week postpartum return surveys from new mothers who were at home busy with a new baby. If I were to undertake the project again, I would likely break it into pre and post class phases with check points, include a postpartum convenience sample (such as at the first postpartum clinic visit), or I would recruit a larger initial sample to improve the number of surveys returned after hospital discharge. I would also consider collecting demographic data, including whether or not the mother had previous breastfeeding experience.

Scholar

As a scholar, I learned the importance of thorough examination of all of the research that has been conducted and the use of existing tools. Sharing research is necessary to validate practice and prevent working in silos. I have learned that being a scholar means elevating nursing practice through examination of the evidence and application of that knowledge. It means having a voice at the table and functioning as a true interdisciplinary team member. The ability to support best practices as a result of embracing the scholarly side of nursing promotes the credibility of nursing.

Practitioner

This project has had the most profound impact on me as a practitioner. It was important for me to learn that my preconceived idea that women who attended the hospital breastfeeding class had higher levels of self-confidence than those that did not was not necessarily validated, yet I could extract applicable meaning from my project. It was exciting to see the results of the survey and formulate different ways in which the survey could be used in the future to influence patient care. I am ultimately interested in useful information that can be applied to improving outcomes so that this project does not represent an end, but the beginning of continued exploration.

Summary and Conclusions

In summary, it was interesting to discover that for those who attended the breastfeeding class, confidence increased from prior to class to after the class and again from after class to prior to discharge after the birth of the baby. It was also interesting that there was no statistically significant difference between the intervention group and the

control group prior to hospital discharge. This could be because the control group was not filtered for those with previous breastfeeding experience; the mothers in the intervention group had the same level of confidence as those who might have breastfed before. It could also be inferred that the education provided to all patients prior to hospital discharge resulted in similar self-efficacy levels in breastfeeding mothers, whether they attended the breastfeeding class or not. Overall, I have learned that the simple BSES-SF tool has utility for both prenatal and postpartum mothers and can be used to evaluate the effectiveness of a prenatal intervention as well as provide an assessment of a mother's confidence level prior to discharge.

Section 5: Scholarly Product

The scholarly product developed for this project is an abstract to be used for poster and podium presentation opportunities. The abstract illustrates the relationship between breastfeeding self-efficacy and breastfeeding initiation, exclusivity, and duration and presents the findings of the project. The project included an examination of the confidence levels of breastfeeding mothers who attended a hospital-based prenatal breastfeeding class in comparison with those who had no formal breastfeeding education and a discussion of the impact of these findings.

Abstract

Breastfeeding self-efficacy is considered one of the key components in a successful breastfeeding experience. The benefits of breastfeeding are well established in the literature and have been widely communicated to the public resulting in an increasing trend in breastfeeding initiation. However, as a nation, we still fall short of Healthy People 2020 breastfeeding goals. The purpose of this project was to examine the effects of a standardized hospital-based prenatal breastfeeding class on breastfeeding self-efficacy. Dennis' breastfeeding self-efficacy theory was the foundation for the breastfeeding self-efficacy tool used in this project. A quasi-experimental design used a convenience sample of 30 breastfeeding class participants as the experimental group and 30 women who had no formal breastfeeding education as the control group. The breastfeeding self-efficacy scale short form (BSES-SF) was administered to the intervention group prior to the breastfeeding class, at the end of the class, prior to hospital discharge, and at 2 weeks postpartum. The control group received the survey prior to

hospital discharge and at 2 weeks postpartum. Paired *t* test and Wilcoxon Signed Rank statistics were used to evaluate the pre and post class scores (n =30) and an independent *t* test was used to evaluate the intervention group (n =19) and control group (n =30) prior to hospital discharge. Participants in the breastfeeding class demonstrated a statistically significant increase in breastfeeding confidence after the class, though there was no difference between the intervention and control group. This indicates that breastfeeding classes are beneficial to increase self-efficacy, but not necessarily to increase duration of breastfeeding.

Project Evaluation Plan

The future plan for this project is to review the findings with nursing and lactation focus groups for the purpose of identifying barriers and developing a standardized discharge teaching plan to address the areas of the self-efficacy scale that exhibit low scores. For example, if a mother scored low on the question that inquires if she is confident in her ability to breastfeed without using formula supplements, a planned approach will be used to incorporate confidence building techniques that will emerge through suggestions from the focus group. Once barriers are identified, strategies will be developed for each of the identified barriers and BSES-SF questions will be integrated into an action plan to reduce the barriers and improve breastfeeding outcomes.

Summary and Evaluation

In summary, this project determined that maternal breastfeeding self-efficacy was enhanced through education and support in a hospital-based prenatal breastfeeding class. Future work must be completed to show whether this increased self-efficacy results in

better breastfeeding outcomes. As part of the evaluation, it is recommended to incorporate the BSES-SF survey into discharge planning for each postpartum mother to provide an immediate assessment of breastfeeding self-efficacy and an opportunity for real-time intervention. As nurses, we are in a unique position to impact lifelong health positively by being present during the first hours of breastfeeding initiation. The information, encouragement, and support provided by nurses in the first days have the potential to shape the health of the population. Therefore, it is recommended for nurses to learn about and utilize the tools available for assessing and increasing breastfeeding self-efficacy. Continued research in the area of breastfeeding success will add depth to our pool of resources and strengthen the collective resolve to achieve national breastfeeding goals.

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Appendix: Breastfeeding Self-Efficacy Scale—Short Form

For each of the following statements, please choose the answer that best describes how confident you are with breastfeeding your new baby. Please mark your answer by circling the number that is closest to how you feel. There is no right or wrong answer.

1 = not at all confident
2 = not very confident
3 = sometimes confident
4 = confident
5 = very confident

1	I can always determine that my baby is getting enough milk	1	2	3	4	5
2	I can always successfully cope with breastfeeding like I have with other challenging tasks	1	2	3	4	5
3	I can always breastfeed my baby without using formula as a supplement	1	2	3	4	5
4	I can always ensure that my baby is properly latched on for the whole feeding	1	2	3	4	5
5	I can always manage the breastfeeding situation to my satisfaction	1	2	3	4	5
6	I can always manage to breastfeed even if my baby is crying	1	2	3	4	5
7	I can always keep wanting to breastfeed	1	2	3	4	5
8	I can always comfortably breastfeed with my family members present	1	2	3	4	5
9	I can always be satisfied with my breastfeeding experience	1	2	3	4	5
10	I can always deal with the fact that breastfeeding can be time consuming	1	2	3	4	5
11	I can always finish feeding my baby on one breast before switching to the other breast	1	2	3	4	5
12	I can always continue to breastfeed my baby for every feeding	1	2	3	4	5
13	I can always manage to keep up with my baby's breastfeeding demands	1	2	3	4	5
14	I can always tell when my baby is finished breastfeeding	1	2	3	4	5