MATERNAL BREASTFEEDING SATISFACTION: ATTENDANCE OR NON-ATTENDANCE AT A NURSE-LED BREASTFEEDING SUPPORT GROUP.

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Maternal breastfeeding satisfaction: Attendance or non-attendance at a nurse-led breastfeeding support group.

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ABSTRACT

The benefits of breastfeeding for mothers and infants are well documented in the literature. This study compared maternal breastfeeding satisfaction between mothers who attended a nurse-led breastfeeding support group (n=27) and mothers who did not attend the group (n=26). No statistical difference in maternal satisfaction was identified between the groups of mothers. While the sample size was small, qualitative data collection indicated mothers who attended the group may not have had as high of breastfeeding satisfaction scores if the support group was not available for them to attend.

Breastfeeding mothers indicated their husband/significant other was their primary source of support (36 surveys or 68%) and lactation nurses (32 surveys or 60%) were their primary source of education. Individualized support based on a mother's personal circumstances is ideal. More research is needed to identify the best ways to support mothers who are breastfeeding and what is most helpful from their perspective.

ACKNOWLEDGMENTS

A huge thank you to my colleagues who shared their ideas and experience with me during this project. You offer breastfeeding mothers a listening ear, a kind word, gentle hands, and evidence-based guidance. You make a difference and I am thankful to work beside you. Thank you Jan, Debbie, Pauline, Salomy, and Jamie.

DEDICATION

To my husband and children

for giving mommy “quiet time” to do homework

and supporting this endeavor called graduate school.

Thank you.

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CHAPTER 1. INTRODUCTION

Multiple studies indicate breastfeeding can protect the health of babies and mothers (Surgeon General's Call to Action to Support Breastfeeding, 2011; Keister, Kismet, & Werner, 2008). The American Academy of Pediatrics (AAP) recently issued a policy statement regarding *Breastfeeding and the Use of Human Milk* (2012). After analyzing data outlining the benefits of breastfeeding, the AAP policy statement (2012) delineates the benefits of breastmilk citing a reduction in incidence of otitis media, upper respiratory infection, necrotizing enterocolitis (preterm infants), gastroenteritis, obesity, and diabetes. Breastfeeding also facilitates the release of oxytocin encouraging the mothers' uterus to contract and reduces the amount of blood loss following delivery (Newman & Pitman, 2006).

Riordan and Wambach (2010) cite evidence in which, until the last several decades, breastfeeding was the norm for infant feeding. If mothers were unable to breastfeed, alternative methods such as wet nursing or hand-feeding were done to provide the infant nutrition. A wet nurse is a woman who is already lactating either with or without a recent pregnancy and will breastfeed another woman's infant. In the 1600-1700's, the societal elite would employ wet nurses to breastfeed their infants (Riordan & Wambach, 2010). Hand-feeding is offering the infant nutrition through a feeding vessel. Some of the earliest infant feeding vessels found have been pottery bowls with a spout thought to date back to 2000-1500 B.C. in France (Riordan & Wambach, 2010).

Specific statistics regarding breastfeeding frequency have only been gathered in the United States since 1955. These statistics were gathered by manufacturers of formula in marketing surveys. Due to ongoing research on the benefits of providing breastmilk for infant feeding and the public campaign to promote breastfeeding, statistical information regarding

breastfeeding has become more readily available (CDC, 2013; AAP 2012). Breastfeeding initiation rates were at an all-time low in 1971with only 24% of mothers breastfeeding their infants (Gates, 2013). The *Healthy People 2020* target for mothers to provide any breast milk to their infant is 81.9% (Healthy People 2020, 2013). The Centers for Disease Control (CDC) reported in July of 2013 the United States national average for any breastfeeding was 76. 5%.

Why is breastfeeding important?

"Breastfeeding is the single most powerful and well documented preventive modality available to health care providers to reduce the risk of common causes of infant morbidity" (BFHI, 2014, p. 3). Breastmilk contains hormones, enzymes, growth factors, protein, fat, lactose, and water, which all work in harmony to aid in infant digestion, assist in infant immunity, and growth (Riordan & Wambach, 2010). Hormones from pregnancy stimulate breast growth. After the delivery of an infant and the placenta, the mother's body releases additional hormones to aid in milk production (Riordan & Wambach, 2010). When milk is removed from the breast, the mother's body responds and produces more milk.

Bartick and Reinhold (2010) published findings looking at the health benefits to mothers and infants who breastfeed. Analysis regarding rates of illness in breastfed infants showed strategies to promote increased breastfeeding duration and exclusivity could be cost-effective (Bartick & Reinhold, 2010). Bartick and Reinhold (2010) state "if 90% of United States families could comply with medical recommendations to breastfeed exclusively for six months, the United States would save $13 billion per year and prevent 911 deaths, nearly all of which would be in infants" (p. e1052).

While any breastfeeding is beneficial for most infants, longevity of breastfeeding reaps even further benefits. Cumulative lactation experience of 12 months or longer has been shown to

reduce the relative risk of rheumatoid arthritis, cardiovascular disease, breast cancer, and ovarian cancer (AAP, 2012). The AAP recommends exclusive breastfeeding for the first six months of an infant's life (AAP, 2012). At three months of age, when mothers who work outside the home often have to be separated from their infant as their maternity leave has ended, the exclusively breastfeeding rate drops to 37.7% in the United States (CDC, 2013). The United States national average for exclusively breastfeeding at six months of age is dismal at 16.4% (CDC, 2013). The statistic for non-exclusive breastfeeding at six months is a bit more hopeful at 49% in the United States (CDC, 2013). The AAP also recommends mothers continue to breast feed their infants throughout the first twelve months of life or until weaning is desired. The CDC reports (2013) 27% of infants are receiving breast milk at 12 months of age in the United States.

Table 1. *Healthy People 2020 breastfeeding goals compared to current breastfeeding rates in the United States.*

	Ever breastfed	**Exclusive breastfeeding at 3 months of age**	**Exclusive breastfeeding at 6 months of age**	**Any breastfeeding at 6 months of age**	**Breastfeeding at 12 months**
Healthy People 2020 Breastfeeding objectives	81.9%	46.2%	25.5%	60.6%	34.1%
Current breastfeeding rates	76.5%	37.7%	16.4%	49%	27 %

Note. Healthy People 2020 Breastfeeding objectives from United States Breastfeeding Committee 2013. Current breastfeeding rates from CDC Breastfeeding Report Card 2013.

The Baby-Friendly Hospital Initiative (BFHI) began in 1991 as a global effort to assist hospitals equip mothers with information and skills to successfully begin and continue breastfeeding their infants (BFHI, 2014). Becoming a designated Baby-Friendly Hospital requires facilities to examine current practices and ensure evidence-based care for infant feeding

methods. The BFHI was launched by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) and is currently endorsed in the United States by the following organizations: American Academy of Family Physicians, American Academy of Nurses, American Academy of Pediatrics, American College of Nurse-Midwives, Academy of Breastfeeding Medicine, Academy of Nutrition and Dietetics, Association of Women's Health, Obstetric and Neonatal Nurses, Centers for Disease Control and Prevention, National WIC Association, U.S. Breastfeeding Committee, U.S. Preventive Services Task Force, and the U.S. Surgeon General (BFHI, 2014).

Improved health outcomes for mothers and babies, improved patient satisfaction, and meeting of Joint Commission Perinatal Care core measure on exclusive breastfeeding are just a few potential benefits in store for hospitals that seek and obtain Baby-Friendly status by following *The Ten Steps to Successful Breastfeeding* as outlined in the BFHI (BFHI, 2014). The Joint Commission is the accrediting body for hospital organizations and began measuring "the number of exclusively breastmilk-fed term infants as a proportion of all term infants" (United States Breastfeeding Committee, 2010, p. 3) in April 2010. When a mother is admitted to a hospital to give birth and plans to breastfeed, if the infant is full term and receives any nutrition other than breastmilk (supplementing), the medical team must document the rationale for supplementing the infant. By implementing the Joint Commission Perinatal Care core measure on exclusive breastfeeding, hospitals are encouraged to document the rationale for offering breastfed infants a supplement. By identifying rationales that are not evidence-based, hospital policies and practices can be updated to reflect current evidenced-based recommendations regarding breastfeeding (United States Breastfeeding Committee, 2010).

Another potential benefit for hospitals to implement *The Ten Steps to Successful Breastfeeding* is to improve the hospital's Maternity Practices in Infant Nutrition and Care (m-PINC) scores. The m-PINC is a survey tool administered to birthing center managers to identify strengths and weaknesses within the practices of the birthing center. The scores are published publicly through the CDC and compared state by state (CDC, 2013).

What are the challenges to breastfeeding?

The initial breastfeeding rate is nearing the *Healthy People 2020* goal, but the problem lies in the low rates for exclusivity and duration of breastfeeding (AAP, 2012). The American Academy of Pediatrics (2012) identified returning to work outside the home and needing guidance on the process of pumping breastmilk as one of the difficulties mothers face. Appropriate support and evidence-based guidance can help mothers extend their breastfeeding experience when their maternity leave has ended. Pediatricians (and other physicians) lack preparation and knowledge in lactation and call on other specialties such as obstetrics, International Board Certified Lactation Consultants (IBCLC), and other health care professionals to help develop optimal breastfeeding support programs (AAP, 2012; Renfrew et al., 2012; USLCA, 2010; Thurman & Allen, 2008).

Support from peers and professionals can assist mothers in their breastfeeding experience. Many online websites offer reliable breastfeeding information. Face-to-face counseling appears to be the most effective method to aid breastfeeding mothers (Renfrew et al., 2012). Professionals who are available to assist mothers breastfeed their infants include nurses, physicians, midwives, doulas, and lactation consultants. Inconsistent professional support and lack of professional support have been shown to negatively affect breastfeeding success (Hall & Hauck, 2007). Lactation consultants, referred to as International Board Certified Lactation

Consultants (IBCLC), are professionals certified in the specialty of lactation. The first ever exam administered through the International Board of Lactation Consultant Examiners was given in 1985 (Riordan & Wambach, 2010). The specialty of IBCLC is less than 30 years old.

International Board Certified Lactation Consultants (IBCLC) can take on a variety of roles including daily rounds within a hospital birthing unit to offer one-to-one sessions with breastfeeding mothers, telephone support to breastfeeding mothers, teaching patient education classes, assisting with birthing staff education, and offering lactation services in the clinic or outpatient setting (Riordan & Wambach, 2010). Professional assistance with breastfeeding and follow-up guidance and support after discharge from the hospital has been shown to improve breastfeeding success (Phillips, 2011; Lukac, Riley, & Humphrey, 2006; Richter & Hart, 2010; Thulier & Mercer, 2009).

Phillips (2011) stated breastfeeding mothers have a need to share their breastfeeding story with other mothers and desire to support new breastfeeding mothers by sharing their experience. Baby Friendly Hospital Initiative #10 recommends mothers have access to breastfeeding support groups after discharge from the hospital. The *Surgeon General's Call to Action to Support Breastfeeding* (2011) details specific tasks people and organizations can do to improve breastfeeding statistics in the United States which includes offering opportunities for breastfeeding mothers to share their experiences and support each other.

Guidelines, recommendations, policy statements, and goals for breastfeeding have been set by professional organizations and promoted by health care professionals (AAP, 2012; The Surgeon General's Call to Action, 2011; Healthy People Campaign 2020, 2013). Statistics have shown breastfeeding rates fall rapidly a few weeks after delivery and then drop again when mothers return to work outside the home (CDC, 2013). What interventions or assistance do

breastfeeding mothers find helpful in prolonging their breastfeeding experience? How do health care professionals support mothers who are breastfeeding? What support do breastfeeding mothers need? What are breastfeeding mothers looking for when they attend a breastfeeding support group?

Research question

This research project compared two groups of breastfeeding mothers with infants 2-6 months of age who gave birth at a local Midwest hospital. The research question: Was there a difference in maternal breastfeeding satisfaction among mothers who attended a nurse-led breastfeeding support group and those who did not attend? By identifying breastfeeding resources mothers find supportive, health care providers can influence perceived self-efficacy with education and positive reinforcement.

Invited participants were mothers who provided breastmilk to their infant for any duration and may or may not be breastfeeding at the time they completed the survey. Each mother participating in the project filled out the survey once. Maternal satisfaction with breastfeeding was compared between a group of mothers who attended a nurse-led breastfeeding support group with those mothers who did not attend a nurse-led breastfeeding support group. Qualitative data was collected through open-ended questions in a written survey and quantitative data was collected through the Maternal Breastfeeding Satisfaction Evaluation Scale (MBFES) tool (Appendix A) used with permission from Ellen Leaf (personal communication, October 16, 2013, Appendix B). Pender's health promotion model was utilized to organize qualitative data concepts. Methods are discussed in detail in Chapter 3.

CHAPTER 2. LITERATURE REVIEW

The literature search for this review was conducted through North Dakota State University online library search engine EBSCO utilizing CINAHL, HealthSource Nursing/Academic edition, and Medline keywords *outpatient, lactation support, research study, breastfeeding,* and *discontinuation* used in multiple combinations. Publication dates were limited to 2003-2013. Limitations were placed in the search engine for articles to be full text, written in English, and peer reviewed. A variety of articles were reviewed including quantitative studies, qualitative studies, integrative reviews and meta-analyses, guidelines, and policy statements regarding breastfeeding in the United States. Google Scholar was searched using the same parameters described in the EBSCO host.

The Matrix Method was used to evaluate articles discovered and organized in chronological order in a five-column table with headings to succinctly describe areas of interest: article, focus, study design, number of subjects, and findings/limitations (see Table 1). Thirty total resources were retrieved and evaluated for content. Fourteen articles were research articles related to outpatient lactation support while the remaining sixteen were reviews, guidelines, poster presentations, and policy statements. An underlying theme of providing breastfeeding mothers professional lactation support in the immediate postpartum period to assist in meeting breastfeeding goals and increase longevity of breastfeeding was seen in the fourteen research articles.

Table 2. *Literature review matrix of outpatient lactation support.*

Study	Focus	Study Design	Number of subjects	Findings and Limitations
Centers for Disease Control (CDC). (2013). Breastfeeding Report Card for the United States. Retrieved from: http://www.cdc.gov/breastfeeding/data/reportcard.htm	Improve health of mothers and their children.	Report card		Offers many ways communities can support mothers who breastfeed.
Gates, T. (2013). A model for breastfeeding support. *Clinical Lactation.* 4(1):17-20.	Describe a model for breastfeeding support.	Informative paper		WIC utilizes a breast pump program, helpline, peer counselor program, and collaborates with the breastfeeding coalition to support breastfeeding women.
American Academy of Pediatrics (AAP). (2012). Policy Statement Breastfeeding and the use of human milk. *Pediatrics.* 129(3):e827-e841. Doi: 10.1542/peds.2011-3552	Recommends exclusive breastfeeding for 6 months. After complimentary foods are introduced, continue breastfeeding for 1 year or as long as mutually desired.	Policy statement		Reaffirms AAP's early recommendations regarding breastfeeding.
Renfrew, M., McCormick, F., Wade, A., Quinn, B., and Dowswell, T. (2012). Support for healthy breastfeeding mothers with healthy term babies. The Cochrane Library retrieved from: http://www.ncbi.nlm.nih.gov/pubmed/22592675	Assess effectiveness of support for breastfeeding mothers.	Review		All women should be offered support in breastfeeding their infant. Face-to-face support are most likely to succeed.
Carswell, A. (2012). Poster presentation. Birthways lactation services: A model for breastfeeding support. *Journal for Obsterical, Gynecological, and Neonatal Nurses.* 41(S1-S118): S36.	Birthways Lactation Services purpose to increase breastfeeding initiation and duration in addition to increase lactation consultant's productivity related to cost.	Poster presentation Case study		Birthways Lactation Services model decreases hospital readmission rates and promotes exclusive breastfeeding.

Table 2. *Literature review matrix of outpatient lactation support (continued).*

Otto, D., Low, K., and Henry, L. (2012). Poster Presentation. Improving breastfeeding success: Nurses' commitment to evaluation of a newborn feeding at the breast. *Journal of Obstetrical, Gynological, and Neonatal Nurses.* 41(1):S179.	Mothers have short hospital stays (48-96 hours) and observation of latch is important for breastfeeding success.	Poster presentation		Outpatient lactation appointments can identify breastfeeding difficulties missed in the hospital setting.
Samuel, T., Thomas, T., Bhat, S., and Kurpad, A. (2012). Are infants born in baby-friendly hospitals being exclusively breastfed until 6 months of age? *European Journal of Clinical Nutrition.* 66:459-465. Doi:10.1038/ejcn.2011.179	To objectively measure breastfeeding rates in a baby friendly hospital in Bangalore, India 6 months postpartum.	Prospective observational study	50 mother-infant pairs completed the study	Home and community oriented support systems should be implemented to improve breastfeeding rates.
Witt, A., Smith, S., Mason, M., and Flocke, S. (2012). Integrating routine lactation consultant support into a pediatric practice. *Breastfeeding Medicine.* 7(1):38-42.	To determine if an office visit with a physician and lactation consult 24-72 hours after discharge could have a positive impact on breastfeeding rates.	Retrospective chart review	166 chart reviews prior to practice change. 184 chart reviews after practice change	Improved breastfeeding initiation and intensity sustained for 9 months.
Phillips, K. (2011). First-time breastfeeding mothers: Perceptions and lived experiences with breastfeeding. *International Journal of Childbirth Education.* 26(3):17-20.	Barriers faced by first-time breastfeeding mothers.	Phenomenological Questionnaires and semi-structured	19	First-time breastfeeding mothers perceived a need to talk about their breastfeeding experience.
The Surgeon General's Call to Action to Support Breastfeeding. (2011). U.S. Department of Health and Human Services. United States of America.	Increase breastfeeding rates in the United States.	Call to Action statement		Action plans to support postpartum mothers with education, family support, counseling/support groups to assist in achieving breastfeeding goals.

Table 2. *Literature review matrix of outpatient lactation support (continued).*

Brand, E., Kothari, C., and Stark, M. (2011). Factors related to breastfeeding discontinuation between hospital discharge and 2 weeks postpartum. *The Journal of Perinatal Education.* 20(1):36-44. Doi: 10.1891/1058-1243.20.1.36.	Examine factors related to early discontinuation of breastfeeding (at 2 weeks postpartum).	Descriptive study Secondary analysis from longitudinal study	332 women	Personal or professional support may have effect on initiation and duration of breastfeeding.
Academy of Breastfeeding Medicine (ABM). (2010). Clinical protocol #7: Model breastfeeding policy. *Breastfeeding Medicine.* 5(4):173-176. Doi: 10.1089/bfm.2010.9986	Develop clinical protocols for managing common medical problems that may impact breastfeeding success.	Protocol		All babies should be seen for follow-up in the first few days postpartum by qualified healthcare practitioner for evaluation of breastfeeding performance, weight, jaundice, and elimination.
Schmied, V., Beake, S., Sheehan, A., McCourt, C., Dykes, F. (2010). Womens' perceptions and experiences of breastfeeding support: A metasynthesis. *Birth.* 38(1):49-60.	Examine women's perceptions of breastfeeding support to illuminate what they deemed "supportive".	Review Professional support vs. peer support	31 articles	Person-centered communication skills are important in supporting a woman to breastfeed.
Bartick, M., and Reinhold, A. (2010). The burden of suboptimal breastfeeding in the United States: A pediatric cost analysis. *Pediatrics.* 125(5):e1048-e1056. DOI: 10.1542/peds.2009-1616.	Infant illness can be decreased when mothers choose to breastfeed leading to health care cost savings.	Risk ratio cost analysis	CDC breastfeeding data from 2005 birth cohort	Investment in strategies to promote longer breastfeeding duration and exclusivity may be cost-effective.
Richter, C. and Hart, P. (2010). Making new beginnings great beginnings: A nurse-run, hospital-based clinic promotes and supports breastfeeding and its duration. Paper presentation. *Journal of Obstetric, Gynecologic & Neonatal Nursing.* 39(1):S11.	Support and prolong mother-infant breastfeeding experience.	Paper presentation of postpartum clinic Telephone survey	Postpartum mothers within a 6 month time frame of delivery at hospital location	Correlation could be drawn between the postpartum clinic and breastfeeding success and patient satisfaction.

Table 2. *Literature review matrix of outpatient lactation support (continued).*

United States Lactation Consultant Association (USLCA). (2010). Containing health care costs: Help in plain sight. Retrieved from: www.flca.info/HTMLobj-471/USLCAbkwithcover10-27-10.pdf	Reimbursement of the IBCLC yields a significant return on investment	White paper		Barrier to successful breastfeeding is lack of access to trained health care providers.
Thulier, D. and Mercer, J. Variables associated with breastfeeding duration. (2009). *Journal of Women's Health, Obstetric and Neonatal Nurses.* 38(3):259-268.	To identify variables associated with breastfeeding duration	Review		Lactation is influenced by many demographic, physical, social, and psychological variables.
Feldman-Winter, L., Schanler, R., O'Connor, K., and Lawrence, R. (2008). Pediatricians and the promotion and support of breastfeeding. *Archives of Pediatric and Adolescent Medicine.* 162(12):1142-1149. Retrieved from: http://archpedi.jamanetwork.com	To survey pediatricians on their breastfeeding knowledge, attitudes, and practices	Cross-sectional follow-up survey	875 pediatricians	Pediatricians seem prepared to support breastfeeding but attitudes and commitment have deteriorated.
Shaikh, U. and Smillie, C. (2008). Physician-led outpatient breastfeeding medicine clinics in the United States. *Breastfeeding Medicine.* 3(1): 28-33. Doi:10.1089/bfm.2007.0011.	Timely management of breastfeeding in the outpatient setting may increase breastfeeding duration			More research is needed to identify the impact of outpatient breastfeeding support.
Thurman, S and Allen, P. (2008). Integrating lactation consultants into primary health care services: Are lactation consultants affecting breastfeeding success? *Pediatric Nursing.* 34(5):419-425.	IBCLCs may promote a longer duration of breastfeeding postpartum	Integrative literature review	5 articles	More research is needed.

Table 2. *Literature review matrix of outpatient lactation support (continued).*

Keister, D. Kismet, T.R., and Werner, S. (2008). Strategies for breastfeeding success. *American Academy of Family Physicians.* 78(2):225-232.	National breastfeeding guidelines can be met with support and encouragement	Informative paper		Most effective means of achieving breastfeeding success is antenatal and postpartum breastfeeding education.
Academy of Breastfeeding Medicine (ABM). (2007). Clinical protocol #2: Guidelines for hospital discharge of the breastfeeding term newborn and mother: "The going home protocol". *Breastfeeding Medicine.* 2(3):158-165. Doi: 10.1089/bfm.2007.9990	Develop clinical protocols for managing common medical problems that may impact breastfeeding success	Protocol		Anticipate breastfeeding difficulties in the hospital and have follow-up after discharge. Provide mothers with lists of breastfeeding support groups and services.
Hall, W. and Hauck, Y. (2007). Getting it right: Australian primiparas' views about breastfeeding: A quasi-experimental study. *International Journal of Nursing Studies.* 44: 786-795. Doi:10.1016/j.ijnurstu.2006.02.006	To examine women's perspectives of their breastfeeding experiences during the first 12 weeks postpartum	Quantitative and qualitative data collection Journaling Open-ended questionnaire	Control group n=154 Intervention group n=149	Postpartum women encounter conflicting advice and pressures from health care professionals, family, and community.
Lin-Lin Su, Yap-Seng Chong, Yiong-Hauk Chan, Yah-Shih Chan, Fok, D., Kay-Thwe Tun, Faith S P Ng, Rauff, M. (2007). Antenatal education and postnatal support strategies for improving rates of exclusive breastfeeding: Randomized controlled trial. *British Medical Journal.* Doi:10.1136/bmj.39279.656343.55	Investigate whether antenatal or postnatal lactation education/support improves rates of exclusive breastfeeding compared with routine hospital care	Randomized controlled trial	450 women	Antenatal and postpartum education/support significantly improves rates of exclusive breastfeeding up to 6 months after delivery. Postpartum support was slightly more effective.

Post-partum challenges

Phillips (2011) reported many first-time breastfeeding mothers found breastfeeding to be a challenge. Some lactation difficulties seen in the postpartum mother (often after discharge from the hospital) included breast engorgement, latching issues leading to sore and bleeding nipples, mastitis, fatigue, poor infant weight gain, and inadequate milk supply (Neifert, 1999; Phillips, 2011). With a vaginal delivery, mothers are typically in the hospital for two nights and with a C-section, three nights (Otto, Low, & Henry, 2012). First time mothers will experience their "milk coming in" three to five days following delivery of their infant while mothers who have previous children may experience their "milk coming in" within two to four days following delivery of their infant. For post-partum mothers, the experience of having their milk coming in happens after discharge from the hospital while they are at home and mothers may or may not have access to professional assistance when questions arise regarding breastfeeding. Recovering from delivery, learning to breastfeed, balancing hospital visitors, infant care, and sleep deprivation, new parents can easily be overwhelmed in the first few days of their infant's life. Phillips (2011) identified a need of first time mothers who were breastfeeding to share their experience, talk to others about their experience, and offer support.

Breastfeeding mothers may not have support from family members to breastfeed their infant. Generations of women are lacking breastfeeding experience and may not know how to support a breastfeeding mom since they did not have that experience for themselves. Breastfeeding mothers need accurate, supportive, persistent, and kind assistance for success in their breastfeeding goals (Gates, 2003; Otto, Low, & Henry, 2012). Education by health care professionals, ad campaigns, Women, Infants, and Children (WIC) offices, reputable online resources, family, and peers can impact breastfeeding success (Gates, 2003; Lukac, Riley, &

Humphrey, 2006; Richter & Hart, 2010; Renfrew, McCormick, Wade, Quinn, & Dowswell, 2012).

Variation in nipple size, breast size, history of breast reduction or augmentation surgery, maternal history of diabetes, hypothyroidism, or polycystic ovary syndrome are just a few of the challenges mothers can face when attempting to breastfeed (Riordan & Wambach, 2010). These issues can lead to nipple pain, poor milk supply, or an unsettled infant at the breast, which can impact the success of breastfeeding. Successful breastfeeding is also dependent on the infant response. If the infant is sleepy at the breast, experiences hypoglycemia or hyperbilirubinemia, tongue tie, has an ineffective latch or poor suckling effort, mothers may become frustrated with breastfeeding and resort to alternative feeding methods.

Thulier and Mercer (2009) outlined multiple factors that influence the duration of breastfeeding including "demographics, physical, social, and psychological variables" (p. 259). Riordan and Wambach (2010) state breastfeeding is seen in the United States as the best method for infant feeding but at the same time, difficult to accomplish and more of a private matter- not to be done in public. "Breastfeeding should be normalized and seen as the natural way to feed an infant" (Jan Medford RN, IBCLC, personal communication, October 28, 2013).

Cessation of breastfeeding occurs most frequently within the first three months of an infant's life (Shaikh & Smillie, 2009; CDC, 2013). The Academy of Breastfeeding Medicine Protocol #2 (2007) states health care providers should anticipate breastfeeding difficulties in the post-partum period and include follow-up after discharge from the hospital to assist mothers in their breastfeeding experience. Some follow-up services provided to breastfeeding mothers are one-to-one lactation clinic appointments with an IBCLC, phone numbers of health care providers

to contact with breastfeeding questions, and information regarding support groups for breastfeeding mothers.

Unfortunately, breastfeeding mothers receive conflicting information. Hall and Hauck (2007) examined 303 women's experience of breastfeeding in the first 12 weeks post-partum. One of the frustrations mothers experienced was receiving conflicting advice from different health care providers which ultimately affected their confidence in breastfeeding and breastfeeding intentions (Hall & Hauck, 2007). Taveras et al., (2004) in a prospective cohort study of 429 mothers and 121 health care providers, discovered advice and recommendations from health care providers can affect mothers' likelihood of continuing exclusive breastfeeding and whether or not breastfeeding is valued. Enhancing communication between health care providers and mothers who are breastfeeding can help mothers attain breastfeeding goals. Consistent education among health care providers (physicians, mid-level providers, and nurses) regarding breastfeeding by dissemination of the 2012 AAP policy statement on *Breastfeeding and the Use of Human Milk* and incorporating IBCLC's in the clinic setting to assist with follow-up appointments one to three days after discharge from the hospital can help achieve consistency in post-partum education for breastfeeding (Taveras et al., 2004; Thurman & Allen, 2008; ABM, 2010; Renfrew et al., 2012; Carswell, 2012; Witt et al., 2012).

Upon conclusion of maternity leave, returning to paid work can negatively affect breastfeeding duration (Thulier & Mercer, 2009; CDC, 2013). Many mothers who work outside the home will have six weeks to three months of maternity leave (Census Bureau, 2011). The Family Medical Leave Act (FMLA) was enacted in 1993 and "provides certain employees with up to 12 workweeks of unpaid, job-protected leave a year, and requires group health benefits to be maintained during the leave as if employees continued to work instead of taking leave" (p. 1).

At three months of age, infants are breastfeeding 8-10 times a day. Separation of mother and infant can impair breastfeeding success by a decrease in milk supply or infant preferring a bottle nipple to the breast. Shaikh and Smillie (2009) suggested professional outpatient lactation support may prolong breastfeeding duration. The Academy of Breastfeeding Medicine (2007) recommends providing breastfeeding mothers with lists of breastfeeding support groups and resources to utilize when questions arise. The *Surgeon General's Call to Action to Support Breastfeeding* (2011) details specific tasks people and organizations can do to improve breastfeeding statistics in the United States which includes offering more opportunities for breastfeeding mothers to share their experiences with others.

Breastfeeding mothers need support in achieving their breastfeeding goals. The challenge is the development of cost effective, consistent, and convenient interventions that can enhance breastfeeding mothers' satisfaction with the breastfeeding experience. The nurse-led breastfeeding support group described later in this paper appears to be cost effective (nurse to patient ratio), consistent (offered twice weekly), and convenient (open house style, no appointment or charge for attendance). In a randomized control study of 450 post-partum women by Lin-Lin Su et al. (2007), education provided to women prior to delivery and after delivery of their infant significantly improved the rates of breastfeeding up to six months of age. Lin-Lin Su et al. (2007), saw education provided to mothers after delivery more beneficial than prior to delivery with comments from mothers referencing how they prefer to be shown how to breastfeed rather than be told.

Health promotion model

The theoretical underpinnings of Pender's health promotion model are rooted in the social cognitive theory with self-efficacy as a foundational construct (Srof and Velsor-Friedrich,

2006). According to social cognitive theory, behavior is determined by cognitive, affective, and biologic factors in addition to external factors. The health promotion model "explores the factors and relationships contributing to health-promoting behavior and therefore to the enhancement of health and quality of life" (Srof & Velsor-Friedrich, 2006, p. 366). A person's belief in their capability (perceived self-efficacy) of completing a task is the motivating factor in completion of that task (Srof & Velsor-Friedrich, 2006). Health promotion model concepts are helpful in identifying what resources mothers find supportive in their breastfeeding experience.

Pender's health promotion model is useful in explaining specific health behaviors (McEwen & Wills, 2011). The health promotion model consists of eight concepts that are "critical points for nursing intervention" (Pender, 2011, p. 2). The eight concepts for the basis of the health promotion model are listed as: individual characteristics and experiences, prior related behavior, personal factors, behavior-specific cognition and affect, perceived benefits of action, perceived barriers to action, perceived self-efficacy, and activity-related affect (Pender, 2011). Pender maintains each of these concepts can be modified though nursing action and should result in improved health, functioning, or quality of life (Health Promotion Model, 2012).

Breastfeeding support from lactation nurses perspective

An assessment was completed at a local Midwest hospital to identify what support is currently offered to mothers after the delivery of their infants. Five lactation nurses were interviewed individually using closed and open-ended questions. The five lactation nurses interviewed were all female and had been a registered nurse for an average of 16.7 years. Each nurse had worked on a birthing unit for an average of 15.5 years and worked specifically in lactation for an average of 10.4 years. When asked what tools they use to support breastfeeding mothers, the most common responses included education, encouragement, evidence-based

practice, praise, and listening. All five lactation nurses stated women should receive information regarding breastfeeding prenatally, and the information should be consistent between providers and reputable resources. The lactation nurses citied many factors that influence a woman's decision to breastfeed and the decision to continue breastfeeding once begun: influences from family and friends, pain with breastfeeding, milk supply, infant ability to breastfeed effectively, and breastfeeding education received. A re-occurring theme in the lactation nurses' interviews involved the support mothers need to breastfeed. According to the lactation nurses interviewed, mothers receive support from their significant other, family members, friends, physicians and midwives, breastfeeding classes, 1:1 lactation appointments, and from support groups.

The multiple avenues of support mother's need in their breastfeeding endeavors are reflected in Pender's (2011) health promotion model concepts. Based on the literature review and personal interviews with five lactation nurses, mothers desire education and support regarding breastfeeding and want to know they are doing a "good" job in taking care of their infant. Mothers experience joys, worries, and fears regarding breastfeeding. Health care providers can apply Pender's health promotion concepts to the process of supporting breastfeeding mothers to help understand the mothers' point of view regarding breastfeeding. Table 3 outlines Pender's health promotion model concepts and the survey tool used to evaluate these health promotion model concepts in breastfeeding mothers. The Maternal Breastfeeding Evaluation Scale (MBFES) is included in Appendix A, and the open ended questionnaire is in Appendix C.

Table 3. *Pender's health promotion model concepts as applied to survey methods.*

Health Promotion Model Concepts	Literature review themes	Breastfeeding mother survey tool
Perceived self-efficacy	Mothers want to know they are doing a good job caring for their infant.	Maternal Breastfeeding Evaluation Scale (MBFES)
Individual characteristics and experiences	Mothers access information regarding breastfeeding: breastfeeding class, internet, education from doctor/midwife.	Open ended written survey questions
Personal factors	Mothers' breastfeeding education/experience, age, anatomy, and breastfeeding goals.	MBFES
Activity- related affect	Encourage mothers to meet their breastfeeding goals, positive reinforcement, providers need to listen to mothers "story".	MBFES
Perceived barriers to action	Prevention of sore nipples, ensure adequate milk supply, supporting mother in breastfeeding goals.	MBFES
Situational influences	Educate significant other, family, friend, and other health care providers on how they influence breastfeeding success.	Open ended written survey questions
Perceived benefits of action	Mothers need to see the benefits of breastfeeding outweighing any barriers. Education and support.	MBFES and open ended written survey questions
Health promoting behaviors	Motivate and encourage mothers to access available resources regarding breastfeeding.	MBFES and open ended written survey questions

Nurse-led breastfeeding support group

International Board Certified Lactation Consultants (IBCLCs) who work in the outpatient setting are called to develop and implement programs to support breastfeeding success after discharge from the hospital (Lukac, Riley, & Humphrey, 2006). In 2000, the IBCLCs at a local Midwest hospital began offering a local breastfeeding support group to post-partum mothers (Jan Medford, RN, IBCLC, personal communication, October 28, 2013). The nurse-led breastfeeding support group is a continuation of the professional support breastfeeding mothers receive while in the hospital birthing unit of a local Midwest hospital. The group is offered open house style and mothers do not need an appointment to attend, nor is there a charge for attending the group. The group has been offered at various times during the week but, most recently Tuesdays and Fridays from 1 p.m. to 3 p.m. in a large conference room at the pediatric outpatient department. Mothers who attend may have just been discharged from the hospital or their infant may be several months old. The group may be attended by 12-21 mothers and their infants over the two hour period. Two lactation nurses host the group.

The mother will enter the conference room and be greeted by a lactation nurse. The mother will sign-in with personal information of her name, her infant's name, infant's date of birth, infant's gestational age, and infant's birth weight. Three changing tables are available and the mother is invited to undress her infant down to the diaper for a weight. If the infant is less than two weeks of age, the infant is weighed without a diaper.

The infant's weight is recorded in pounds for the mother and in grams to assess milk transfer. Following the infant weight, the mother is invited to breastfeed her infant. Upon completion of breastfeeding on one breast or both, the infant is reweighed subtracting the initial weight in grams from the current weight in grams to identify the milliliters of breastmilk

transferred (milliliters and grams are 1:1). Based on visual assessment of the infant, weight patterns, assessment of latch, milk transfer, and mother report, the lactation consultant can determine successful breastfeeding, support the mother in the breastfeeding process, and identify difficulties in breastfeeding that warrant intervention.

Health care providers see a nurse-led breastfeeding support group as beneficial to mothers who are breastfeeding. Do mothers perceive a nurse-led breastfeeding group as supportive? Does attendance or non-attendance of a breastfeeding support group affect maternal breastfeeding satisfaction?

Gap in literature review

The literature is lacking in what breastfeeding mothers perceive as supportive in the postpartum period to assist them in achieving their breastfeeding goals. The policy statements, guidelines, and recommendations for breastfeeding success set forth by political and professional groups are published and publically advertised. However, a lack of published literature related to the perspective of the breastfeeding mother exists. Through this proposed research, the researcher hopes to identify resources mothers use to be successful in their goals for breastfeeding. By identifying the most helpful resources, healthcare providers can promote these resources and assist mothers achieve their breastfeeding goals.

CHAPTER 3. METHODS

The target population was mothers who delivered at a local Midwest hospital 2-6 months prior to survey distribution and were breastfeeding at the time of discharge from the hospital. A two-page survey was used for data collection. The first page of the survey was a written survey with closed and open-ended questions. The written survey was developed by identifying the data desired for this study while still protecting personal information. The written survey was piloted by volunteers who chose to complete the survey and offer feedback regarding the questions. The written survey was revised for clarity for qualitative data collection and is included in Appendix C. The written survey collected limited demographic information including whether this was her first time breastfeeding, length of maternity leave, whether she pumped breastmilk, where she received breastfeeding education or support, and if she attended a breastfeeding support group.

The second page of the survey provided quantitative data collection using the Maternal Breastfeeding Evaluation Scale (MBFES). Ellen W. Leff was contacted for permission to use the MBES tool and permission was granted (personal communication, October 16, 2013, Appendix B). The MBFES measures maternal satisfaction with a breastfeeding experience and has been tested for validity and reliability (Leff, Jefferis, & Gagne, 1994). The MBFES measures positive and negative factors of breastfeeding. As the MBFES was developed, the researchers found women describing the quality of the breastfeeding experience more important than duration of breastfeeding. In addition, satisfaction with their breastfeeding experience was multifactorial (Leff, Jefferis, & Gagne, 1994). Thirty questions make up the MBFES with answers given on a Likert scale. The MBFES can be used in its entirety or broken down into

three subscales specifically looking at infant satisfaction/growth, lifestyle/maternal body image, or maternal enjoyment/role attainment.

A letter of informed consent describing the purpose of the survey and exclusions from completing the survey is included in Appendix D. IRB approval (#PH14185) was received from North Dakota State University (NDSU) (Appendix E) and from the participating Midwest hospital (Appendix F) prior to survey distribution and data collection.

The target population was mothers who are (or were) breastfeeding their infant and are now coming into the clinic setting of a local Midwest hospital for a two, four, or six month well-baby check-up. Clinic managers were educated to the survey distribution process, the IRB approval that had been received, and the request to have receptionists aid in survey distribution. Clinic managers agreed to the survey distribution as "long as it did not interfere with workload." Eleven clinic receptionists at four clinic settings were prepped by the researcher in survey distribution. Clinic receptionists were educated 1:1 regarding informed consent, option to decline the survey, age requirement, and language requirement. Ten clinic receptionists agreed to participate in survey distribution and signed an Individual Investigator Agreement as required by NDSU. One receptionist declined to participate in survey distribution. A written script for the receptionists was provided and is included in Appendix G.

When mothers were checking-in for their infant's appointment, the mother was asked if she provided breastmilk to her infant and if she would be interested in filling out a survey regarding her breastfeeding experience. The mother was given the consent form regarding the written survey and the opportunity to accept or decline to participate in the survey. Despite the receptionist's agreement and understanding of the survey distribution process, after 60 days of

data collection, only 18 surveys had been distributed and 14 surveys had been collected. The surveys were not being distributed as hoped by the researcher.

An amendment was filed to the IRB to mail the breastfeeding surveys to mothers who had delivered at a Midwest hospital 2-6 months prior and were breastfeeding at the time of discharge. The IRB amendment was approved by NDSU (Appendix H) and the participating Midwest hospital (Appendix I). The consent letter remained the same with the exception of one additional statement: "If you have previously filled out this survey at a clinic appointment, please disregard this survey and do not complete it a second time". The half-page letter included in Appendix J indicated an incentive for completing and returning the survey in the self-addressed-stamped-envelope. One hundred-ten surveys were addressed by the researcher and mailed. Two surveys were returned as undeliverable. Mothers returned 41 (38%) surveys that were sent in the mass mailing. Two surveys were incomplete and not included in the statistical analysis. A total of 53 surveys (14 from the receptionist distribution and 39 from the mass mailing) were used in the data analysis.

The difficulty in obtaining completed surveys was primarily due to the lack of "buy-in" by the receptionists. They were educated to the rationale for the survey distribution and the process to obtain informed consent. One receptionist stated "Yes, we have done this before, no problem", while another receptionist was excited to hear about the outcome of the analysis and wanted to be made aware of the results. In the end, most receptionists cited being "too busy" to ask about the surveys when mothers were checking in for their infant's appointment and a few stated how they were not comfortable asking mother's about breastfeeding because "it's their own business." Offering an incentive to the receptionists in some fashion may have been beneficial. Another option would be to ask the nurses in the clinic to distribute the surveys. The

managers citied busy workload in this option, but it would be something to consider for future survey distributions. The mass mailing of surveys yielded a respectable amount of data as mothers were willing to complete the survey when asked. An incentive was included for survey responses (Appendix J) and four $25 gift cards to a local shopping mall were drawn for at random and distributed as indicated in the letter.

Data collected was organized and coded using a spreadsheet format with no personal identifying factors recorded. The primary goal of the qualitative breastfeeding survey was to delineate mothers who attended the breastfeeding support group and those who did not attend. Other questions were placed on the survey to elicit additional information that may help guide the research question. An interesting pattern appeared in the questions on the written survey: "What was your main source of breastfeeding education?" and "What was your main source of support in breastfeeding?" The answers to these two questions were analyzed for emerging themes in addition to the MBFES.

CHAPTER 4. RESULTS

The two-page survey data was coded and recorded in a spreadsheet. The primary purpose for the qualitative, first page of the survey was to delineate the two groups of mothers: those who attended the nurse-led breastfeeding support group and those who did not. The quantitative, second page of the survey (MBFES) was intended to measure the mother's evaluation of breastfeeding (Ellen Leff, personal communication, October 16, 2013). The MBFES can be analyzed in its entirety (all 30 items) or using the three subscales. The Maternal Enjoyment/Role Attainment Subscale consists of items 1, 2, 6, 9, 11, 12, 16, 17, 18, 20, 21, 23, 25, and 30. The Infant Satisfaction/Growth Subscale consists of items 3, 4, 7, 10, 15, 19, 24, and 28. The Lifestyle/Maternal Body Image Subscale consists of items 5, 8, 13, 14, 22, 26, 27, and 29. Items worded negatively are reflected for scoring. These are items 3, 5, 8, 13, 14, 15, 19, 22, 27, 28, and 29. Scores on the MBFES (and the subscales) are summed for a range of 8-40 after reverse-scoring of negative items.

Analysis of the collected data was conducted using the Statistical Package for Social Sciences software (SPSS) by NDSU Information Technology Services. A t-test was used to determine association of the variables measured (maternal breastfeeding satisfaction) with the attendance (or not) of a nurse-led breastfeeding support group.

With n=53 for complete surveys returned, 27 breastfeeding mothers attended the nurse-led support group, and 26 breastfeeding mothers did not attend the group. No significant differences in maternal breastfeeding satisfaction were determined in the t-test procedure. The three MBFES subscales did not show any statistical difference in breastfeeding satisfaction between mothers who attended the breastfeeding support group and those who did not. The average score for breastfeeding mothers who did attend the support group was 118.6. The

average score for breastfeeding mothers who did not attend the support group was 116.6. Table 4 and Figure 1 show the statistical analysis results among breastfeeding women who attended the nurse-led breastfeeding support group and those who did not.

Table 4. *MBFES total score t-test results comparing mothers who attended a nurse-led breastfeeding support group and those who did not.*

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	34	-0.36	0.7211
Satterthwaite	Unequal	25.527	-0.35	0.7326

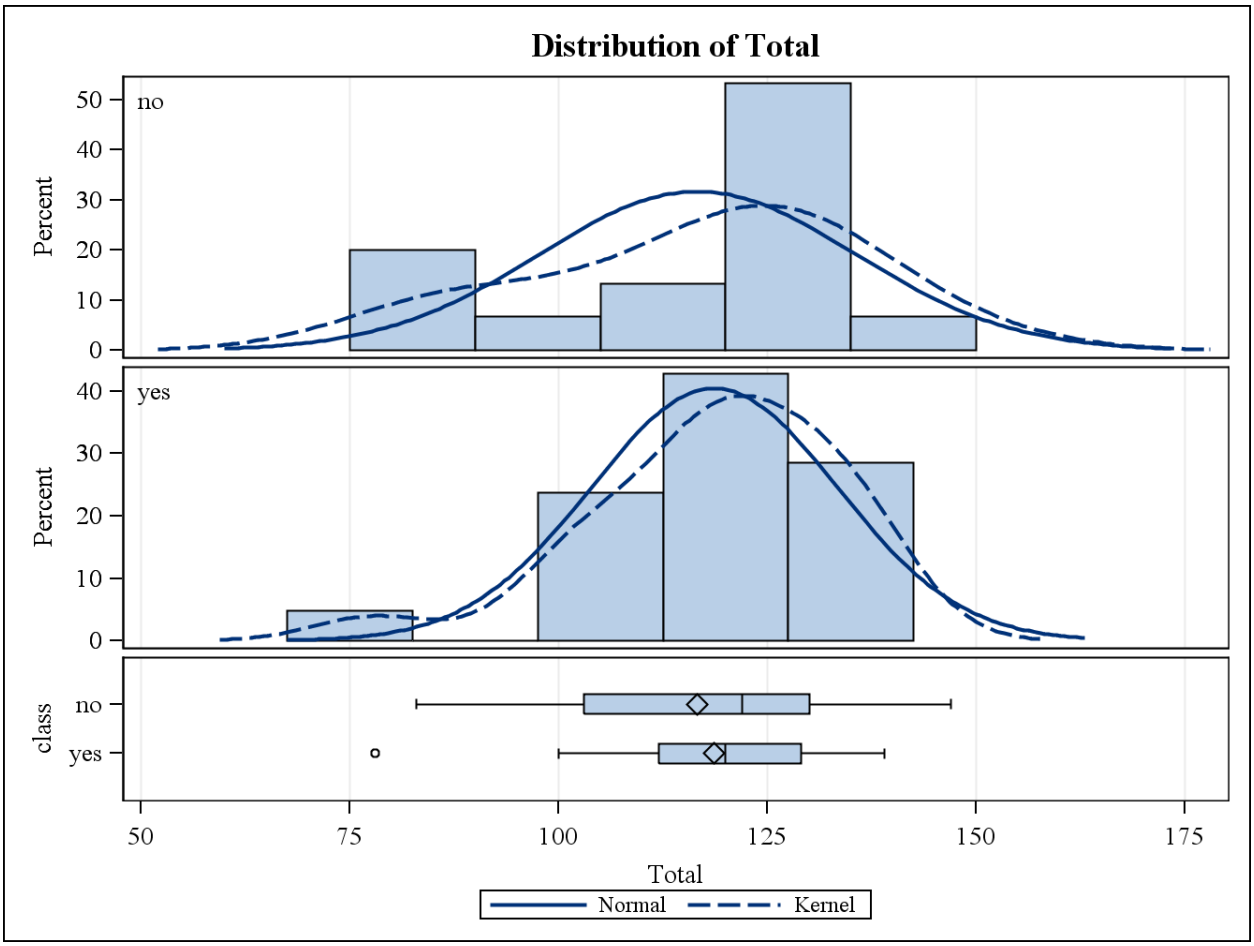

Figure 1. *MBFES total score t-test distribution in mothers who attended a nurse-led breastfeeding support group and those who did not.*

Mothers breastfeeding for the first time

Breaking down the survey responses to a smaller group of mothers, those who are breastfeeding for the first time, 15 mothers who were breastfeeding for the first time attended the breastfeeding support group while 7 mothers who were breastfeeding for the first time did not attend the breastfeeding support group. A trend in higher satisfaction scores can be seen in the distribution for mothers breastfeeding for the first time but the results are not statistically significant, possibly due to the small sample size. The statistical analysis among mothers who breastfed for the first time and attended or did not attend the nurse-led breastfeeding support group is shown in Table 5 and Figure 2.

Table 5. *MBFES total score t-test results comparing first time breastfeeding mothers who attended a nurse-led breastfeeding support group and those who did not.*

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	19	-1.27	0.2186
Satterthwaite	Unequal	8.0324	-1.06	0.3192

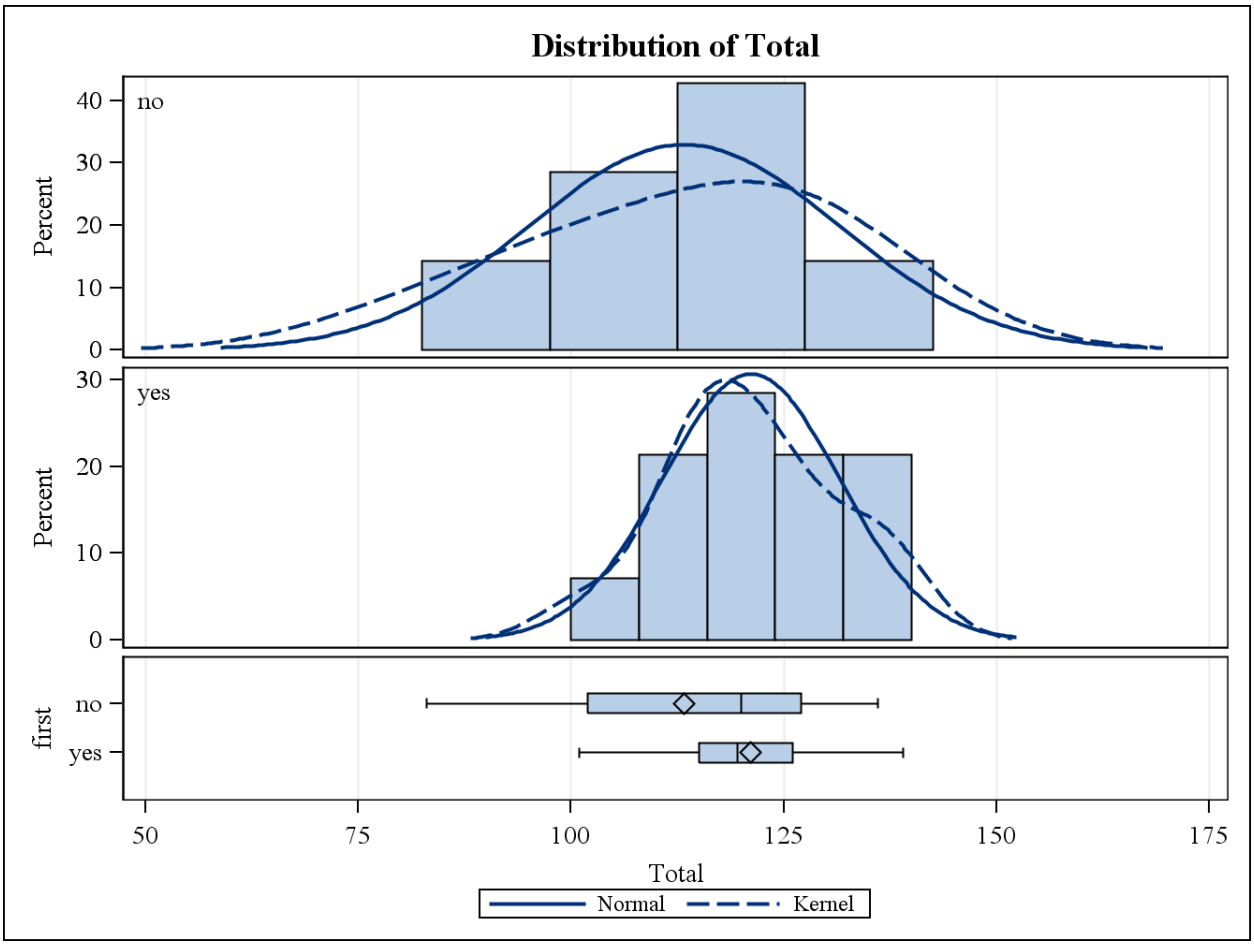

Figure 2. *MBFES total score t-test distribution in first time breastfeeding mothers who attended a nurse-led breastfeeding support group and those who did not.*

Primary sources of support and education

The responses from two questions on the written survey were tabulated and are included in Table 6. The first question asked the mothers specifically about their breastfeeding source of education and the second question asked the mothers specifically about their breastfeeding support. Thirty-six (68%) mothers placed husband/significant other as their primary source of support in breastfeeding. Thirty-two (60%) mothers placed lactation nurse/class as their primary source of education in breastfeeding. Twenty-two (42%) mothers placed husband/significant other as their primary source of support and lactation nurse/class as their primary source of education in breastfeeding.

Table 6. *Survey results of primary breastfeeding support and education.*

N=53	Question #1: Primary source of support	Question #2: Primary source of education
Husband/Significant other	36 (68%)	N/A
Lactation nurse/class	6 (11%)	32 (60%)
Doctor/midwife	2 (4%)	4 (8%)
Friends/family	5 (9%)	6 (11%)
Internet	1 (2%)	9 (17%)
None/other	3 (6%)	2 (4%)

Breastfeeding mothers have the need to share their stories and offer support to other breastfeeding mothers (Phillips, 2011). Table 7 includes comments from the last open ended question on the written survey as the comments relate to Pender's health promotion model concepts. The last open ended questions on the written survey: "What advice would you give to someone who has just discovered they are pregnant?"

Table 7. *Survey comments related to health promotion model concepts.*

Health Promotion Model Concepts	Survey comments
Perceived self-efficacy	*- take one at a time, being a mom is the best and one of the most stressful things you do.* *-nursing is wonderful and definitely worth the effort for mom and baby.* *-do research; be patient, breastfeeding is not easy.*

Table 7. *Survey comments related to health promotion model concepts (continued).*

Individual characteristics and experiences	*-definitely attend breastfeeding class; educate yourself as much as possible.* *-get your rest, go to breastfeeding class.* *-do what works for you. A happy mom is the best mom.* *-find a good support system!* *-enjoy pregnancy, enjoy breastfeeding or try it if you can as not everyone can breastfeed. Relax and enjoy bonding with baby as they only stay little for so long.*
Personal factors	*-take care of yourself, educate yourself, do what is comfortable for you.* *- be excited but find lots of support.* *-learn all that you can and take advantage of any opportunities given, everything helps.*
Activity- related affect	*-encourage her to breastfeed but also let her know it's not easy right away, it is a big commitment so don't be surprised if you want to give up right away, hang in there, it does get easier!* *-definitely stick it out with breastfeeding which is hard in the beginning, go to the support group.* *-consider breastfeeding but know two things: it's hard but it's so very worth it! Keep trying if you can but if you can't, don't feel guilty.*

Table 7. *Survey comments related to health promotion model concepts (continued).*

Perceived barriers to action	*-breastfeeding is best, stick with it the painful first few weeks then you should be pain-free.* *-know the first few weeks of breastfeeding are trying and frustrating.* *-breastfeeding can be hard or challenging at first but it's very worth it.*
Situational influences	*-stay active, read, mentally prepare and don't give up too quickly with breastfeeding, be patient and ask for help.* *-at least try breastfeeding. It interferes less with scheduling than one would think and it's great for mom and baby.* *-learn as much about breastfeeding through appropriate resources and attempt to breastfeed but do not put stress on yourself if there are struggles.* *-a good breast pump is important if returning to work.*
Perceived benefits of action	*- breastfeeding is a great emotional gain with your new infant, a great experience!* *-try to breastfeed even if it's just 1-2 weeks for the colostrum.* *-breastfeeding is hard at first and a definite commitment but it does get easier.* *-enjoy the experience, seek answers to questions. Understand you aren't in control of some aspects of pregnancy and birth!*

Table 7. *Survey comments related to health promotion model concepts (continued).*

Health promoting behaviors	*-breastfeeding can be difficult at first, keep trying then it will be second nature for you and baby and you can enjoy the benefits.* *-breastfeeding is a great bonding experience.* *-see the lactation nurse after you go home from the hospital.* *-take all the classes you can, read books, take advantage of the resources around you including nurses, doctors, and midwives.* *-I thought the [nurse-led support group] was awesome. I don't think I could have made breastfeeding work without it.* *-breastfeeding is the best thing you can do for your baby and it gets easier as they get older.*

CHAPTER 5. DISCUSSION

No statistical significance in breastfeeding satisfaction between mothers who attended a nurse-led breastfeeding support group and those who did not was found. The lack of statistical significance could be related to the small sample size. First time breastfeeding mothers and mothers with experience breastfeeding were included in the statistical analysis. Mothers who have breastfed a previous infant and were choosing to breastfeed again most likely did not need assistance or professional support in their current breastfeeding experience. An experienced mother may or may not attend a nurse-led breastfeeding support group, either way she would tend to have a higher breastfeeding satisfaction score due to previous experience, education, and the fact she is breastfeeding again.

Another consideration for the lack of statistical significance between the two groups of mothers can be seen in the comments received in the surveys. While many comments were similar regardless of attendance or non-attendance at the nurse-led breastfeeding support group, mothers who did attend the group made comments related to the benefits of attending: "I would have not been able to breastfeed successfully without [the nurse-led breastfeeding support group]" and "learn all you can about breastfeeding, go to [the nurse-led breastfeeding support group]". Mothers who were looking for breastfeeding support and attended the nurse-led breastfeeding support group most likely would not have had as high of breastfeeding satisfaction score if the group were not available to them.

Total breastfeeding satisfaction scores were compared among mothers breastfeeding for the first time and whether or not they attended the breastfeeding support group. No statistical significance was found between the two groups, possibly due to the small sample size. Even

with the small sample size, a trend of higher total scores can be seen in the total distribution table but further research would be needed to confirm this preliminary trend.

Supporting breastfeeding mothers

Husbands/significant others can be instrumental in positioning baby and mother for latching, becoming educated in the breastfeeding process, and offering moral support when breastfeeding doesn't go as planned (Rempel, 2011). Pender's health promotion model describes how social support and expectations of others influence a person's behavior (Galloway, 2003). Husbands/significant others influence a mother's decision to breastfeed and for how long (Rempel, 2011; Mitchell-Box & Braun, 2014). As evidenced by the survey responses, 35 (70%) mothers look to their husbands/significant others as primary support in the breastfeeding experience.

An important factor to keep in mind is the uniqueness of each mother/infant dyad and how support that is helpful for one dyad may not be helpful for the next dyad. In Pender's health promotion model individual experiences, personality, and situational influences will affect a person's behavior choices (Srof & Velsor-Friedrich, 2006). Some mothers are very shy and uncomfortable with another person assisting them in breastfeeding and do not desire support in that fashion, but they may be very open to attending a class and asking questions. One of the mothers in the surveys received was very open (but anonymous) about her previous history of sexual abuse. She wanted to "try" to breastfeed and despite working closely 1:1 with lactation nurses and attending the nurse-led breastfeeding support group multiple times; her overall total MBFES score from the satisfaction survey was very low. She breastfed for three weeks and stated how she was very appreciative of all the support and assistance she received but could not

overcome the feelings of her past experience. She even apologized on the written survey hoping she would not "skew the results" because she knew her score would be low.

Breastfeeding education

In the survey responses received, sixty-percent of mothers (32 surveys) looked to lactation nurses as their primary education resource for breastfeeding information. Lactation nurses from a local Midwest hospital agreed that education is a key step in a successful breastfeeding experience. Keister et al. (2008) stated that providing support and education to mothers are "the most effective means of achieving breastfeeding success" (p. 225). Consistent breastfeeding education prior to delivery and postpartum have been shown to improve the rates of exclusive breastfeeding (Lin-Lin Su et al., 2007). Comments from the completed breastfeeding surveys echo sentiments of adequate education by "taking advantage of the resources around you and learn all you can about breastfeeding."

Nine mothers (17%) indicated the internet was their primary source of education regarding breastfeeding. Assessment interviews at the beginning of this project with lactation nurses at a local Midwest hospital also identified the internet as a "frequent source of breastfeeding education for mothers". Lactation nurses at a local Midwest hospital urge mothers to choose their web sources wisely and ensure they are receiving reputable information. The lactation nurses do have trusted websites they will refer mothers to at times. Although web sources are quick and convenient, Renfrew et al. (2012) stated face-to-face support tended to be most beneficial.

Friends and family were cited as primary sources of education in breastfeeding by six (11%) of mothers. Breastfeeding mothers have many avenues of support and education available: lactation nurses, internet, husbands/significant others, physicians/midwives, friends,

and extended family (Thulier & Mercer, 2009; Hall & Hauck, 2008). These external forces can complement the breastfeeding experience or hinder the breastfeeding experience depending on the mother's response to the external force as explained by applying Pender's health promotion model concepts (Galloway, 2003).

Qualitative data and Pender's health promotion model

Quantitative data collection and the use of the MBFES did not show a statistically significant difference between a group of mothers who attended a nurse-led breastfeeding support group and those who did not attend. Qualitative data collection alluded to the theme that mothers who attended the nurse-led breastfeeding support group may not have been as "successful" with breastfeeding had the group not been available to them. Mothers who attended the nurse-led breastfeeding support group stated they attended for many reasons:

- *I had questions about breastfeeding and was looking for support.*
- *I had really wanted to breastfeed and I felt that [the nurse-led breastfeeding support group] was my best shot.*
- *[Infant] weight check.*
- *Wanted to check my infant's weight, she how much [breastmilk] she was taking in, and ask the lactation nurse questions about pumping.*
- *Test breastpump, get advice about breastfeeding, weigh baby.*
- *Nurse recommended [attending].*
- *The first time was due to the request of the lactation nurse when I was discharging from the hospital. I continue going every Tuesday for the assistance from lactation nurses, to weigh my baby, a reason to get out of the house and [visit] with a community of mothers.*
- *Baby was having troubles nursing and needed assistance.*
- *Worked closely with lactation with baby #1. Went to [nurse-led breastfeeding support group] with baby #2 until returning to work at 12 weeks. Have been going so far with baby #3.*
- *Support, check [infant] weight to assure proper weight gain; also to see I was producing enough milk, make sure [infant] was ok.*
- *Low supply and be in contact with lactation regarding [breastmilk] supply.*
- *Latching issues.*
- *To be sure baby was gaining weight and milk was sufficient.*
- *Great support, continued education, determine if child is getting enough milk/growing.*
- *Wanted to get as much information as I could, and help.*

- *Problems with mastitis.*
- *Support. Great to see baby gaining weight!*
- *Support and availability of a lactation nurse.*

"Once breastfeeding has been initiated, professional support can improve duration" (Thulier & Mercer, 2009, p. 265). The AAP (2012) recommends infants be seen for follow-up in the first few days postpartum for evaluation of breastfeeding performance, weight check, assessment of jaundice, and appropriate elimination. Breastfeeding mothers have various reasons for cessation of breastfeeding. One of the leading causes for breastfeeding cessation is the mother's perception of an insufficient milk supply (Brand, Kothari, & Stark, 2011; Phillips, 2011). By attending a nurse-lead breastfeeding support group, mothers can have their infant weighed and evaluated by a lactation nurse to help identify poor feeding patterns and intervene when necessary. If the perceived insufficient milk supply is a false perception, mothers can be given support and encouragement in the breastfeeding experience.

By applying Pender's health promotion concepts to the qualitative data collected (Table 9 in Chapter 4: Results), factors that influence a breastfeeding mother can be seen (Galloway, 2003). Breastfeeding mothers are looking for education (individual characteristics and experiences) and support (personal factors and situational influences) while at the same time overcoming pain or fatigue (perceived barriers to action, personal factors, and perceived self-efficacy). Basic needs of breastfeeding mothers (education and support) must be achieved within one (or more) of the health promotion concepts listed in Table 3 (Chapter 2: Literature Review, p. 20) for success in the mother's breastfeeding goals (Phillips, 2011; Galloway, 2003). When breastfeeding mothers find the education and support they are looking for, they share that information with others and have a desire to share their breastfeeding experience (Phillips, 2011).

Brand et al. (2011) discussed two reasons for breastfeeding cessation in addition to perceived insufficient milk supply: pain at the breast and latching difficulties. In the survey responses, breastfeeding mothers referred to pain with breastfeeding but then stated "hang in there, breastfeeding will get better, it will be like second nature, don't give up." Utilizing a nurse-led breastfeeding support group can offer moral support during breastfeeding challenges.

Dissemination

The results of this project will be shared with the local Midwest hospital referenced throughout this paper by an internal communication venue referred to as *Daily Dose*. *Daily Dose* is a hospital wide tool used to inform and educate employees about topics applicable to their work setting. The internal communication tool is emailed to each employee's inbox Monday through Friday. The local Midwest hospital participated in this project as part of the ongoing "strategies to deliver evidence based, quality care by providing responsive, personalized care to patients and make a healthy difference in people's lives" (Proposal approval from local Midwest hospital, p. 2) and may find the analysis of the compiled surveys useful. In addition to the *Daily Dose,* details of this project will be shared with Birthing Unit managers and all staff on the Birthing Unit including labor nurses, postpartum nurses, pediatric nurses, and lactation nurses with brief presentations during unit meetings.

Limitations and recommendations

This project was limited by the small sample size and the initial method of survey distribution. The second method of survey distribution (mass mailing) had a moderate 32% response rate but still left 68% of mothers who received a survey as unresponsive. The researcher is an employee of the participating local Midwest hospital which could be seen as a

limitation in unbiased data collection and analysis. The researcher functioned as a graduate student during data collection and did not unduly influence the project as a hospital employee.

While this project did not show a statistical difference in maternal breastfeeding satisfaction among mothers who attended a nurse-led breastfeeding support group and those who did not, a larger sample size may produce difference results in further studies. Recommendations are to continue to identify resources breastfeeding mothers find supportive. Organizations and professionals promote the benefits of breastfeeding for mothers and infants but promotion is not effective until breastfeeding mothers feel supported in achieving their breastfeeding goals. When organizations and professionals understand what support is important to breastfeeding mothers (and implement or grow that support) then breastfeeding rates would be expected to increase.

CHAPTER 6. SUMMARY

With a number of professional agencies recommending breastfeeding as the primary source of infant nutrition, more research is needed on the best methods to assist mothers in achieving their breastfeeding goals. Obstacles to breastfeeding are multifactorial and often require personalized assessment by a professional trained in the art of breastfeeding to overcome these obstacles. Mothers desire to do what is best for their baby and want to know they are doing a "good" job in caring for their baby. Mothers most often seek breastfeeding support from their husband/significant other (36 survey respondents or 68%) and most often seek breastfeeding education from lactation nurses (32 survey respondents or 60%).

More research is needed on the impact of a nurse-led breastfeeding support group and maternal breastfeeding satisfaction, especially for mothers breastfeeding for the first time. No statistical significance was found using a t-test to compare breastfeeding mothers who attended a nurse-led breastfeeding support group and mothers who did not attend. The Satterthwaite approximation was used to confirm the lack of statistical significance. The population sample was small (n=53).

Pender's health promotion model concepts are useful in categorizing factors that influence a breastfeeding mother's behavior in order to achieve her breastfeeding goals. Factors that impact breastfeeding success are multifactorial. By utilizing Pender's health promotion model to organize qualitative data into the concepts of perceived self-efficacy, individual characteristics and experiences, personal factors, activity-related affect, perceived barriers to action, situational influences, and perceived benefits of action, the struggles and rewards of breastfeeding can be seen from a mother's perspective. Survey comments received suggest breastfeeding mothers appreciate and find a nurse-led breastfeeding support group helpful in

their breastfeeding experience. Breastfeeding mothers find support in breastfeeding by having their infant weighed to assess weight gain/loss, availability of a lactation nurse to assist with latching issues, and the opportunity to build community with other breastfeeding mothers.

Overarching evidence-based policies, certifications, and credentialing can assist birthing centers to promote breastfeeding. Education to breastfeeding mothers must be consistent among staff members. Anticipating breastfeeding difficulties with adequate follow-up after discharge from the hospital is crucial for breastfeeding success. A nurse-led breastfeeding support group is helpful to mothers who desire that form of support but alternative methods of support must be made available for mothers who choose not to attend a breastfeeding support group. Methods of support need to be reputable, consistent, and evidence-based. Further research is recommended regarding resources breastfeeding mothers find helpful in achieving their breastfeeding goals. By understanding what resources are most beneficial to breastfeeding mothers, health care providers can provide evidenced-based guidance which has the potential to impact national breastfeeding statistics and the health of the general public.

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APPENDIX A. MATERNAL BREASTFEEDING EVALUATION SCALE (MBFES)

Appendix 1. Maternal Breastfeeding Evaluation Scale (MBFES) *

If you breastfed more than one baby, base your answers on the most recent experience. Consider the overall breastfeeding experience, and please do not skip any questions.

Indicate your agreement or disagreement with each statement by circling the best answer:

SD = strongly disagree
D = disagree
N = no opinion or unsure
A = agree
SA = strongly agree

	Strongly Disagree				Strongly Agree
1. With breastfeeding I felt a sense of inner contentment.	SD	D	N	A	SA
2. Breastfeeding was a special time with my baby.	SD	D	N	A	SA
3. My baby wasn't interested in breastfeeding.	SD	D	N	A	SA
4. My baby loved to nurse.	SD	D	N	A	SA
5. It was a burden being my baby's main source of food.	SD	D	N	A	SA
6. I felt extremely close to my baby when I breastfed.	SD	D	N	A	SA
7. My baby was an eager breastfeeder.	SD	D	N	A	SA
8. Breastfeeding was physically draining.	SD	D	N	A	SA
9. It was important to me to be able to nurse.	SD	D	N	A	SA
10. While breastfeeding, my baby's growth was excellent.	SD	D	N	A	SA
11. My baby and I worked together to make breastfeeding go smoothly.	SD	D	N	A	SA
12. Breastfeeding was a very nurturing, maternal experience.	SD	D	N	A	SA
13. While breastfeeding, I felt self-conscious about my body.	SD	D	N	A	SA
14. With breastfeeding, I felt too tied down all the time.	SD	D	N	A	SA
15. While breastfeeding, I worried about my baby gaining enough weight.	SD	D	N	A	SA
16. Breastfeeding was soothing when my baby was upset or crying.	SD	D	N	A	SA
17. Breastfeeding was like a high of sorts.	SD	D	N	A	SA
18. The fact that I could produce the food to feed my own baby was very satisfying.	SD	D	N	A	SA
19. In the beginning, my baby had trouble breastfeeding.	SD	D	N	A	SA
20. Breastfeeding made me feel like a good mother.	SD	D	N	A	SA
21. I really enjoyed nursing.	SD	D	N	A	SA
22. While breastfeeding, I was anxious to have my body back.	SD	D	N	A	SA
23. Breastfeeding made me feel more confident as a mother.	SD	D	N	A	SA
24. My baby gained weight really well with breastmilk.	SD	D	N	A	SA
25. Breastfeeding made my baby feel more secure.	SD	D	N	A	SA
26. I could easily fit my baby's breastfeeding with my other activities.	SD	D	N	A	SA
27. Breastfeeding made me feel like a cow.	SD	D	N	A	SA
28. My baby did not relax while nursing.	SD	D	N	A	SA
29. Breastfeeding was emotionally draining.	SD	D	N	A	SA
30. Breastfeeding felt wonderful to me.	SD	D	N	A	SA

APPENDIX B. ELLEN LEFF CONSENT

Ellen Leff <leffellen@gmail.com>
Wed 10/16/2013 6:59 PM
To:Christoffers, Collette;

Collette -

You have permission to use the MBFES in your research and to modify the scale according to your needs. The MBFES is attached to this message.

The MBFES is appropriate for use after breastfeeding is completed or after the first two or three months of breastfeeding. It is intended to measure the mother's evaluation of breastfeeding, considering the breastfeeding experiences of both mother and infant.

The Maternal Enjoyment/Role Attainment Subscale consists of items 1,2,6,9,11,12,16,17,18,20,21,23,25, and 30. The Infant Satisfaction/Growth Subscale consists of items 3,4,7,10,15,19,24, and 28. The Lifestyle/Maternal Body Image Subscale consists of items 5,8,13,14,22,26,27, and 29. For analysis, I used a score of 1 for strongly disagree, up to 5 for strongly agree. Items worded negatively are reflected for scoring. These are items 3,5,8,13,14,15,19,22,27,28, and 29. To transform (reflect) the scores, subtract each participant's rating from 6 (i.e., 1 becomes 5, 2 becomes 4, etc.). Each participant's scores can be added for a total MBFES score as well as subscale totals.

Please contact me if you have any questions about the MBFES or its development. I can be reached by e-mail at leffellen@gmail.com.

Ellen Leff

Ellen Leff, MS, RN
Case Manager
Vermont Board of Nursing
Office of Professional Regulation
89 Main Street, 3rd Floor
Montpelier, VT 05620-3402

Phone: 802-828-1635 Fax: 802-828-2484

APPENDIX C. WRITTEN SURVEY TOOL

NDSU **North Dakota State University**
Department of Nursing
Office 222C Sudro Hall
PO Box 6050
Fargo, ND 58108-6050
701.231.7775

Survey for Outpatient Lactation Support Services

Today's date _____ Your baby's age in weeks _____
At what week gestation was your baby born? (for example: 39 weeks, 40 weeks, etc.) _____

Was/is this your first breast feeding experience? Yes No
If no, how many infants have you breast fed and how long did you breast feed each infant?
_____

How did you prepare for the birth of your infant? _____
_____

Why did you choose to breast fed your infant? _____
_____
For what length of time did/are you anticipating providing breast milk to your infant? _____

Do you work outside the home? ____Yes ____No
If yes, how much maternity leave do you plan to have? _____
Do you plan to pump breast milk? ____Yes ____No

What (or who) has been your main breastfeeding education source? Please number in order from 1 (main source), 2 (next source), and 3 (another source). Some choices may not apply to your situation.
____Doctor(s) ____Internet ____Breastfeeding class ___Friends

____Lactation nurse(s) ____Family ____Midwife ___WIC ___Other

What type of breastfeeding support you have/had? Please number in order from 1 (main support), 2 (next support), and 3 (other support). Some choices may not apply to your situation.
____Husband/Significant other ____Friends ____Co-workers ___La Leche League

____Family ____Lactation nurse(s) ____WIC ___Doctor ___Midwife ____Other

Did you ever attend a 1:1 lactation appointment with a nurse? _____ If yes, how many times? _____
Did you ever attend Tender Transitions? ____ If so, why did you choose to attend Tender Transitions?
_____
_____
After having these experiences, what advice would you give to someone who has just discovered they are pregnant? _____
_____

Thank you for participating in this survey. Your time is greatly appreciated. Please go on to the next page.

APPENDIX D. LETTER OF CONSENT

NDSU **North Dakota State University**
Department of Nursing
Office 222C Sudro Hall
PO Box 6050
Fargo, ND 58108-6050
701.231.7775

Congratulations on the birth of your baby!

My name is Collette Christoffers. I am a graduate student in the department of nursing at North Dakota State University. I am conducting a research project to identify how health care providers support moms who are breastfeeding. It is my hope, that with this research, we will learn more about the best ways to support mothers who are breastfeeding.

Because you have breastfed your infant, you are invited to take part in this research project. Your participation is entirely your choice, and you may change your mind or quit participating at any time, with no penalty to you.

It is not possible to identify all potential risks in research procedures, but we have taken reasonable safeguards to minimize any known risks. This survey is anonymous but breach of confidentiality exists. You may not get any benefit from being in this study. Benefits to others are likely to include advancement of knowledge and possible benefits to future breastfeeding mothers. It should take about 10 minutes to complete the survey.

Only general identifiers will be collected and confidentiality will be protected. I will keep private all research records. Your information will be combined with information from other people taking part in the study, I will write about the combined information that I have gathered. You will not be identified in these written materials. The results of the study may be published; however, we will keep all identifying information private.

If you have any questions about this project, please contact me at (701) 361-6611 or email C.Christoffers@ndsu.edu, or contact my advisor, Dr. Norma Kiser-Larson at (701) 231-7775 or email Norma.Kiser-Larson@ndsu.edu.

You have rights as a research participant. If you have questions about your rights or complaints about this research, you may talk to the researcher or contact the NDSU Human Research Protection Program at 701.231.8908, toll-free at 1-855-800-6717, by email at ndsu.irb@ndsu.edu, or by mail at: NDSU HRPP Office, NDSU Dept. 4000, and P.O. Box 6050, Fargo, ND 58108-6050.

Again, congratulations on the birth of your baby. Thank you for your taking part in this research. If you wish to receive a copy of the results, please email me at C.Christoffers@ndsu.edu.

Sincerely,

Collette Christoffers, BSN, RN
North Dakota State University

APPENDIX E. NDSU IRB APPROVAL

NDSU NORTH DAKOTA STATE UNIVERSITY

March 3, 2014 FederalWide Assurance FWA00002439

Dr. Norma Kiser-Larson
Department of Nursing
Sudro Hall 222C

IRB Approval of Protocol #**PH14185**, "**Attendance or non-attendance at a nurse-led breastfeeding support group and maternal breastfeeding satisfaction**"
Co-investigator(s) and research team: **Collette Christoffers**

Approval period: 3/3/14 to 3/2/15 **Continuing Review Report Due: 2/1/15**

Research site(s): **Essentia Health Clinics** Funding agency: **n/a**
Review Type: Expedited category # 7
IRB approval is based on original submission, with revised: protocol and consent form (received 2/27/14).

Additional approval is required:

- prior to implementation of any proposed changes to the protocol (*Protocol Amendment Request Form*).
- for continuation of the project beyond the approval period (*Continuing Review/Completion Report Form).* A reminder is typically sent two months prior to the expiration date; timely submission of the report is your responsibility. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

A report is required for:

- any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (*Report of Unanticipated Problem or Serious Adverse Event Form*).
- any significant new findings that may affect risks to participants.
- closure of the project (*Continuing Review/Completion Report Form*).

Research records are subject to random or directed audits at any time to verify compliance with IRB regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,
Kristy Shirley
Kristy Shirley, CIP
Research Compliance Administrator

INSTITUTIONAL REVIEW BOARD
NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb
Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo, ND 58102

APPENDIX F. MIDWEST HOSPITAL IRB APPROVAL

Essentia Health
Here with you

Essentia Health Institutional Review Board

Processed Administratively – Acknowledge Receipt
External IRB Initial Review

DATE: March 27, 2014

TO: Principal Investigator
Pat G Conway, PhD, LCSW

Study Contacts / Study Coordinators:

Study: **Breastfeeding Support Group**
Ref. #: 006925
Title: Attendance or non-attendance at a nurse-led breastfeeding support group and maternal breastfeeding satisfaction.

The Essentia Health Institutional Review Board acknowledges receipt of the following documents for the above referenced project:

1. Protocol (Master's project proposal) iRIS Version Date: 03/24/2014
2. NDSU Thesis Committee Approval Letter dated March 26th, 2014
3. Completed IAA Essentia Health and NDSU
4. NDSU IRB Approval Letter dated March 3rd, 2014
5. NDSU Application for Research
6. NDSU Application for Research Attachment: Expedited Review Categories
7. NDSU Application for Research Informed Consent Alteration or Waiver Request

It is noted that the IRB of record, NDSU IRB, reviewed and approved the above referenced project on 03/03/2014.

The documents submitted to the Essentia Health IRB were reviewed and approved by IRB of record.

Sincerely,

Signature applied by Catherine A McCarty on 03/27/2014 11:53:42 AM CDT

Catherine A McCarty, PhD, MPH
Chair, Essentia Health Institutional Review Board

CAM/rb

CC: Sue Rich-Dupree

502 East Second Street
Duluth, MN 55805

APPENDIX G. RECEPTIONIST SCRIPT FOR SURVEY DISTRIBUTION

Receptionist script for survey distribution

For mothers bringing their infant to the clinic for a well-child check-up at 2, 4, or 6 months of age, please ask:

"A graduate student from NDSU is doing a research project that involves mothers who have provided breastmilk to their baby. Did you breastfeed or provide breastmilk for your infant for any length of time (even a day)?"

**Please note: Mothers must be 18 years of age or older to participate. Mothers must be able to read and understand English to participate.

YES

NO

No further questions.

Please ask: "Would you like to fill out a survey regarding your breastfeeding experience? It is two pages and takes about 10 minutes."

YES

NO

No further questions.

Please give mom the consent letter and two page survey with an 8x11 envelope and a pen. Point out to her that there are two pages, ask her to read the consent letter, and return the survey to you in the envelope after she seals it. Please thank her for her time and willingness to participate.

Please leave the 8x11 envelopes sealed and place them in the lock box provided. Please call Collette Christoffers at (701) 361-6611 with any questions or concerns. **Thank you very much for your help with this project.**

APPENDIX H. NSU IRB AMENDMENT APPROVAL

NDSU NORTH DAKOTA STATE UNIVERSITY

March 3, 2014 FederalWide Assurance FWA00002439

Dr. Norma Kiser-Larson
Department of Nursing
Sudro Hall 222C

IRB Approval of Protocol #**PH14185**, "**Attendance or non-attendance at a nurse-led breastfeeding suppo group and maternal breastfeeding satisfaction**"
Co-investigator(s) and research team: **Collette Christoffers**

Approval period: 3/3/14 to 3/2/15 **Continuing Review Report Due: 2/1/15**

Research site(s): **Essentia Health Clinics** Funding agency: **n/a**
Review Type: Expedited category # 7
IRB approval is based on original submission, with revised: protocol and consent form (received 2/27/14).

Additional approval is required:

- prior to implementation of any proposed changes to the protocol (*Protocol Amendment Request Form*
- for continuation of the project beyond the approval period (*Continuing Review/Completion Report Form).* A reminder is typically sent two months prior to the expiration date; timely submission of the report is your responsibility. To avoid a lapse in approval, suspension of recruitment, and/or data collection, a report must be received, and the protocol reviewed and approved prior to the expiration date.

A report is required for:

- any research-related injuries, adverse events, or other unanticipated problems involving risks to participants or others within 72 hours of known occurrence (*Report of Unanticipated Problem or Serio Adverse Event Form*).
- any significant new findings that may affect risks to participants.
- closure of the project (*Continuing Review/Completion Report Form*).

Research records are subject to random or directed audits at any time to verify compliance with IRB regulations and NDSU policies.

Thank you for cooperating with NDSU IRB procedures, and best wishes for a successful study.

Sincerely,
Kristy Shirley

Kristy Shirley, CIP
Research Compliance Administrator

INSTITUTIONAL REVIEW BOARD
NDSU Dept 4000 | PO Box 6050 | Fargo ND 58108-6050 | 701.231.8995 | Fax 701.231.8098 | ndsu.edu/irb
Shipping address: Research 1, 1735 NDSU Research Park Drive, Fargo, ND 58102

APPENDIX I. MIDWEST HOSPITAL IRB AMENDMENT APPROVAL

Essentia Health
Here with you

Essentia Health Institutional Review Board

Processed Administratively – Acknowledge Receipt
External IRB Change in Protocol

DATE: June 02, 2014

TO: Principal Investigator
Pat G Conway, PhD, LCSW

Study Contacts / Study Coordinators:

Study: **Breastfeeding Support Group**
Ref. #: 007287
Title: Attendance or non-attendance at a nurse-led breastfeeding support group and maternal breastfeeding satisfaction.

The Essentia Health Institutional Review Board acknowledges receipt of the NDSU Protocol Amendment Request form for the above referenced project.

It is noted that the IRB of record, NDSU IRB, reviewed and approved the above referenced change on 05/28/2014.

The document(s) submitted to the Essentia Health IRB were reviewed and approved by IRB of record.

Sincerely,

Signature applied by Catherine A McCarty on 06/02/2014 02:58:10 PM CDT

Catherine A McCarty, PhD, MPH
Chair, Essentia Health Institutional Review Board

CAM/rb

CC: Sue Rich-Dupree

502 East Second Street
Duluth, MN 55805

APPENDIX J. INCENTIVE LETTER

NDSU **North Dakota State University**
Department of Nursing
Office 222C Sudro Hall
PO Box 6050
Fargo, ND 58108-6050
701.231.7775

Hello,

Please use the enclosed chocolate to sit down, put your feet up, and relax for a few minutes. As a busy mom, your input is valuable in how health care providers can best support other mothers. If you provided (or are providing) *any* breastmilk to your infant (Even for a day, breastfeeding and/or pumping), please consider completing the following survey and returning it in the included self-addressed stamped envelope.

This survey is anonymous. If you would like to be included in the drawing for a $25 gift card to West Acres (four gift cards will be given out), please return the bottom portion of this letter with your name and phone number. **Entries for the West Acres gift card drawings will be separated from surveys and your name will not be connected to your survey responses in any way. Entries and surveys must be postmarked by June 11, 2014.**

Thank you for considering,
Collette Christoffers

Yes, please enter my name into the West Acres $25 gift card drawing. I understand I will be notified by a phone call if I am chosen for one of the four gift cards to be drawn.

Name _____
Phone number _____