

ABSTRACT

Nurse Perceptions of Breastfeeding Promotion in the Hospital Setting

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As the benefits of breastfeeding are becoming more established, the importance of its promotion is gaining significance. In response, the World Health Organization created the Ten Steps to Successful Breastfeeding as a guide for hospital practices. The purpose of this thesis was to identify nurse perceptions of the Ten Steps to Successful Breastfeeding at the onset of their implementation. Six nurses participated in a focus group, and 22 nurses completed an online questionnaire, totalling 28 participants. Both methodologies used the same qualitative data collection instrument. The results were transcribed, consolidated, and coded using Nvivo software. Three predominant themes emerged from the data analysis – concerns with staffing, variations in parental understanding, and postpartum issues. The responses indicated that the nursing staff was generally supportive of the Ten Steps to Successful Breastfeeding, but often lacked the tools or knowledge to execute the steps.

Nurse Perceptions of Breastfeeding Promotion in the Hospital Setting

by

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A Thesis

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Submitted to the Graduate Faculty of
Baylor University in Partial Fulfillment of the
Requirements for the Degree
of
Master of Public Health

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May 2013

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LIST OF TERMS

Exclusive Breastfeeding: is the feeding of only breastmilk from birth onward, with the exception being vitamins, minerals, or medicines (The Joint Commission, 2010).

Expression: is the practice of extracting breastmilk from the breast via the hand or an electric breast pump (Wiessinger, West & Pitman, 2010).

Extended breastfeeding: is the practice of breastfeeding beyond the infant's first year.

Initiation: refers to any exposure of breastmilk to the infant (CDC, 2009).

Lactogenesis: is the onset of milk production (Edgar, 2005).

Multiparous: is a woman who has given birth at least two times in her life.

Primiparous: is a woman who has given birth once in her life.

Rooming-In: a hospital practice whereby the newborn infant stays with the mother 23 out of every 24 hours.

Supplementation: is the administration of formula in addition to or in place of breastmilk. This may or may not include additional liquids or solids (CDC, 2007).

Skin to Skin: the practice of laying the naked infant on the mother's bare chest (World Health Organization, 2011).

ACKNOWLEDGMENTS

This thesis was made possible by significant professional contributions of valued colleagues and mentors. Most importantly, I offer my appreciation to Dr. Rodney Bowden, whose support and expertise made this study possible. Next, I would like to thank the members of my thesis committee, Dr. Lauren Barron and Dr. Eva Doyle, for reviewing this project at its onset and at its completion. I would also like to thank the Health, Human Performance, and Recreation Department at Baylor University for providing the funding to facilitate this study. My colleagues Jessica Stroope and Britt Bernard are to be thanked for their invaluable research guidance. I would also like to thank the members of my expert panel for their assistance in refining my data collection instrument. And finally, I would like to thank Donna Robinson, Director of Labor and Delivery at Providence Hospital, and the nursing staff within the Labor and Delivery and Postpartum units for their cooperation in this study.

CHAPTER ONE

Introduction

Purpose and Significance

Breastfeeding has been shown to improve health outcomes for infants and mothers in many significant ways (Ip et al., 2007). Rising health disparities and health care costs, as well as the obesity epidemic, have fueled a new urgency in breastfeeding promotion in recent years (Bartick & Reinhold, 2010; Centers for Disease Control and Prevention [CDC], 2011b; CDC, 2013). Although 80% of mothers want to breastfeed, two out three mothers do not meet their breastfeeding goals (Perrine et al., 2012). In addition to cultural expectations and personal beliefs, hospital practices frequently influence a woman's breastfeeding relationship with her child (CDC, 2011b). The significance of hospital support is evident in the fact that almost half of U.S. babies have received formula within the first week of life (NIS, 2008).

In response, the World Health Organization (WHO) and United Nations Children's Fund (UNICEF) created The Ten Steps to Successful Breastfeeding ("Ten Steps") as a guide for optimal hospital practices (1989). The Texas Department of State Health Services adapted the ten steps to form its own certification, the Texas Ten Step (TTS) Program. This recognition can serve as a precursor to the more prestigious "Baby-Friendly" designation awarded by the Baby Friendly Hospital Initiative, the U.S. certification extension of the WHO and UNICEF. The state of Texas significantly lags in

hospital practices, with only seven of 286 birthing centers certified as Baby-Friendly (www.babyfriendlyusa.org), and 81 qualifying as a Texas Ten Step hospital.

Significant increases in breastfeeding rates have been attributed to a hospital's implementation of the Ten Steps to Successful Breastfeeding in previously published studies (Merewood, Mehta, Chamberlain, Philipp, & Bauchner, 2005). Several studies have confirmed that as hospitals increase the number the steps that are implemented, the greater the breastfeeding success (Declercq, Lobbok, Sakala, & O'Hara, 2009; DiGirolamo, Grummer-Strawn, Fein, 2008; Tarrant et al., 2011). However, only 4.5% of U.S. births occur at a Baby-Friendly hospital (Centers for Disease and Prevention [CDC], 2011) with a Healthy People 2020 goal to increase that figure to 8.1% (USDHHS, 2010).

Every two years the CDC surveys every birthing center in America in an effort to assess the hospital practices that influence breastfeeding rates. This instrument, the Maternity Practices in Infant Nutrition and Care (mPINC) gives an individual score to each submitting hospital and compositely ranks states' performance. The results are published two years after the survey is administered and the results reveal which of the Ten Steps are lacking in implementation at the state and national level. Texas's 2011 mPINC score ranked the state 33 out of 52 in its ability to provide breastfeeding support in the hospital setting (CDC, 2011).

As Healthy People 2020 calls for more births to occur in Baby-Friendly hospitals, it is important to understand the feelings and knowledge of the nursing staff regarding these changes and an understanding of the criteria for a Baby-Friendly hospital. During the hospital stay, nurses normally assist mothers more than any other health care provider (Kelleher, 2006). And yet, the knowledge and attitudes of nurses in regards to best

practices for breastfeeding is inconsistent (McLaughlin, Fraser, Young, & Keogh, 2011). Therefore, the purpose of this study is to examine the perceptions of hospital nurses at the onset of implementing the Ten Steps to Successful Breastfeeding.

Research Questions

Question 1: What are nurse perceptions and beliefs of the Ten Steps to Successful Breastfeeding? It is hypothesized that the nurses' views of the Ten Steps practices will be consistent with those previously reflected in the literature. The limiting of supplementation (Step Six) and pacifier use (Step Nine) will have more variation of opinion. Beliefs surrounding staff training (Step Two), skin-to skin contact (Step Four), and the practice of rooming-in (Step Seven) will be the most favorable unilaterally.

Question 2: Among nurses, what are the perceived benefits and barriers of implementing the Ten Steps to Successful Breastfeeding? It is hypothesized that nurses will cite mothers' resistance and additional expectations for limited staff as possible negatives to implementation. Conversely, it is assumed that nurses would cite increased breastfeeding rates and improved public perception of the hospital as possible benefits of implementation.

Study Overview

This qualitative analysis will occur during one Central Texas urban hospital's implementation of the Ten Steps to Successful Breastfeeding. Postpartum, neonatal, and labor and delivery nurses currently employed by Providence Healthcare Network in Waco, Texas, will participate either in a one-time focus group, or respond to an online questionnaire. Both data collection techniques will pose the exact same set of questions.

These items will examine nurses' perceptions and knowledge of the Ten Steps to Successful Breastfeeding.

The instrument to be used in both the focus group and the online questionnaire was created during the preliminary design phase of this study and was subsequently reviewed for face validity by an expert panel. This advisory team consisted of two International Board Certified Lactation Consultants, a neonatologist, a Doctor of Nursing Practice, a Doctor of Philosophy in Health Education, and a prominent breastfeeding activist and author. Two of the individuals are nationally recognized for their expertise in lactation skills and research and hold advisory positions on key breastfeeding policy committees for medical practice recommendations. The remaining two have served in important breastfeeding advocacy roles at the state level. The remaining advisor is an expert in qualitative data methodology with an extensive contributions to the peer-reviewed knowledge base of public health.

Assumptions

The assumption was made that participants were involved in the focus group discussion and answered honestly. Participants in the online survey similarly responded honestly. In addition, it was assumed that the data collection instrument will be valid and reliable, and that participants possessed adequate training and expertise in childbirth and lactation to address the discussions intelligently.

Delimitations

Among all PHN health care providers that attend patients in the labor and delivery and postpartum setting, only nursing staff participated in this study. The level of

expertise of the nursing staff included Bachelors of Nursing (BSN), Certified Registered Nurses (RNC), Licensed Vocational Nurses (LVNs), Certified Surgical Technologists (CSTs), and Registered Nurses (RNs). Delimitations of participants were as such:

- Being a current employee of PHN
- Coming into direct contact with mothers and/or infants antenatally
- Speaking English
- Being at least 18 years of age

Limitations

Several limitations to this study should be disclosed:

1. Generalizeability will be limited to a single Central Texas hospital. Certain characteristics unique to this organization may not be applicable to hospitals differing in size, location, and client composition.
2. Tracking the full implementation process will not be completely possible, as the organization is already practicing some of the Ten Steps to Successful Breastfeeding.
3. The use of two data collection methodologies may have rendered a variation in the quality of data responses, as only the focus group answers were able to be probed for clarification.

Public Health Benefits

Implications for this study are significant in light of the importance placed on baby-friendly practices in recent years. Public health professionals can use the results of this study as roadmap for implementation of the Ten Steps to Successful Breastfeeding in

local hospitals. Public Health leaders can better understand the motivations and deterrents for staff implementation of Baby-Friendly hospital to effectively gather staff support. Additionally, future methods to address parental responses to the Ten Steps could be shaped by the outcomes revealed in this study.

Finally, the innovative teaching methods used with staff in this study could be replicated in a number of different contexts. Many of the obstacles of this project were not unique to this one hospital. The methods deemed most successful by this project could be replicated at other organizations seeking to implement the Ten Steps. Also, the hospital involved in this study was representative in the diversity of its clientele. It is an above-average size hospital, and mutually serves suburban and urban populations. Therefore, staff training activities could be relevant in a variety of cultural settings. The hospital's performance status in terms of breastfeeding support at the onset of the study was considered average. The organization received a composite mPINC score of 62 out of 100, a rating superior to the Texas composite mPINC score of 42 out of 100. Therefore, the progress of the hospital used for this study can mirror other organizations starting at a similar point.

CHAPTER TWO

Literature Review

Introduction

In recent years the dialog and research surrounding breastfeeding has reported suboptimal breastfeeding rates in the United States (McNiel, Labbok, & Abrahams, 2010; CDC, 2011b). In order to understand the implications of recommending environmental changes that are more conducive to breastfeeding, it is necessary to first understand the importance of breastfeeding.

Benefits of Breastfeeding

Although the fact that breastfeeding is beneficial is well established in the literature (Belfield & Kelly, 2010; Ip et al., 2007), new facts about the importance of those advantages are still emerging. The benefits of breastfeeding are specific to each party involved – the infant, the mother, and society.

Infants

Breastfed infants experienced a 64% reduction in gastrointestinal infections, a 72% decrease in lower respiratory infection hospitalizations (Ip et al., 2007), and the risk of asthma decreases at least 27% with three months of breastfeeding (Ip et al., 2007). Secondly, exclusive breastfeeding was associated with a lower incidence of childhood pneumonia (Rudan, Boschi-Pinto, Biloglav, Mulholland, & Campbell, 2008) and 50% less incidence of ear infections (Ip et al., 2007). The risk of eczema was reduced by

almost half (Gdalevich, Mimouni, David, & Mimouni, 2001), and breastfeeding has been shown to be a protective factor against celiac disease (Henriksson, Boström, & Wiklund, 2012). Type 1 and Type 2 diabetes incidence was reduced by 27% and 39% respectively, as is the risk for childhood leukemia (19%) (Ip et al., 2007). Over a third of excess fetal-infant mortality in Texas was due to sudden infant death syndrome (Texas Department of State Health Services [TXDSHS], 2011), yet the evidence suggests that breastfeeding reduced the odds by half (Vennemann et al., 2009). Many of these benefits for infants are dose-responsive, meaning that the longer the infant receives breastmilk, the more protection against morbidity.

The number of obese Texans is projected to be 43% by 2040, according the Texas State Data Center (Eschbach, 2009). However, recent data confirms that a child's risk of obesity declines the longer he or she is breastfed (Arenz, Ruckerl, Koletzko, & Von Kries, 2004; Harder, Bergmann, Kallischnigg, & Plagemann, 2005). This evidence prompted the Centers for Disease Control and Prevention (CDC) to include breastfeeding as one of its five Recommended Community Strategies to Prevent Obesity in the United States (Kahn et al., 2009).

During early feedings after birth, the mother produces colostrum, a dense, antibody-rich, pre-milk substance. Colostrum provides the first round of protection against foreign bodies, giving the optimal intestinal bacterial balance (Wiessinger, West & Pitman, 2010). This process is instrumental in aiding digestion of meconium and thus the reduction of newborn jaundice (Walker, 2008).

Any amount of breastfeeding is crucial, regardless of the length of a mother's breastfeeding intention. However, most of the previously mentioned studies confirm that

there is a correlation between how much breastmilk the infant received and the strength of these health advantages. The evidence demonstrates that a mother's decision to breastfeed can impact the health of her child beyond infancy (Jackson & Nazar, 2007). Babies fare better, significantly in some instances, when exposed to breastmilk for longer durations.

Mothers

Growing evidence suggests there are maternal benefits of breastfeeding. For every year of breastfeeding, a mother's risk of breast cancer reduced 4.3% (Ip et al., 2007). Extended breastfeeding (≥ 1 year) was associated with a 28% reduction in breast cancer (Ip et al., 2007). Similarly, studies found that the risk of ovarian cancer diminished 21%, with additional benefits of breastfeeding beyond one year (Ip et al., 2007).

The breastfeeding mother increases caloric expenditures up to an additional 600 calories a day (Gaskin, 2009) beyond their basal metabolic rate. Exclusive breastfeeding delays the onset of postpartum menorrhagia, thus optimally spacing a woman's pregnancies for better outcomes (United Nations Children's Fund [UNICEF], 1999). In a prospective study of 137 mothers assessed at prenatal and postpartum intervals, the incidence of postpartum depression was less frequent among mothers who breastfed at least two months, with even fewer cases in mothers who breastfed for at least four months (Hamdan & Tamim, 2012). Further, breastfeeding initiation was not found to provide any additional benefit than no breastfeeding – only duration was associated with reduced postpartum depression. Low-income mothers consistently experienced significantly lower rates of depression through the first five months postpartum (Pugh, Milligan, &

Brown, 2001). However, the current median duration of exclusive breastfeeding for American mothers is approximately one month (CDC, 2011b).

Because of the infant benefits associated with breastfeeding, the mother is expected to miss fewer days of work due to caring for an ill child or attending doctors visits (United States Breastfeeding Committee, 2002). This assumes, however, that she works for an employer who is supportive of breastfeeding and allows her to take breaks to express milk. The cost of formula costs approximately \$1500 per year for an exclusively formula-fed infant (Nemours Foundation, n.d.). If a mother breastfeeds, not only does she save on formula, but also in health care expenses, doctor co-payments, and prescription medications in the first year alone (Ip et al., 2007). These savings compound with the extension of breastfeeding beyond one year (Wiessinger et al., 2010).

Community Factors

Society at large has a stake in the rates of breastfeeding among its mothers. It is estimated that \$13 billion per year in health care costs could be avoided if 90% of mothers exclusively breastfed for 6 months (Bartick & Reinhold, 2010). This figure only includes the cost savings associated with childhood morbidity and mortality prevention, and does not include expenses avoided with improved maternal health and the expense of formula feeding.

Environmental considerations are relevant in terms of the contamination risks and additional waste created by higher rates of formula use. According to Michels (1998), over 17,000 tons of tin is saved by the 80,000 mothers who breastfeed exclusively for six months. Further, breastfeeding requires no environmental resources and produces no waste, pollution, or transportation costs.

Contraindications

There are certain contraindications to breastfeeding in some instances of maternal and newborn disease states (Gartner et al., 2005). Mothers with active cases of tuberculosis, the receipt of certain medications or chemotherapy, radiation exposures, and who currently have active herpes simplex lesions on the breast are discouraged from breastfeeding their newborns. Pathogens and radioactivity present during these bouts can pass through breastmilk, thus exposing the infant to complications. Mothers who are HIV-positive are also advised to forego breastfeeding in developed nations. However, in countries where poor nutrition and infectious diseases are more severe, there has been evidence to suggest exclusive breastfeeding offers better infant mortality outcomes (Kourtis, Butera, Ibegbu, & Duerr, 2003).

The single contraindication for breastfeeding occurring in newborns is galactosemia (Gartner et al., 2005). Occurring in approximately one out of every 55,000 infants, galactosemia is a rare genetic disorder that inhibits the metabolizing of galactose, a sugar found in breastmilk (“Galactosemia”, 2008). Galactosemic infants cannot tolerate breastmilk and must be formula-fed.

For certain acute conditions, formula supplementation is recommended (Walker, 2012). According to Marsha Walker, RN, IBCLC, instances of confirmed hypoglycemia and hyperbilirubinemia may be indications for supplementation. Also, cases of extreme dehydration or excessive newborn weight loss necessitate the use of formula. If the infant is still passing meconium stools at day five, supplementation can aid in transitional digestion. Lastly, sometimes the infant simply has problems feeding at the breast,

whether it is in the milk transfer process or the inability to directly feed from the breast. In these cases, the infant may require temporary supplementation.

Health Disparities

Health disparities between racial and ethnic groups are widened since breastfeeding rates are lower in minority communities, especially among African-Americans (U.S. Department of Health and Human Services [USDHHS], 2011b) with black infants twice as likely to die from SIDS (Muhuri, MacDorman, & Ezzati-Rice, 2004). The Texas Department of State Health Services' Center for Health Statistics report stated that black infants in Texas were 2.8 times more likely to die than white infants, and five times that of Hispanic infants; further, 61% of those deaths were preventable. The report cited "no breastfeeding at hospital discharge" as one of several key factors involved with infant deaths occurring after 28 days among typically low-income, minority Central Texas Women, Infants and Children (WIC) clients (TXDSSH, 2011)

Because of a variety of socioeconomic factors, obesity disproportionately affects minorities (Taveras, Gillman, Kleinman, Rich-Edwards, & Rifas-Shiman, 2010), but breastfeeding can minimize the disparity. Taveras et al. (2010) found that lower rates of breastfeeding exclusivity contributed to higher rates of obesity among black and Hispanic children. Similarly, a black infant who breastfed at least four months had a reduced risk of adolescent adiposity (Woo, Dolan, Morrow, Geraghty, & Goodman, 2008).

According to the U.S. Mortality Statistics, health disparities also exist in the 50% higher death rates of breast cancer among African-American women (2008). Because this population has a 15% lower breastfeeding rate (McDowell, Wang & Kennedy-

Stephenson, 2008), it is possible this is contributing to higher rates of certain types of breast cancers (Palmer et al., 2011).

Healthy People 2020

For these reasons, the U.S. government’s Healthy People (HP) 2020 goals were designed to increase the number of exclusively breastfed babies to 46% at three months and 25% at six months (USDHHS, 2010). In 2011, U.S. breastfeeding rates for these measures were 35% and 15%, respectively (CDC, 2011a). Although Texas has come close to reaching the HP 2020 initiation goal of 82% (with an initiation rate of 75% in 2011), only 31% and 14% of Texas mothers meet the 3-month and 6-month exclusivity goals respectively (CDC, 2011c).

Table 1

Recent Breastfeeding Data – United States & Texas

Rates	Initiation	Any breastfeeding at 6 months	Any breastfeeding at 12 months	Exclusive breastfeeding at 3 months	Exclusive breastfeeding at 6 months
Healthy People 2020	82%	61%	34%	46%	26%
2011 U.S. ^a	74.6%	44.3%	23.8%	35%	14.8%
2011 Texas ^a	75.2%	42.2%	23%	30.6%	13.5%
2009 Central Texas ^b	76.4%	30.5%	11.1%	18.3%	6.5%

^a U.S. Department of Health and Human Services, 2011.

^b TXDSHS Infant Feeding Practices Survey, 2009.

Institutional Recommendations

In light of the increased exposure to health vulnerabilities caused by formula use (McNiel, Labbok, & Abrahams, 2010), significant policy recommendations that formally recognize the need for breastfeeding support and education have been issued by medical and governmental organizations. In 2011, the Office of the Surgeon General issued a Call to Action to Support Breastfeeding (USDHHS, 2011). This report called upon the health care industry, among other spheres of maternal contact, to educate health professionals in breastfeeding support and to review their own childbirth practices to confirm they are conducive to breastfeeding. The CDC included breastfeeding as one of its five Recommended Community Strategies to Prevent Obesity in the United States (Kahn et al., 2009).

In 2005, The American Academy of Pediatrics issued a policy statement on breastfeeding that defined the supportive pediatric physician's role and listed best practices for breastfeeding in the hospital setting (Gartner et al., 2005). These best practices closely align with the Ten Steps. The Academy of Breastfeeding Medicine drafted a series of protocols, which are revised every five years, detailing ideal hospital practices surrounding breastfeeding (Bunik et al., 2010). These protocols are also nearly identical to the Ten Steps.

Perhaps the most significant policy change was the recent inclusion of breastfeeding exclusivity in the Joint Commission's National Quality Care Measure for Perinatal Care (The Joint Commission, 2010). The Joint Commission mandates quality benchmarks for hospital practices as part of its role as the primary hospital accreditation organization. Part of that accreditation process requires that hospitals track their

compliance with the core measure recommendations. Unlike outside public health recommendations, the Joint Commission measure offers criteria by which compliance will directly benefit hospitals.

Duration Determinants

According to the Childbirth Connection's Listening to Mothers II survey (Declercq, Sakala, Corry, & Applebaum, 2006), almost 80% of mothers want to breastfeed, but unfortunately two out three mothers do not meet their breastfeeding goals (Perrine, Scanlon, Li, Odom, & Grummer-Strawn, 2012). Much research has been devoted to explaining this discrepancy. The first and most common reason for this is either the reality or the impression of an insufficient milk supply (Hurley, Black, Papas, & Quigg, 2008; Gatti, 2008; Gau, 2004). Because a mother cannot see or measure breastmilk as the infant is latched, the process can be plagued by doubt (Otsuka, Dennis, Tatsuoka, & Jimba, 2008). Therefore, a disconnect exists between whether a mother truly has a supply issue, and whether she merely feels insecure about her supply. Either conclusion can lead to early weaning. This circumstance illustrates the necessity of postpartum support when these anxieties arise (Thulier & Mercer, 2009).

A second reason for cessation is breast pain (Hurley et al., 2008), for which the same concept applies. The earlier a woman receives help with her breast or nipple pain, the lesser degree of severity of the damage, and the more likely she will continue breastfeeding (Wiessinger et al., 2010).

Third, returning to work is a frequently cited reason for weaning (Thulier & Mercer, 2009). A negative association between mothers returning to work and breastfeeding duration has been documented (Cooklin, Rowe, & Fisher, 2012). Scott,

Binns, Oddy, and Graham (2012) found that a) a negative correlation exists between exclusive breastfeeding at 6 months and returning to work before six months, and b) the number of hours spent at work negatively affected a woman's exclusivity duration. Those who are still breastfeeding upon returning to work often faced negative workplace attitudes and inadequate accommodations to facilitate milk expression in the workplace (Thulier & Mercer, 2009).

Next, one in three American births currently end in a cesarean surgery (Hamilton, Martin, & Ventura, 2011). The use of major surgery to deliver a baby can negatively affect breastfeeding initiation because of the separation of mother and baby after birth (Prior et al., 2012; McDonald et al., 2012), and medication exposure to the infant (Beilin et al., 2005). Therefore, as the country's cesarean rate rises, breastfeeding initiation rates are negatively affected (Pérez-Ríos, Ramos-Valencia, & Ortiz, 2008). However, the literature is unclear whether a cesarean birth negatively affected duration (Thulier & Mercer, 2009). In addition, cesarean mothers tended to have lower perceptions of milk supply, thus compounding two factors for early weaning (Lin, Lee, Yang, & Gau, 2011).

Lastly, other birth interventions can interfere with the breastfeeding relationship. Brown and Jordan (2012) found that birth complications signaled a shorter duration of breastfeeding--particularly cesarean surgery, fetal distress, hemorrhaging, and failure to progress. According to the 2006 Listening to Mothers II survey, 86% of women used some sort of pharmaceutical pain relief (Declercq et al., 2006). Several studies have found that medicated births can impair breastfeeding initiation, (Baumgardner, Muehl, Fischer, & Pribbenow, 2003; Wiessinger et al., 2010).

The Ten Steps to Successful Breastfeeding

The existing evidence is congruent on one key point—that a mother’s hospital experience in terms of emotional, informational, and technical support sets the stage for her breastfeeding success (Murray, Ricketts, & Dellaport, 2007; Perrine et al., 2012). In response to gaps in a uniform approach for hospital breastfeeding support, The World Health Organization (WHO) and UNICEF drafted a joint statement, called The Ten Steps to Successful Breastfeeding, as a guide for good hospital practices (1989). Recognizing the importance of hospital practices that aid breastfeeding, UNICEF and WHO policy makers gathered in 1990 to create the Innocenti Declaration on the Protection, Promotion, and Support for Breastfeeding call to action. A global certification standard for hospitals, called the Baby Friendly Hospital Initiative (BFHI) was born out of this endeavor.

Currently 143 U.S. hospitals are certified as Baby-Friendly, and less than 5% of births occur in a Baby-Friendly hospital (USDHHS, 2011b). In a survey of the first 29 hospitals certified as Baby-Friendly, breastfeeding initiation rates at those hospitals were 84% compared to the 70% national average initiation rate (Merewood, Mehta, Chamberlain, Philipp, & Bauchner, 2005). Exclusivity during the hospital stay was 78% among the Baby-friendly hospitals, compared to 46% for the national average. Healthy People 2020 has since recognized the effects of the initiative on breastfeeding rates and called for a goal of 8% of all U.S. births to occur in a Baby-friendly facility (USDHHS, 2010).

The Texas Department of State Health Services adapted those steps to form its own statewide certification, the Texas Ten Step (TTS) Program. After meeting 85% of the evaluation criteria, a hospital can become a recognized Texas Ten Step Hospital.

This recognition is often viewed as the first step towards achieving the more prestigious “Baby-Friendly” designation awarded by the Baby Friendly Hospital Initiative (BFHI), the U.S. certification extension of the WHO and UNICEF. BFHI certification is accompanied by a substantial financial investment and is rigorous because full compliance is nonnegotiable (Chapman, 2011). Refer to Table 2 for percentages of hospital compliance for each step at the national and state level.

Table 2

The Ten Steps to Successful Breastfeeding: Hospital Compliance Rates

Ten Steps to Successful Breastfeeding	U.S. Figures 2009 (%) ^a	Texas Figures 2009 (%) ^b
1. Have a written breastfeeding policy that is routinely communicated to all health care staff	14.4	12
2. Train all health care staff in skills necessary to implement this policy	49.7	53
3. Inform all pregnant women about the benefits and management of breastfeeding	92.8	83
4. Help mothers initiate breastfeeding within an hour of birth	50.9	40
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants	89.1	89
6. Give breastfeeding newborn infants no food or drink other than breast milk unless medically indicated	21.5	21
7. Practice rooming-in—that is, allow mothers and infants to remain together 24 hours per day	33.2	48
8. Encourage breastfeeding on demand	81.8	79
9. Give no artificial pacifiers to breastfeeding infants	30.1	33

(continued)

Ten Steps to Successful Breastfeeding	U.S. Figures 2009 (%) ^a	Texas Figures 2009 (%) ^b
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic	26.8	22

^a CDC, 2011b

^b CDC, 2011c

The following provide the evidence-based rationale behind each step, accompanied with information regarding its current level of compliance both nationally and locally.

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

Health care staff that assist a new mother must be unified in the ideology that there is in fact a difference between formula and breastfeeding infants. This unity is facilitated by making breastfeeding support part of a hospital’s formal maternity policy. In this context, “health care staff” refers to all levels of care – administration, physicians, and nurses. Support from all levels is necessary to implement Ten Steps to Successful Breastfeeding (Law & Burnett, 2012). A supportive administrative backing that results in an effective breastfeeding policy translates to better hospital practices and thus more breastfeeding success (Rosenberg, Stull, Adler, Kasehagen, & Crivello-Kovach, 2008). Often breastfeeding policies are written for the primary use of nursing staff, resulting in a mother possibly receiving different advice from her doctor than her nurse (Grizzard, Bartick, Nikolov, Griffin, & Lee, 2006).

According to a study of Massachusetts hospitals, Step One has a lower implementation rate than most of the other steps (Grizzard et al., 2006). Similarly, the

2009 mPINC survey revealed that only 14% of U.S. hospitals comply with Step One, the lowest compliance rate of the Ten Steps (CDC, 2011c). While simply having a written policy was implemented in 69% of a sample of 26 Massachusetts hospitals, only 53% of those hospitals conveyed its existence to staff and patients (Grizzard et al., 2006). Only 14% of hospitals prominently displayed the document for staff and patients to see (Grizzard et al., 2006).

The implementation of any of the other nine steps has been shown to be dependent not only on the existence of a policy, but also the policy's quality (Semenic, Childerhose, Lauzière, & Groleau, 2012). Only 12% of Texas hospitals addressed all Ten Steps in their policies (CDC, 2011c). Policies lose their usefulness when they become outdated, inconsistent, ignored, or when a thorough and accurate policy is not a priority (Semenic et al., 2012). Additionally, hospitals were more likely to limit supplementation when Step One was implemented (Grizzard et al., 2006).

2. Train all health care staff in skills necessary to implement this policy.

Health care providers rank first among sources most trusted by new mothers on parenting topics (Declercq, Sakala, Corry, & Applebaum, 2008), and breastfeeding information (Gau, 2004). Step Two refers to the ongoing training of knowledge and skills of any health care provider with direct maternal contact (WHO, 1998). Ideally, this would include physicians of all relevant disciplines, midwives, lactation consultants, as well as maternity and neonatal nurses. The challenge becomes when mothers are given conflicting information from individual members of their health care team (Sarasua, Clausen, & Frunchak, 2009). Therefore, mandatory uniform training can prevent the

occurrence of a mother being given contradictory information (Wallace, Hughes, Law, & Joshi, 2011).

Currently in most Texas hospitals, there is no standard requirement for mandated continuing education in breastfeeding, and only 53% of Texas hospitals perform any kind of assessments of staff breastfeeding knowledge (CDC, 2011c). In contrast, the continuing education requirement for a registered nursing staff is to fulfill 20 hours every two years, in any discipline, according to the Texas Board of Nursing (Texas Board of Nursing, 2011). Therefore, it is both possible and frequent for an attending nurse to be relying on practices that are either inappropriate or outdated (Bernaix, Beaman, Schmidt, Harris, & Miller, 2010). According to the Texas figures from the 2009 mPINC survey, only 38% of hospitals ideally provided adequate breastfeeding training (CDC, 2011c). Nine percent of Texas hospitals adequately equipped new staff with breastfeeding training, and current staff were given ideal education in 29% of Texas hospitals. Texas ranked 6 out of 52 in the latter category, confirming the low implementation of Step Two (CDC, 2011c).

The quality of the information new mothers receive is directly connected to the staff knowledge base. A 2009 survey of 60 mothers at a hospital's postpartum unit revealed that the importance of exclusivity was communicated to 27% of the mothers (Sarasua et al, 2009). Inconsistent or inaccurate knowledge of breastfeeding benefits contributes to this omission. In a cross-sectional survey of breastfeeding knowledge administered to 241 pediatric nurses, 45% of nurses agreed that formula is a nutritional equal to breastmilk. Many nurses did not know the extent of breastfeeding benefits: a reduction of ear infections (60%), the changing nature of breastmilk to suit the needs of

the age of the nursing baby (47%), and the ability of breastmilk to perfectly meet the infant's needs at any age (41%) (McLaughlin, Fraser, Young, & Keogh, 2011). And yet, nurses are more frequently the primary source of help in regards to breastfeeding problems (Kelleher, 2006).

According to McLaughlin et al., (2011), vulnerabilities in nurses' knowledge include the use of pacifiers, the effect of supplementation on breastfeeding, and ideal expression routines. Although nurses may have varying personal beliefs about the value of breastfeeding, the individual knowledge of breastfeeding support of a nurse is more instrumental than her intentions to provide it (Bernaix, 2000).

Only 51% of U.S. birthing facilities and 53% of Texas birthing facilities responded ideally to questions about their staff training (CDC, 2011c). Other studies have cited Step Two as less implemented among the Ten Steps (Rosenberg, Stull, Adler, Ksehagen, Crivelli-Kovach, 2008). Staff training has been shown to positively influence duration, with increases in maternal breastfeeding both at day two, and at two weeks postpartum (Rosenberg et al., 2008). In a 2006 survey of mothers' postpartum experiences, 34% of mothers experienced a neutral attitude toward breastfeeding from their nurses (Declercq et al., 2006). Nurses with a lower level of knowledge tended to be viewed as unsupportive by mothers (Bernaix, 2000).

Other studies confirm similar outcomes with regard to gynecologists, family practice physicians, and pediatricians. One study found that these providers answered correctly half of the questions posed about breastfeeding knowledge and relied most on their own experiences and personal readings for their knowledge base (Nakar et al., 2007). A sample of 177 primary care physicians concluded that 26% did not recommend

exclusive breastfeeding and cited a number of reasons to wean that are currently not evidence-based (Leavitt, Martínez, Ortiz, García, 2009). There is evidence that pediatricians may have been less committed to supporting breastfeeding, and suggested that obstacles to breastfeeding may outweigh the benefits (Feldman-Winter, Schanler, O'Connor, & Lawrence, 2008).

3. Inform all pregnant women about the benefits and management of breastfeeding.

Step Three assumes that breastfeeding education is a part of a mother's prenatal childbirth education and requires specifically that the mother be told about the benefits of breastfeeding for herself and her baby, as well as basic instruction on milk supply and the significance of rooming-in and feeding on demand (WHO & UNICEF, 1992). If these items have been communicated effectively, a recipient mother should be able to describe at least two management topics.

Typically, this recommendation is one of the most widely implemented of all the steps (Chien, Tai, Chu, Ko, & Chiu, 2007; Rosenberg et al., 2008). Close to 93% of U.S. birthing centers closely adhered to this practice in 2009 (CDC, 2011c). While arguably still adequate, Texas is slightly lacking in that 83% of hospitals offer prenatal breastfeeding classes (CDC, 2011c). In an analysis of one urban hospital seeking Baby-Friendly certification, 58% of women who were breastfeeding at discharge completed a breastfeeding class (DiFrisco et al., 2011).

Approximately half of all pregnant women take at least one childbirth class. Of these women, 87% chose the prenatal education offered by a hospital (Declercq et al., 2006). Although prenatal breastfeeding education has not been significantly associated with duration compared to the other steps, it becomes more relevant when discussing

initiation (Kervin, Kemp, & Pulver, 2010; Persad & Mensinger, 2008). Most women decide whether or not to breastfeed prenatally (Earle, 2002), and the communication of benefits prenatally has been shown to increase initiation rates (Murimi, Dodge, Pope, & Erickson, 2010). Several studies that piloted educational interventions to increase breastfeeding initiation were successful in varying degrees (Faraz, 2010; Ibanez et al., 2012). Prenatal education on the benefits of breastfeeding has been reported to be the most effective independent intervention to increase initiation rates (Ibanez et al., 2011).

Women who were older, multiparous, well-educated, middle or high income, and delivered via cesarean were more likely to receive prenatal breastfeeding information (Chalmers et al., 2009). However, it is the less educated, younger, or lower income women that are less likely to initiate breastfeeding (McDowell, Wang, & Kennedy-Stephenson, 2008; van Rossem et al., 2009). Women who did not take a breastfeeding class were almost five times as likely to receive supplementation at the hospital (Tender et al., 2009). Having little breastfeeding knowledge contributes to their low initiation rates (Semenic et al., 2012), with the most commonly cited reason as being afraid of pain or difficulty (Hurley et al., 2008). The fears and perceptions surrounding breastfeeding, whether substantive or not, form the intention.

4. Help all mothers initiate breastfeeding within one hour after birth.

The World Health Organization recommended “all healthy women and babies should have immediate uninterrupted skin-to-skin care for at least one hour” (WHO & UNICEF, 2009). Skin-to-skin has been defined as laying an unclothed or diapered baby prone on the mother’s bare chest (Puig & Sguassero, 2007). It is important to define skin-to-skin in this manner, and not simply as a mother holding her infant (Chalmers et

al., 2009). A hospital practice that encourages immediate skin-to-skin contact after birth advances optimal breastfeeding. Duration was positively affected in instances of early skin-to-skin contact (Moore, Anderson, Bergman, & Dowswell, 2012; Saloojee, 2008; Chalmers et al., 2009). Breastfeeding at hospital discharge was 83% among mothers who were able to experience early and prolonged skin-to-skin contact (Crenshaw et al., 2012), compared to the national average of one in three mothers (Declercq et al., 2006). The benefits are dose-responsive in that the longer skin-to-skin contact occurred, the more likely a mother was to exclusively breastfeed during her hospital stay (Bramson et al., 2010). This exclusivity has also been found to materialize long after hospital discharge. Mothers of pre-term infants who were allowed early skin-to-skin contact had higher rates of exclusive breastfeeding at six months (Nagai et al., 2011; Declercq, Labbok, Sakala, & O'Hara, 2009).

Skin-to-skin results in better outcomes for maternal well-being (Marín et al., 2009). The postpartum recovery is prompted in part by baby being placed on the mother's bare chest. This touch stimulates the production of oxytocin, the same hormone that causes uterine contractions, prompting the maternal recovery process. Skin-to-skin also promotes mother-child attachment (Conde-Agudelo, Belizán, & Diaz-Rossello, 2011; Saloojee, 2008). Even one year after birth, maternal sensitivity and relational reciprocity were improved for mothers who experienced skin-to-skin contact within two hours after birth (Bystrova et al., 2009). The longer the mother experiences skin-to-skin care, the more her cortisol levels decrease (Handlin et al., 2009), and the lower her postpartum stress levels on day two (Handlin, 2009).

The infant also benefits in several ways. First, skin-to-skin contact regulates the postpartum physiology of the baby. Cardio-respiratory function excelled for babies who received early skin-to-skin contact, as well as higher blood glucose levels (Moore, Anderson, Bergman, & Dowswell, 2012; Saloojee, 2008). Infant temperatures are optimal during skin-to-skin contact (Mori, Khanna, Pledge, & Nakayama, 2010; Saloojee, 2008). The primary exposure to the mother's bacteria, as opposed to the foreign pathogens from health care staff, is beneficial for the infant's flora composition (Rautava, Luoto, Salminen & Isolauri, 2012). A randomized control trial that examined the benefits of immediate skin-to-skin revealed improved motor system functioning and better sleep states among babies in the experimental group (Ferber & Makhoul, 2004). Babies who experienced early skin-to-skin care were simply happier, exhibiting peace and satisfaction (Dalbye, Calais, & Berg, 2011; Saloojee, 2008). The early mother-baby contact for premature infants is especially important, resulting in reductions in infant mortality, infection, hypothermia, and time spent in the neonatal intensive care unit (NICU) (Conde-Agudelo, Belizán, & Diaz-Rossello, 2011).

Newborns go through a series of nine stages of "awakening". When a newborn is allowed to go through all nine stages of awakening at a natural pace, infant self-regulation occurs in an optimal manner (Widström et al., 2011). Assuming mother and baby are not in need of further medical attention, skin-to-skin should begin immediately after birth. Yet current data confirms this happens only 43% of the time for low-risk vaginal births, and in 32% of uncomplicated cesareans (CDC, 2011c). Routine hospital procedures such as weighing the infant or suturing perineal tears can interrupt or delay skin-to-skin contact (Sobel, Silvestre, Mantaring, Oliveros, & Nyunt-U, 2011). These

routine procedures are associated with a hospital's having more difficulty in implementing the Ten Steps (Semenic et al., 2012). According to the Listening to Mothers II survey, routine procedures replaced skin-to-skin contact in 39% of births (Declercq et al., 2006). Only 52% of Texas WIC newborns were placed directly on their mother's chest after birth (TXDSHS, 2009). Nationally, 51% of mothers were able to breastfeed within their baby's first hour (CDC, 2011c).

The role of nurses who are aware of the importance of this event are paramount to making it happen (Matos et al., 2010). And yet, according to a 2011 study, nurses' knowledge of the importance of skin-to-skin contact is limited (McLaughlin et al.), and communicated to only 27% of patients (Sarasua et al., 2009). In a pilot study that incorporated the education of staff on the value of skin-to-skin care and expert mentoring during the skin-to-skin period, rates of skin-to-skin implementation rose 25 points above baseline. Further, nurses' morale improved after the intervention, enjoying the remarkable difference conveyed by mothers and their infants (Crenshaw et al., 2012). Improving rates of skin-to-skin contact will require the understanding and the support from maternity staff (Saloojee, 2008).

5. Show mothers how to breastfeed and maintain lactation even if they should be separated from their infants.

The ability to breastfeed is not wholly instinctive, therefore mothers require assistance in breastfeeding basics (WHO, 1998). Most American mothers (89%) receive simple breastfeeding instruction about how to latch on an infant, the physiology of milk production, and how to express milk. Although that figure is the same for Texas mothers, the state ranks a mediocre 28 out of 52 (CDC, 2011c). Among WIC mothers, the rate is

67%, and only 31% who did not breastfeed at all reported receiving instruction (TXDSHS, 2009).

The content of instruction can be inconsistent. For example, one study found that over 95% of primiparous mothers received information on positioning the infant to breastfeed, but the same was true for 53% of multiparas. Only 31% of all mothers were taught the signs to look for when baby is satiated (Sarasua et al., 2009). Mothers who were educated, middle or high-income, younger or delivered via cesarean were more likely to have been given this instruction (Chalmers et al., 2009).

Inconsistencies in health care provider knowledge, discussed previously, can also be problematic. For example, over half of nurses felt that in the event of mother and baby being separated, the expression schedule should be according to the mother's whim (McLaughlin et al., 2011). This advice conflicts with the recommended practice of frequent breast stimulation to augment supply (Weissinger et al., 2010). A review of 45 studies by Semenic et al. (2012) confirmed that often nurses teach from their own anecdotal experiences rather than the existing evidence. The review also suggested that existing resources were inadequate for the unique needs of culturally diverse or illiterate clientele. Further, the skill of breastfeeding counseling is not always taught to medical personnel (WHO, 1998).

6. Give newborn infants no food or drink other than breastmilk, unless medically indicated.

The nature of milk production is that it directly results from breast stimulation. The use of a supplement, be it formula, glucose water, or water, replaces a potential

nursing session at the mothers breast and can adversely affect her ability to breastfeed, either physiologically, psychologically, or both (Wiessinger et al., 2010).

Consistently, Step Six is one of the least implemented of the Ten Steps (Rosenberg et al., 2008), with a national adherence rate of only 22% (CDC, 2011c). In Texas, 21% adequately comply with Step Six, ranking the state 22 out of 52 (CDC, 2011c). A survey of Philadelphia hospitals reported Step Six as being the least implemented among the Ten Steps (Crivelli-Kovach & Chung, 2011). Although populations of lower income women were equally unlikely to exclusively breastfeed during their hospital stay (TXDSHS, 2009), disparities emerge when subjects are differentiated by race. Non-Hispanic white women who intended to breastfeed exclusively were supplemented at a rate of 40%, while African-American and Hispanic women with the same intent were supplemented at rates of over 70% (Declercq et al., 2009).

Supplementation can significantly impact breastfeeding rates. A primipara is 4.4 times, and a multipara is 8.8 times more likely to meet her breastfeeding goals if her baby has not been supplemented (Declercq et al., 2009). Avoiding in-hospital supplementation has been linked with increased breastfeeding duration at six weeks (DiGirolamo, Grummer-Strawn, & Fein, 2008), eight weeks (Murray, Ricketts, & Dellaport, 2007), and a longer duration in general (Chalmers et al., 2009). The duration of exclusivity is significantly associated with not using hospital formula, and this practice has been found to be an independent determinant of exclusive breastfeeding (Semenic, Loiselle & Gottlieb, 2008).

The use of supplement in the hospital setting occurs more frequently than medical necessity requires (Tender et al., 2009). This happens for a number of reasons. First, mothers who ultimately plan on both breastfeeding and supplementing request the free formula from hospital staff. One study of WIC mothers found that almost all 97 participants requested formula, even if they did not use it at the hospital (DaMota, Bañuelos, Goldbronn, Vera-Beccera, & Heinig, 2012). Second, the practice is more common when the baby is not rooming-in with the mother (Tender et al., 2008). Finally, the limited implementation of the other steps such as skin-to-skin contact, receiving information about the benefits of breastfeeding, and receiving instruction on how to breastfeed, contribute to a mother's inclination to ultimately use formula (Sarasua et al., 2009). If these foundational steps are missed, milk supply may either diminish or perceived to be diminished, and formula is viewed as an immediate solution (DaMota et al., 2012; Murray et al., 2007).

Supplementation has also been found to be associated with the perception of postpartum breastfeeding problems and possible psychological effects (Semenic et al., 2008). The authors suggested that the use of formula may undermine a mother's confidence in her ability to exclusively breastfeed, and that perhaps this is another explanation for the reduced duration rates associated with supplementation.

Almost 70% of nurses in a recent survey were either unsure or unaware that early postpartum supplementation can interfere with breastfeeding (McLaughlin et al., 2011). Health care staff and mothers alike may feel that supplementation is an immediate fix for the often standard fatigue and recovery after childbirth (Heinig, 2010). Existing protocols often lack accountability for the inappropriate dispensation of formula

(Semenic et al., 2012). However, the systematic changes required to reduce supplementation rates remain a barrier to satisfactory implementation of this step (Chien et al., 2006) with larger hospitals having even a more frequent use of supplementation (CDC, 2011b).

The practice of hospitals participating in marketing contracts with formula companies adds to the complexity of this issue. Currently 87% of American hospitals receive free formula to pass on to their clients (CDC, 2011c), and 57% of mothers received free formula in 2008 (CDC, 2008). Studies have shown this practice interferes with rates of breastfeeding exclusivity and duration rates (DiGirolamo et al., 2008). Simply receiving formula marketing materials and coupons during pregnancy reduces a woman's chance of breastfeeding (Kaplan & Graff, 2008).

7. Practice rooming-in--allow mothers and infants to remain together 24 hours a day.

As births more often occurred in hospitals during the twentieth century, babies spent more of their initial days in the hospital's nursery away from the mother (Temkin, 2002). Recent evidence, however, has shown that this practice undermines breastfeeding success (Wiessinger et al., 2010). Therefore, the last several decades have produced a growing trend for rooming-in, or allowing babies to stay with their mothers 23 out of every 24 hours of their hospital stay.

The proximity of mother to baby allows for her quick response to feeding cues. Hearing the sounds of her baby stimulates the maternal oxytocin response, and the resulting milk production (Teng, Su, Yang, & Chang, 1995). As previously described, frequent nursing is important for a mother's supply and infant weight gain (Wiessinger et al., 2010). The practice of rooming-in has been proven to encourage almost twice as

many feedings as when baby is elsewhere, even if it is an adjacent room (Gettler & McKenna, 2011). Further, the interval between feedings among rooming-in infants was significantly shorter (Gettler & McKenna, 2011). If a mother and baby do not share a room at the hospital, a shorter exclusive breastfeeding duration is more likely (Chalmers et al., 2009). Rooming-in also serves as a protective effect from early weaning (DiGirolamo, 2008). Murray, Ricketts, and Dellaport (2007) found significant link between rooming-in and breastfeeding rates at eight weeks. Although there is some discussion whether the value is truly in regards to rooming-in, or simply having the baby brought to the mother to feed at night (DiGirolamo et al., 2008).

A comparison between mothers who practiced rooming-in and those who did not revealed that the rooming-in mothers experienced over four times as much infant contact as the control group (Watters & Kristiansen, 1995). The results of subsequent maternal questionnaires confirmed an increased sense of confidence in regards to the ability to care for the infant, as well as more satisfaction with the time spent with the infant.

A 2011 article cited the amount of time babies and mother spent together as a consistently vulnerable area of Ten Steps implementation (Crivelli-Kovach & Chung); only 33% of U.S. hospitals are reporting an ideal response to the practice (CDC, 2011b). Currently, this practice is implemented at night by 73% of Texas hospitals, and only 48% around the clock, ranking the state 23 out of 52 (CDC, 2011c). Among low-income WIC mothers, nighttime rooming-in occurred in only 58% of births, but full implementation was at 53% (TXDSHS, 2009). An analysis of demographic factors on non-NICU infants identified mothers who were below age 19, less educated, low income, primiparous, or who underwent a cesarean delivery were less likely to room in with their babies

(Chalmers et al., 2009). It is unclear what factors contributed to the lower implementation rate among this population.

A hospital's facility limitations to provide 24-hour rooming-in are one possible barrier (Semenic et al., 2012). Often it is the parents who expect the use of the nursery (McKeever & Fleur, 2012), and hospitals may feel pressured to offer the nursery to meet the maternal demand (Semenic et al., 2012). During her hospital stay, a mother is interrupted by hospital staff and visitors an average of 53 times during the hours of 8am and 8pm (Morrison & Ludington-Hoe, 2012), which compounds her sense of fatigue. Interestingly, the availability of rooming-in still does not compensate for the benefits lost if skin-to-skin contact was not given (Bystrova et al., 2009).

8. Encourage breastfeeding on demand.

The intervals between feedings for human beings are unlike other mammals whose mothers are forced to leave their babies to search for food. For example, the fat content of whale milk is over 50% (Bauman, Griinari, & Mikko, 2003), compared with less than 4% in human milk (Dewar, 2008). Therefore, proponents of on demand feeding claim that human infants are supposed to feed continuously. Historically, on demand feeding has been the norm across global cultures (Nelson, Schiefenhoevel, & Haimerl, 2000). The practice of demand feeding is described as mothers breastfeeding according to their infants' feeding cues—rooting, sucking, and being in a light sleep state. However, feeding patterns changed over the last century. As more women gave birth in hospital settings, having scheduled feedings, as opposed to infant-prompted feedings, gradually became the norm (Temkin, 2002). This pattern also fit with more Westernized

lifestyles that value convenience and placed value on getting a baby to sleep through the night (Ball & Klingaman, 2008).

However, this approach is not conducive with exclusive breastfeeding and can adversely affect a mother's milk supply. Infants who were fed on demand were 2.6 six times more likely to be exclusively breastfed at one month of age (Koosha, Hashemifesharaki, & Mousavinasab, 2008). The authors concluded that the nature of on demand feeding is conducive for getting breastfeeding established in an optimal manner. The positive association of on demand feeding and exclusivity has also been established in other studies (Al-Kohji, Said, & Selim, 2012). Chalmers et al. (2009) cited on demand feeding as one of the steps that can negatively affect a woman's duration if it is overlooked.

Feeding on demand serves two important additional functions. Because babies grow in spurts, bouts of frequent nursing are not uncommon and are necessary to build the mother's milk supply (Wiessinger et al., 2010; Dewar, 2008). These growth spurts often require that a mother abandon a rigid schedule to accommodate her baby's increasing demand. Also, breastfeeding often is not about nutrition, but rather, comfort. A meta-analysis of 11 studies that examined breastfeeding's potentially calming effects confirmed the positive physiological effects of breastfed infants versus bottle-fed infants (Shah, Aliwalas, & Shah, 2007).

Fortunately, it seems that this step is one of the more frequently implemented of the Ten Steps to Successful Breastfeeding (Semenic et al., 2012). Nationally, 77% of birthing centers encourage mothers to feed their babies on demand (CDC, 2011b). Although several smaller states achieved a 100% implementation rate in 2009 (Delaware,

D.C., Rhode Island, and Vermont), 79% of Texas hospitals teach feeding cues to their clients, ranking the state 36 out of 52 (CDC, 2011c). In a Texas Department of State Health Services survey of WIC clients, the percentage of women drops to 61%, possibly indicating a disparity of care (TXDSHS, 2009).

Parity also contributed to a discrepancy of care. Among U.S. hospitals that practice encouraging on demand feeding, the participation rates were 69% of primiparous mothers and 87% of multiparous mothers (Declercq et al., 2009; Chalmers, et al., 2009). In addition, vaginal delivery, highly educated, and middle income or higher mothers were more likely to feed on demand (Chalmers et al., 2009).

In a survey of pediatric nurses' breastfeeding knowledge, 72% correctly marked that on demand feeding was the best feeding regime, a high mark amongst other facets of breastfeeding knowledge (McLaughlin et al., 2011). Step Eight is consistently seen as one of the more frequently implemented steps. A 2009 survey of maternal postnatal hospital experiences reported that 80% were encouraged to breastfeed on demand (Declercq et al., 2009). The study also showed that this is especially crucial for multiparas, being one of only two steps that were significantly associated with a mother meeting her breastfeeding goals.

9. Give no artificial teats or pacifiers.

Despite varying opinions of their risks and benefits, pacifiers or artificial teats have been a much-utilized tool for soothing crying babies as early as minutes after birth (Jenik & Vain, 2009). Currently, approximately 44% of babies receive a pacifier in the hospital (Declercq et al., 2006). In 2009, only 30% of hospitals adhered to the Ten Steps recommendation to limit pacifier use for healthy infants (CDC, 2011b), and in that same

year, 73% of Texas mothers were given a pacifier during their hospital stay (TXDSHS, 2009).

The negative association between pacifier use and breastfeeding duration was significant in one study (Moimaz, Rocha, Garbin, & Saliba, 2011), and confirmed in several more (Scavone-Jr., Guimarães-Jr., Ferreira, Nahás, & Vellini-Ferreira, 2008; Gerd, Bergman, Dahlgren, Roswall, & Alm 2012; Kronborg & Vaeth, 2009), including one meta-analysis (Karabulut, Yalçin, Ozdemir-Geyik, & Karaağaoğlu, 2009). Weaning at three months was strongly associated with frequent pacifier use (25%) versus no pacifier use (13%) (Kramer et al., 2001). Further, mothers who used pacifiers more than two hours a day reported more breastfeeding problems (Righard & Alade, 1997). This was disputed by other studies that concluded there are no differences in breastfeeding outcomes (Jaafar, Jahanfar, Angolkar, & Ho, 2012; O'Connor, Tanabe, Siadaty, & Hauck, 2009). However, it is important to note that there is a distinction between early and late pacifier use—it seems to be acceptable at day 15 (Jenik, Vain, Gorestein, & Jacobi, 2009). Early pacifier use has also been shown to be positively associated with non-breastmilk supplementation (Giugliani, do Espírito Santo, de Oliveira, & Aerts, 2008). A woman's chance of exclusively breastfeeding was 2.6 times less likely if she used a pacifier within the first year (Koosha et al., 2008), and other studies have confirmed that a pacifier negatively affects exclusivity (Declercq et al., 2009).

The use of artificial teats has also been shown to correlate with lower breastfeeding rates (Schwartz & Guthrie, 2008). Weaning has been associated with introducing bottle-feeding to the infant (Camurdan et al., 2008), although there is mixed thinking as to whether it is the bottle, formula, or missed nursing session that causes the

premature weaning (Hargreaves & Harris, 2009). The flow of milk from a bottle requires less effort from the baby, and may cause the mother to diminish her supply if she does not express her milk in addition to the bottle-feeding (Wiessinger et al., 2010).

The proponents of limiting pacifiers cite several reasons. First, a naturally occurring gastrointestinal hormone called cholecystokinin is associated with fewer sucking movements in a newborn (Marchini, Persson, & Uvnäs-Moberg, 1993). This hormone is produced when the infant is nursing, making the baby feel fatigued and satiated (Wiessinger et al., 2010). Active sucking on a breast – or a pacifier – will produce the same results. Ultimately, the baby will be less interested in nursing after the early use of a pacifier, with possible negative effects such as low weight gain and diminished maternal milk supply (Wiessinger et al., 2010). Riordan and Wambach (2010), confirmed that frequent pacifier use translated to fewer breastfeeding sessions.

Suboptimal breastfeeding behaviors such as poor sucking have been associated with pacifier use (Dewey, Nommsen-Rivers, Heinig, & Cohen, 2003). These sucking problems are magnified if the pacifier is introduced in the first few days of life (Wiessinger et al., 2010). A shorter sucking duration during an individual feeding was also found in connection with pacifier use, and increased as the frequencies of pacifier usage increased (Aarts, Hörnell, Kylberg, Hofvander, & Gebre-Medhin, 1999). WHO maintains that pacifier use either causes or adds to an infant having a poor sucking skills (WHO, 1998).

The American Academy of Pediatrics (AAP) recommends that pacifiers not be given to infants until one month of age (Gartner et al., 2005). Research has proven that

pacifiers may be a protective factor against SIDS, but that it still should not be used until breastfeeding is well established (Gartner et al., 2005; Sexton & Natale, 2009).

Pacifier use in the maternity setting is negatively associated with a mother fulfilling her breastfeeding goals (Declercq et al., 2009). However, less than half of nurses are aware that pacifiers can cause nipple confusion (McLaughlin et al., 2011; Al-Sahab, Feldman, Macpherson, Ohlsson, & Tamim, 2010). Among first-time mothers surveyed in a study in Australia, 47% received pacifiers from nurses (Mauch, Scott, Magarey, & Daniels, 2012). It is important to note, however, that in a majority of those instances (79%), mothers requested the pacifiers. Only 33% of Texas hospitals agreed with the statement that staff rarely gave pacifiers to their clients (CDC, 2011c). Mothers were 2.3 times as likely to meet their breastfeeding goals when nursing staff did not offer them pacifiers (Declercq, et al., 2009). One study suggested that some nurses believe a pacifier is appropriate for an infant with a “strong suck” (Weddig, Baker, & Auld, 2011). However, when mothers received personal postpartum breastfeeding support, pacifier use decreased (Kronborg & Væth, 2007). This step was one of the last of the Ten Steps to be implemented according to a survey of Massachusetts hospitals (Grizzard et al., 2006).

10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Hospital maternity staff should either refer mothers to existing support contacts in her community, or offer the hospital’s own follow-up program for extended support after discharge (WHO & UNICEF, 1992). Ideally, a list of breastfeeding resources is included in the mother’s hospital discharge packet. Within these parameters, breastfeeding support occur from peer or professional sources. Peer resources include La Leche

League and other non-profit support groups that provide mother-to-mother support. Professional possibilities may be in the form of follow-up support from a International Board Certified Lactation Consultant, physician, nurse, or WIC counselors (Dodgson, Allard-Hale, Bramscher, Brown, & Duckett, 1999). The use of peer or professional sources have been shown to increase breastfeeding duration and exclusivity (Renfrew, McCormick, Wade, Quinn, & Dowswell, 2012; Murray et al., 2007). Step Ten has also been shown to be positively linked with a woman's ability to meet her breastfeeding goals (Declercq et al., 2009).

The relevance of Step Ten lies in the fact that most breastfeeding problems occur after discharge, when lactogenesis occurs (Brand, Kothari, & Stark, 2011). Studies show that at this point, a mother assumes full responsibility for the feeding of her child and is either reluctant or diminishes the importance of calling for help (Hoddinott, Craig, MacLennan, Boyers, & Vale, 2012). Initiations by health care staff, either by calling or visiting, have been shown to significantly increase durations (Meyers & Turner-Maffei, 2008; Hoddinott et al., 2012). However, according to DiGirolamo et al. (2008), support referrals were not shown to significantly associated with breastfeeding duration.

Compliance with Step Ten is not ideal in most American hospitals, with a 2009 rate of 27% (CDC, 2011b). This is consistent with other studies that cite a lower implementation of this step (Chien et al., 2007). That same year, Texas had a 22% compliance rate, ranking the state 29 out of 52 (CDC, 2011c). In a 2006 study, only 55% of mothers actually utilized post-discharge support (Lewallen et al.). Texas WIC mothers received a list of support phone numbers in 59% of those surveyed (TXDSHS, 2009).

However, older, educated, higher income, primiparous or cesarean mothers were more likely to receive information about breastfeeding support (Chalmers et al., 2009).

As described previously, the most common reason that mothers stop breastfeeding is perceived low milk supply (Hurley et al., 2008; Gatti, 2008). However, physiologically, most women have the ability to produce the milk their babies need (Woolridge, 1996), and often the real problem is due to poor breastfeeding support (Wiessinger et al., 2010). This disconnect implies the value of postpartum support that offers maternal confidence and accurate information regarding the production of milk.

Conclusion

Given the relevance of hospital practices to current U.S. breastfeeding patterns, it is necessary to focus on the individuals who are responsible for the implementation of those practices. Therefore, this thesis attempts to name and categorize nurse attitudes towards implementing the Ten Steps to Successful Breastfeeding.

CHAPTER THREE

Methodology

Introduction

The aim of this study was to determine the perceptions of hospital nurses at one Central Texas urban hospital at the onset of implementing the Ten Steps to Successful Breastfeeding. The study included collecting data about the nurses' feelings regarding value and feasibility of the hospital being certified by the Texas Department of State Health Services' Texas Ten Step program. The study design was based on a descriptive observational methodology involving nurses at multiple skill levels involved in labor and delivery and maternity care at a single Central Texas hospital.

Research Questions

With regards to nurse perception of the Ten Steps to Successful Breastfeeding, the methodology was designed to answer two specific research questions:

1. What are nurse perceptions and beliefs of the Ten Steps to Successful Breastfeeding?
2. Among nurses, what are the perceived benefits and barriers of implementing the Ten Steps to Successful Breastfeeding?

Delimitations

Several factors were used as exclusion criteria in the selection of participants. First, participants must be over the age of 18 years. Second, participants must speak English. Third, only current employees of PHN were eligible for participation. Among

those employees, only nurses were solicited to participate. Fourth, participants must be in direct contact with mothers and/or newborns within the Labor and Delivery or Postpartum units of PHN.

Study Design

Participants

The study protocol was granted approval by the Investigative Review Boards of Baylor University (IRB # 347346-2) and Providence Healthcare Network (PHN). All participants will sign an informed consent form before data collection begins.

A total of six PHN nursing staff were recruited on a convenience basis to participate in a focus group located at the PHN campus. The hospital's Director of Labor and Delivery helped to solicit nurses via email, and a meal was served during the focus group event. Recruitment criteria consisted of current employment status at PHN, the ability to speak English, and being at least 18 years of age. The sample's professional nursing qualifications was comprised of Bachelors of Nursing (BSNs), Certified Surgical Technologists (CSTs), Licensed Vocation Nurses (LVNs), Registered Nurses (RNs), and Certified Registered Nurses (RNCs). The various certifications are occupied within various functions of maternal and infant health, including labor and delivery, pediatrics, nursery, operating room, obstetrics, postpartum, and neonatal intensive care unit. These functions are classified in either the Labor & Delivery or Postpartum departments of Providence Hospital. See Figure 1 for the sample's qualifications composition.

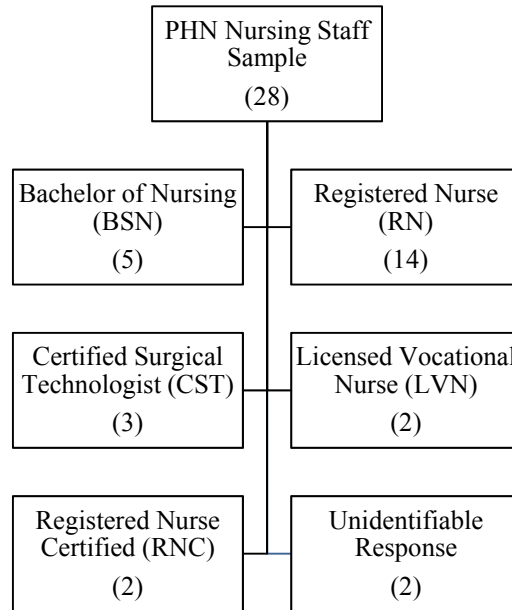


Figure 1

Sample Professional Composition Among PHN Nursing Staff

Incentives

In order to encourage nurse participation, certain incentives were included in the study design and subsequently approved by the Investigative Review Boards of both PHN and Baylor University. First, all nurses were compensated for their time spent participating in either the focus group or the online survey by being paid according to their regular hourly wage. This incentive was voluntarily offered by the PHN management in exchange for the Primary Investigator's assistance in the Texas Ten Step certification.

Next, each attendee of the focus group was promised and subsequently delivered a gift card in the amount of \$20. At the onset of the focus group, the attendees wrote their names and addresses so the gift card could be mailed at a later date. Those names and addresses were stored separately from all questionnaire data collected. The

respondants of the online questionnaire were offered \$10 gift cards as an incentive for participation. At the conclusion of the survey, a text box gave the respondent the opportunity to enter a name and mailing address, with the assurance that this information will be destroyed after the gift card is mailed. The item also reiterated that this aspect of the survey was optional.

Instrument Development

An instrument consisting of 6 demographic and 12 perception questions was designed based on the Ten Steps to Successful Breastfeeding to be used for the focus group and the online survey. (See Appendix A for data collection instrument.) Pre-validity and reliability were established using an expert panel who provided feedback on instrument improvement and relevance. The expert panel consisted of five individuals who each have a great deal of experience both in lactation practice and published lactation research:

1. Dr. Susan M. Landers has over 30 years experience as a neonatologist, currently providing care at Seton Medical Center in Austin, Texas. She was awarded a fellowship of the Academy of Breastfeeding Medicine as evidence of her excellence in breastfeeding knowledge and skills. She currently serves as an Executive Committee member of the American Academy of Pediatrics (AAP) Breastfeeding Committee. The AAP is the primary source of evidenced-based pediatric recommendations for American practitioners.
2. Dr. Jeannette Crenshaw is a Doctor of Nursing Practice who teaches as a Assistant Professor at the Texas Tech University Health Sciences Center School of Nursing. Dr. Crenshaw was recently inducted as a Fellow of the American

Academy of Nursing. This honor is given by invitation only to individuals who are nationally recognized leaders in the field of nursing research, practice, and education. Dr. Crenshaw also currently serves on the United States Breastfeeding Committee (USBC), a national organization that unites government, non-government and health care organizations to address breastfeeding protection and promotion at the federal level. The USBC position is appointed by the organization's Board of Directors and functions in an advisory capacity.

3. Janet Rourke, MSHP, is a former board member of the Mothers Milk Bank in Austin, one of only two breastmilk donation centers in Texas. She has also written several breastfeeding books both for lay and academic use and currently works as Acquisitions and Copy Editor at Hale Publishing, a leading distributor of breastfeeding materials.
4. Gail Gresham, MPH, IBCLC, is an International Board Certified Lactation Consultant who serves on the Board of Directors of the Mothers Milk Bank. Ms. Gresham is the current President of the Central Texas Healthy Mothers Healthy Babies Coalition, an organization whose mission is to improve the health of families through breastfeeding education, advocacy, and interorganizational collaborations.
5. Dr. Eva Doyle, Ph.D., is the current director of Baylor University's Graduate Public Health program. Her substantial contributions to peer-reviewed literature have focused on community-based participatory research, qualitative data methodologies, effective health communication techniques, and have advanced the methods of teaching and professional development. In addition to her

accolades as a university professor, she currently serves as a member of the Board of Trustees for the American Society of Public Health.

Procedure

To begin, the scores of the hospital's 2009 National Survey of Maternity Practices in Infant Nutrition and Care survey (mPINC) were analyzed (CDC, 2011). Conducted every two years, this assessment of maternity care practices and policies focuses on a hospital's delivery of postpartum breastfeeding assistance. The hospital's mPINC results were used in discussion with the Director of Labor and Delivery and lactation consultants to promote dialogue regarding possible areas for improvement.

Concurrent with these discussions, a single focus group of six nurses was conducted at the onset of the project implementation. Prior to the focus group event, nursing staff were made aware of the hospital's plan to improve their breastfeeding support, as well as the broad aspects of its implementation. This data collection was a one-time event, and discussions were recorded and transcribed. All participant identities remained anonymous during the data collection process.

The focus group was conducted in a training room within the Labor and Delivery unit of the hospital. The primary investigator served as the facilitator and provided a catered meal at no cost to the participants. As each of the six nurses arrived, they were given informed consent forms to read individually and sign if they agreed. All participants signed the waiver of informed consent, and they were collected in an envelope. Next, each participant supplied her name and address on a separate document that was later used to distribute the gift card incentive. Next, the demographic portion of the data collection instrument, which consisted of six questions, was disseminated for

participants to complete in written form. All participants answered all six questions and subsequently placed their surveys in an envelope. This instrument did not require any identifying personal information. A copy of both the PHN and Baylor University Investigative Review Board approval letters were also available for viewing, but no one requested to view them. The facilitator then began the audio recording and commenced the focus group by reminding participants that responding to any of the questions was optional, and that they were free to leave at any point. The focus group lasted one hour and ten minutes.

Existing staff shortages, coupled with the longer time commitment required for focus group participation, seemed to make participation in the study difficult. During the process of nurse recruitment for the focus group, it became evident that offering a second form of data collection may increase the response rate of nursing staff. This additional methodology was justified on the grounds that it would yield more participants, thus making the data more useful. Therefore, the focus group questions were adapted verbatim within an online survey format using the Qualtrics survey program.

Although both methodologies used the same data collection instrument and were qualitative in nature, it is important to acknowledge that there exists a potential for bias in a focus group setting that is not relevant with an online survey. Within a focus group, one individual's responses may indirectly influence the thought process and subsequent response of another individual, a situation that is obviously not relevant with a solitary online survey. However, the potential value and cohesion of responses from both methods collectively was considered feasibly useful. After considering the possible

limitations, the conceivable value of expanding the data yield justified the aggregation of responses into one analysis pool.

Approximately one month after the focus group, all PHN nurses associated with maternity and infant care were forwarded a link to the online survey, which consisted of the exact same questions used in the focus group. The survey began with the same six demographic questions, and were followed by the 12 perception questions. Respondents were able to answer the open-ended questions within a limitless text box format. The survey was available for staff access for ten days upon receipt of the initial email. A total of 24 nurses responded to the survey.

The specific questions began with the nurses' awareness of the Texas Ten Step program. Sample questions included "What are the benefits of Texas Ten Step recognition?" and "What might be the challenges of Texas Ten Step recognition?" The remainder of the questions was comprised of the individual steps involved in the implementation. "Are you familiar with Providence's official breastfeeding policy?" and "Do you feel confident about teaching cue-based breastfeeding to mothers?" are two example questions. (See Appendix A for data collection instrument.)

Data Analysis

The author formed a research team based on the data collection requirements of the project. First, a Research Assistant was employed to facilitate transcription services. Second, a Research Analyst was recruited to help with data analysis. The analyst was a Master of Public Health (MPH) graduate student and departmental colleague of the author. Knowledge of qualitative data analysis was a requirement of the Research Analyst.

The nurse focus group was audiotaped and transcribed by the author and the Research Assistant. The transcription of the focus group and survey responses were analyzed using a qualitative themes analysis technique. This methodology identifies repetitive phrases used by participants via a computer program (Nvivo) and isolates them for further investigation. After multiple readings of the focus group text, patterns of phrasing and words were categorized according to like subjects. These categories were not predetermined, but rather emerged as dictated by the participants' responses. A reflection of the categories rendered the broad themes that resulted from the process.

The author and the Research Analyst each read the transcripts individually and identified themes and subthemes throughout. These themes and subthemes were compared between the author and the Research Analyst, and consensus was reached to validate response themes. At that stage, the conclusions were used for exploratory purposes of facilitating this project and others like it.

CHAPTER FOUR

Results

Introduction

The purpose of this study was to examine the perceptions of hospital nurses at the onset of implementing the Ten Steps to Successful Breastfeeding. Specifically, the intention was to answer two research questions: 1) what are nurse perceptions and beliefs of the Ten Steps to Successful Breastfeeding, and 2) among nurses, what are the perceived benefits and barriers of implementing the Ten Steps to Successful Breastfeeding? Qualitative data was collected at two points utilizing a single focus group and an online survey. Responses from both methodologies were aggregated in order to increase the data yield, and thus the potential value of the results. Consideration was made regarding possible response bias and the collective influence that can occur during a focus group, versus the individual nature of the solitary completion of an online survey. However, the decision to combine the response data from both methodologies was justified based on the worth of expanding the response pool. Responses were coded using Nvivo analysis software and examined for themes pertaining to the research questions. Themes were subsequently classified into categories by the primary investigator. A research assistant with prior training in qualitative analysis examined the focus group transcript and the survey responses to determine response themes. The conclusions reached by the research assistant were compared alongside the conclusions

made by the primary investigator. Similar conclusions were validated through this process of confirming thematic results.

Participant Variables

Participants of both the focus group and online survey were required to meet certain criteria to be eligible for inclusion in the study including: 1) All respondents were current employees of Providence Hospital, and 2) either worked in the Labor and Delivery (LD) unit or the Postpartum (PP) unit. The questions were administered in English

Study Participants

Recruitment emails that requested voluntary participation from staff in either a focus group or the online survey were sent to 74 nursing employees of Providence Hospital. The recruitment emails were determined based on an existing set of distributions lists containing employee emails for all nursing staff in the LD and PP units. Initial emails using this preset distribution list were sent personally by the Director of Labor & Delivery. A total of 28 individuals of various levels of certification agreed to participate, yielding a response rate of 38%. Six individuals attended the focus group, and 24 individuals completed the online survey. Two participants participated in both the focus group and the online survey. Their survey responses were eliminated from analysis so as to avoid duplicate responses.

Among the participants were five Bachelors of Nursing (BSN), 14 Registered Nurses (RN), two Registered Nurses with a specialty certification (RNC), two Licensed Vocational Nurses (LVN), and three Certified Surgical Technologists (CST). Two

responses to this question were not identifiable. Among the two hospital departments, 19 attendees worked in LD, and nine attendees worked in PP.

Results

The mean age of the study participants was 37.9 years (SD=13), with ages ranging from 23 to 62 years old. The mean number of years of employment as a nurse was 13.1 years (SD=11.9), and the mean number of years working in maternal or infant care was 10.6 years (SD=9.9). Among the 28 participants, 23 had personally given birth, and 21 of those breastfed at least one of their children. The longest period they breastfed any one of their babies was a mean of 10 months (SD=8.5).

Responses from both the focus group and the online survey were aggregated and coded based on recurring themes using Nvivo analysis software. The following section reflects nursing staff perceptions of implementing the Ten Steps to Successful Breastfeeding (“Ten Step”). (See Figure 2 for a summary of the key findings.)

Preliminary Ten Step Knowledge

From the responses of both the focus group and the online survey, it was evident that nursing staff were unfamiliar with the Texas Ten Step certification program. Over 64% of participants had never heard of the concept before the hospital’s Director of Labor & Delivery sent a program announcement email. The remaining nurses tended to associate the program with encouraging and assisting mothers with breastfeeding, thus increasing a hospital’s breastfeeding success. Nurses familiar with the Ten Steps typically cited one or two of the Ten Steps in their descriptions. Among the steps most

commonly referred to were skin-to-skin contact, staff education, having a written policy, and limiting supplementation and pacifier use.

Perceived Benefits of Ten Step Recognition

A majority of nurses felt that receiving Texas Ten Step recognition had the potential to result in one of four outcomes. First, implementing the Ten Steps would materialize with increased patient satisfaction and support for mothers. Second, several nurses cited the *bonding* between mothers and their babies as an important benefit of becoming a Ten Step hospital. Third, the hospital could enjoy the good *publicity* and increased client traffic due to a Ten Step recognition. They classified the Ten Step recognition as a public relations opportunity. Finally, more people would become aware of the benefits of breastfeeding, and this awareness could permeate into the community.

In regards to the last point, all nurses agreed that breastfeeding promotion was in fact a responsibility of the hospital. The sentiment was that if the hospital did not function as a breastfeeding promoter, then the community might experience a void of support and awareness. Several responders maintained that promotion in the hospital setting could possibly stimulate more tolerant employers of breastfeeding mothers.

Nurse Perceptions of the Ten Steps to Successful Breastfeeding

Nurses were asked to express their opinions about specific aspects of the Ten Steps. Their responses are grouped into two parts—perceptions specific to the merits of the Ten Steps, and views about the hospital’s current practices in relation to the Ten Steps.

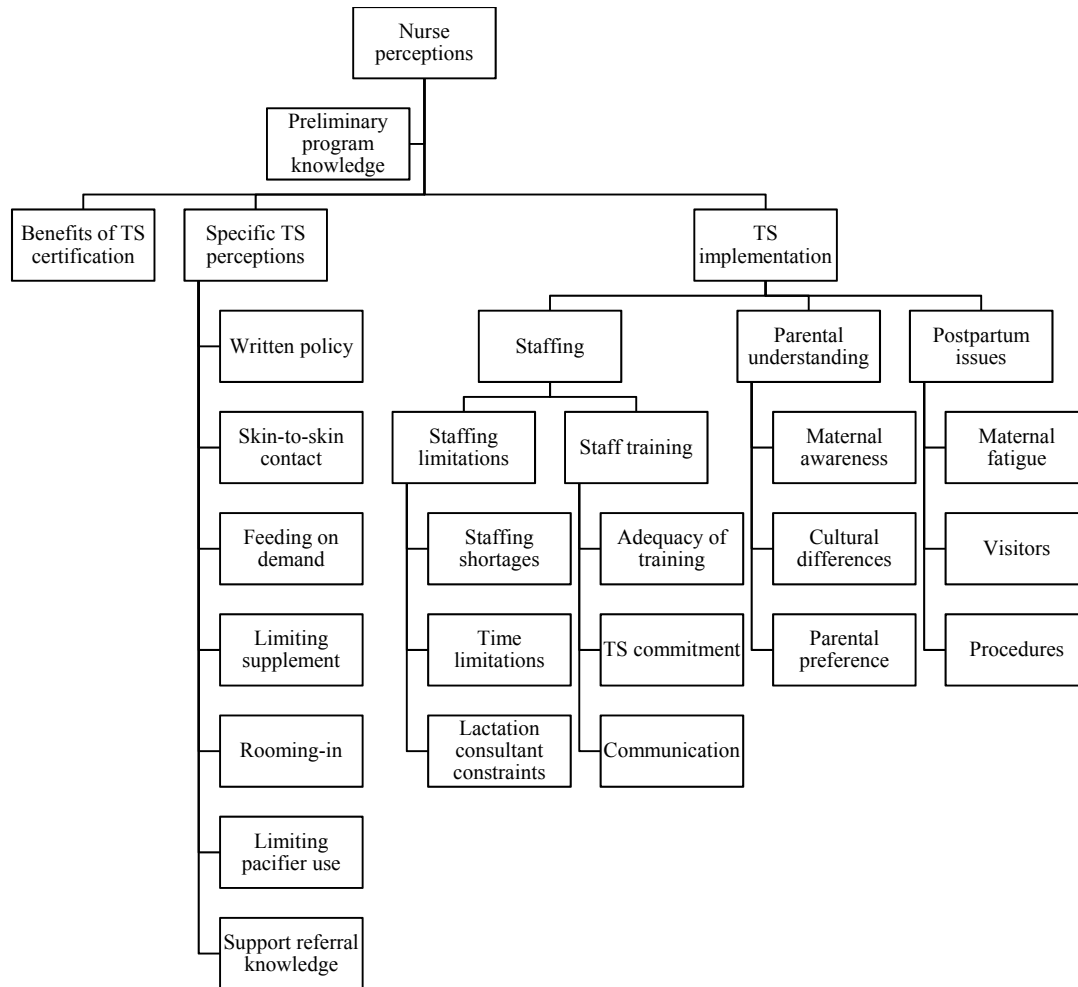


Figure 2

Results Summary

Perceptions of Specific Steps

Written policy. Nursing staff were asked what they knew about the hospital's breastfeeding policy. Seven out of 28 nurses (25%) were not aware that any such policy existed. The remainder of responses had language reflecting that the policy centered on breastfeeding promotion. The phrase to "actively support breastfeeding" was a re-occurring sentiment. Most responses referred to this general line of thinking in their answers. This view was extended by some to provide maternal support and patient education, as well as staff training. Six nurses (21%) cited the initiation of skin-to-skin contact specifically as part of the hospital's written policy. There was, however, variation as to how soon the skin-to-skin contact should occur—anywhere from "as soon as possible" to three hours after birth. The only other particular Ten Step that was reflected in responses was the policy for nurses to give a visual assessment of a breastfeeding mother. Again, however, the timeline for this assessment to occur was either not mentioned or ambiguous in the responses.

Skin-to-skin contact immediately after birth. When asked about putting a newborn skin-to-skin with the mother within an hour of birth, most nurses (89%) responded positively about the practice itself. Only three respondents (11%) described skin-to-skin contact as ideal, but otherwise not very important. Generally, the nursing staff responses suggested that skin-to-skin contact was very important for several reasons. Half of the participants specifically used the word "bonding" in justifying skin-to-skin. It is interesting to note that no other word, (e.g. "attachment" or "closeness") was used to describe this concept, only "bonding". Skin-to-skin contact was also viewed as a

contributing factor for breastfeeding success. This belief has been confirmed in recent literature (Moore, Anderson, Bergman, & Dowswell, 2012; Crenshaw et al., 2012). Finally, nurses often stated that neonatal wellbeing is optimized when skin-to-skin contact occurs. This theme emerged into two ideas: a) initial infant temperature regulation, and b) seizing the opportunity to breastfeed before the baby becomes too sleepy. Only two participants cited maternal benefits that skin-to-skin contact provides-- increased prolactin levels and reduced maternal anxiety.

Feeding on demand. Views were less in agreement when asked about the practice of breastfeeding a newborn on demand rather than on a set schedule. Less than half of nurses were enthusiastically in favor of feeding on demand (39%). Increased milk supply, better ability to meet the infant's needs, and ultimately increased breastfeeding success were given as benefits of cue-based feeding. Many of the responses, however, were concerned about possibility that relying on this method may cause the infant to go too long without eating. While most thought that feeding on demand was a good practice in theory, their answers reflected a sentiment that there exist a number of exceptions. One such example was the belief that problematic newborns require a more scheduled feeding cycle. Specific reasons cited for this included blood sugar regulation, low birth weight babies, and the possibility of missing feeding cues due to a "sleepy baby". According to the responses, schedules provide stability and should be used during breastfeeding difficulties.

Limiting supplementation. Similar to the previous step, nurse responses generally reflected a conditional approach to supplementation. Less than half of the responses

(46%) fully agreed with the recommendation to supplement only in instances when there is a medical indication. The remaining responses included a variety of exceptions and conditions that might exempt the recommendation. First, responses revealed the idea that some newborn temperaments are best served with bottle-feeding. In other words, they seem to simply prefer the bottle to the breast. Second, supplementation in cases of insufficient milk supply was deemed acceptable. Third, certain medical indications mandate the use of supplementation. These medical indications were defined as jaundice or simply when there was “a need” for formula. Finally, supplementation was also viewed as a sort of problem solver. The bottle could be used to fix breastfeeding issues in the short-term, in order to preserve breastfeeding in the long-term. Similarly, bottle-feeding was viewed as a mechanism to “preserve mom’s sanity” in the short-term.

Rooming-in. The nursing staff responses reflected a significant level of support (93%) for the concept of mothers rooming-in with their newborns. The benefit of bonding was a consistent theme of the responses. In addition, answers reflected support for the idea that it is a good learning experience for the parents. Mothers are able to become educated about feeding cues and to feel more competent about returning home with their newborn. The only dissenters (7%) maintained that the need for a mother to rest should be considered.

Limiting pacifier use. Views surrounding the Ten Step of limiting pacifier use were divided amongst the nursing staff. Responses reflected a theme that best practice should first give accurate information to parents, but that parents should be able to request pacifiers once they have the information to make that decision for themselves.

Seven participants (25%) explicitly stated that this decision should not be made by the health care provider, but by the parent. Several of these responses elaborated that ideally a parent should be educated about the risks, and then the decision should be theirs to make.

A recurring perception was the feeling that some babies are born with a strong sucking reflex, and that pacifiers can be a useful tool for these babies. Further, there was language of offering respite to a mother whose baby continually wants to nurse. The elimination of pacifiers “works for some, but not all.” The use of pacifiers was specifically described as beneficial by 14% of participants. Ten participants (36%) were not aware that the practice of restricting pacifiers was routine practice at their hospital.

Support referral knowledge. Nursing staff were asked as to which breastfeeding support resources they commonly refer to mothers. The hospital’s single lactation consultant was the most common answer, with 82% including her in their responses. The hospital provides a discharge packet, which includes handouts to troubleshoot basic breastfeeding problems accompanied with a list of breastfeeding hotline phone numbers and websites. Among the 28 participants, 16 (57%) cited this packet as a referral resource. La Leche League, a non-profit mother-to-mother support group, was also mentioned, albeit infrequently, as a referral resource. Three out of the 28 respondents did not know any resources to which to direct mothers.

Barriers to Implementing the Ten Steps to Successful Breastfeeding

When participants were asked about aspects of implementing the Ten Steps to Successful Breastfeeding, answers reflected their views about the benefits and barriers of

executing the steps at their hospital. The themes that emerged related to one of three subjects: Staffing, Parental Understanding, and Postpartum Procedures.

Staffing

Nurse perceptions regarding staffing issues were categorized into two distinct themes—staffing limitations and staff training.

Staffing limitations. Responses pertaining to staffing limitations were categorized into three distinct issues—staffing shortages, time limitations, and lactation consultant constraints. These ideas centered on the burden caused by limitations in both available staff and time.

Staff shortages were reported as a significant barrier to Ten Step implementation. Some respondents felt that the Ten Steps requirements simply are not feasible considering the existing staffing available. Specific references were made to this dilemma in the event that a woman gives birth near a shift change.

The amount of time required to give adequate breastfeeding instruction was deemed not consistently possible by many of the nurses. Some nurses felt they possessed adequate basic breastfeeding training, just not the time to offer it to patients. Others felt that in the event of a mother having breastfeeding trouble, a nurse often runs the risk of getting “stuck” helping the mother, while other duties are ignored. There was a sense in which new mothers are unsure and often only need simply encouragement. When the nursing staff is busy, shortcuts such as nipple shields and bottles are more indiscriminately given.

Currently there is one International Board Certified Lactation Consultant (IBCLC) on duty at least 40 hours per week. Those hours typically occur Monday through Friday on any given week. As a result of her demand, nurses responded that often nursing leadership from someone who has been adequately trained is unavailable. Some elaborated on the fact that many mothers are unsatisfied with the basic help they receive from nurses, and continually request help specifically from the IBCLC. As a result, there is a sense in which the quality of breastfeeding support depends on when a mother gives birth and the level of the IBCLC's demand. This was particularly true for the night shift, according to the responses.

Staff training. Nurse responses that mentioned training tended to focus on the following themes—adequacy of training, Ten Step commitment, and communication.

The level of breastfeeding training amongst the participants varied greatly, with 21% stating that they have had little or no formal breastfeeding training. The hospital's current requirement is for a nurse to shadow the IBCLC for one shift as a new employee, which was mentioned by 21% of the participants. All of these respondents had worked in maternity or infant care five years or less, which suggests this training was not available to experienced employees who were hired before the training was available. A number of participants (21%) maintained that their training was significant because they had breastfed their own children. This is consistent with other research that asserts that nurses rely on their own personal experience in assisting mothers (Semenic, Childerhose, Lauzière & Groleau, 2012). Nurses seemed to value the hands-on training more than classroom instruction. Among those who have attended breastfeeding seminars, most felt that on-the-job experience was much more useful.

Participants complained that Ten Step implementation is inhibited by the inconsistencies in practice amongst nursing staff. Some responses cited the variance in staff buy-in of the Ten Step concepts, possibly resulting in insincerity regarding the importance of breastfeeding and subsequent compliance. There was also the suggestion that differing levels of commitment often materialize in varying manners of practice from nurse to nurse. Physicians were also criticized for suggesting supplementation in a nonchalant manner, which might conflict with the pro-breastfeeding advice of the attending nurse. This scenario has been confirmed in the literature (Sarasua, Clausen, & Frunchak, 2009).

The ability to effectively communicate to new mothers also emerged as a theme of staff training, with several responses echoing the idea that communication was just as important as breastfeeding knowledge. Respondents described the often-fragile state of the new mother, and that patience and encouragement are requirements when speaking with them. They described the delicacy that is required to avoid sounding “too pushy” when presenting breastfeeding and its benefits. Some participants expressed a desire that this communication skill be included in their breastfeeding training.

Parental Understanding

Responses that reflected issues surrounding parental understanding were classified into three categories—Maternal Awareness, Cultural Differences, and Parental Preference.

Maternal awareness. The variation of breastfeeding knowledge among mothers was commonly referred to as a potential barrier for Ten Step implementation. Nurses

maintained that a number of mothers view breastfeeding as “weird”, “awkward”, or “nasty”. A number of participants (29%) felt that in some sense, implementing the Ten Steps pressures the mothers to breastfeed.

Nurses suggested that mothers who are unaware of certain practices might make decisions that get them through the first few days, at the possible expense of breastfeeding. This behavior was associated in the responses with supplementation and pacifier use. The idea being, the mothers often choose convenience because they are uneducated. Comments described mothers who are unaware of the importance of skin-to-skin contact, for example, and are less likely to enjoy the practice as a result. Prenatal breastfeeding education was suggested as the optimal solution in several responses, an idea which aligns with studies by Ibanez et al., (2011), and Kervin, Kemp, and Pulver, (2010).

Some nurses perceived that practicing the Ten Steps increases maternal breastfeeding knowledge. On the subject of rooming-in, for example, nurses felt that the practice would ensure that mothers felt capable of caring for their babies before they were discharged. Similarly, the educating of mothers during their hospital stay should be a priority of nursing staff from their point of view. In the case of cue-based feeding, mothers must be educated on infant feeding patterns before they are left to solely respond to infant feeding cues.

Cultural awareness. Cultural differences surrounding breastfeeding were cited as a barrier to implementing the Ten Steps. Various cultures can be accompanied by their own myths surrounding breastfeeding. Respondents claimed these differences are not only derived from the mothers, but also their families. One nurse described these

situations as “family battles” that she must often face, while others described how the lack of family support can counteract the efforts exerted by the staff.

Parental preference. There were several aspects of the Ten Steps in which a number of participants were concerned about interfering with parental choice. The feeling was related to concerns that aggressive breastfeeding promotion could reflect negatively on the hospital’s reputation. Respondents expressed a fear that the hospital may become too strict in regards to certain practices. This negative impression was described as either generally aimed at the hospital, or specifically to the attending nurse who relays the policy. For example, if supplement were limited to administration solely on a doctor’s recommendation, some nurses feared having to be caught in the middle between a requesting mother and the physician’s orders. Some participants felt that ultimately these decisions should be left up to the parents. For example, 43% specifically mentioned that parental choice should be the deciding factor for pacifier use. The overall theme from the data was that parents have the right to determine the manner in which they go about feeding their babies.

Postpartum Issues

The subject of Postpartum Issues was classified into three themes—Maternal Fatigue, Visitors, and Procedures.

Maternal fatigue. The issue of tired mothers arose in responses covering several topics. Feeding on demand and rooming-in were viewed as possible burdens for tired mothers who had recently given birth. Several of these respondents viewed a mother’s stay in the hospital as potentially “the only time that mom is going to get any rest at all.”

Responses also reflected the perception that cesarean mothers are more likely to forego some Ten Steps for the sake of obtaining rest, compared to mothers of vaginal deliveries. Nurses also felt that their role of educator can be inhibited when the recipient is an exhausted mother. Many elaborated that maternal exhaustion translated to frustration in her attempts to breastfeed. Other respondents associated fatigue with a susceptibility to opt for the perceived convenience of supplementation, with several responses using the adjective “fragile” to describe new mothers.

Visitors. The reality of visitors was a commonly cited obstacle to Ten Step implementation, especially in regards to rendering skin-to-skin contact for mother and baby. Hospital rooms crowded with visitors were viewed as a delaying factor for mothers feeding their babies. Nurses perceived themselves as advocates, and perhaps the only agent of motivating mother to feed in the midst of the “chaos.” One respondent described the scene as “vultures, hoards of people.” The presence of visitors also was blamed for a mother possibly missing her baby’s feeding cues. Although the hospital currently institutes a no-visitor period from 2 – 4 pm, nurses still suggested that visitors were a significant impediment to Ten Step implementation.

Procedures. Current hospital procedures allow for the mother-baby dyad to have one hour of recovery in LD, before being moved over to the PP unit. Ideally, mothers are able to experience skin-to-skin contact and the first feeding during this period. Responses reflected the shared sentiment that much of what happens during this interval can impede Ten Step implementation.

Some nurses described the hectic environment that is created when routine procedures delay breastfeeding initiation. In regards to allowing ample time for skin-to-skin contact, some nurses (25%) mentioned the unlikelihood that this would actually occur within the one-hour time frame. In addition, pain (18%) and either maternal or infant complications (29%) were viewed as a barrier.

The divide between LD and PP nurses were most pronounced on this subject, with the latter suggesting that they must make up for missed opportunities that did not occur in LD. Some responses reflected that LD staff who are uncommitted to following the Ten Steps may be more concerned with patients moving to Postpartum than allowing for that extra time. Still, others replied that differences between care providers often dictate what will happen in recovery. The perception appeared that midwives allow for more time in recovery than some obstetricians.

Table 3 details nurse comments in relation to specific steps of the Ten Steps to Successful Breastfeeding.

Table 3

Nurse Responses Specific to Key Findings

Ten Step Practice	Comments	
Step 1: Written Breastfeeding Policy	<i>Staff is to actively support breastfeeding as the preferred method of providing nutrition for newborns.</i>	<i>I was unaware there was an official breastfeeding policy.</i>
		<i>(continued)</i>

Ten Step Practice		Comments
Step 2: Nurse Training	<i>Experience with helping mothers is what makes me feel better about helping.</i>	<i>They can tell you every technique in the world, but then you get there and it does not look at all like you would visualize the situation.</i>
Step 3: Maternal Education	[Educated mothers] <i>are more patient and calm, they know what to expect.</i>	<i>'I've got nine months knowing I'm pregnant and wanting to breastfeed, and I'm showing up on your door and I don't have a clue.'</i>
Step 4: Skin-to-skin contact	<i>I've had a situation where I've had to politely shoo these visitors, they were like vultures, hoards of these people.</i>	<i>It's good if you can do this, but I don't believe it is crucial to the process.</i>
Step 5: Show mothers how to breastfeed.	<i>You really have to present it to them, almost on a silver platter, for them to take it and run with it. Because if you present it too forcefully, they're just going to reject it.</i>	<i>They know there is a lactation consultant, so they're like 'Well, we'd rather see her.'</i>
Step 6: Limit Supplementation	<i>It seems like we have a lot of mothers who always say "I don't think my baby is getting anything" and some of those are not satisfied with the teaching the nurses give, thus wanting a bottle.</i>	<i>We had a pediatrician who you had to write an order [for supplement]. I called him the breastfeeding nazi.</i>
Step 7: Rooming-in	<i>I love it. New parents learn some ins and outs of parenting before being sent home.</i>	<i>I feel like [a nursery] would be taken advantage of.</i> <i>(continued)</i>

Ten Step Practice	Comments	
Step 8: Breastfeeding on demand	<i>Each mother-baby dyad is unique and must be treated as such.</i>	<i>You cannot go six hours waiting for your baby to finally give you that rooting cue when it gave it four hours ago when your friends were holding it.</i>
Step 9: Limit pacifier use	<i>I've given you the right education, so you do what you want with it.</i>	<i>I don't think it's good for mom or baby to be at breast all the time to suckle simply for comfort.</i>
Step 10: Breastfeeding support referral knowledge	<i>Every time I take a person on a tour [prenatally], I always introduce [the lactation consultant], and she always provides a [breastfeeding] packet.</i>	<i>I love it when they say, 'Do you have any kids yourself?' And I'm like, 'No...'</i>

CHAPTER FIVE

Discussion

Introduction

The purpose of this study was to determine nurse perceptions of the Ten Steps to Successful Breastfeeding (“Ten Steps”) at the onset of implementation. The research took place at one Central Texas hospital within its Labor & Delivery (LD) and Postpartum (PP) units. Two data collection methodologies were utilized--a single focus group and an online survey. However, each method used the same data collection instrument and asked an identical set of questions. Response were collected to identify answers to two key research questions:

Question 1: What are nurse perceptions and beliefs of the Ten Steps to Successful Breastfeeding?

Question 2: Among nurses, what are the perceived benefits and barriers of implementing the Ten Steps to Successful Breastfeeding?

A transcript of the focus group and the online survey responses were analyzed using Nvivo analysis software to classify the data into response categories. Recurring themes in these categories yielded answers to the research questions. The resulting information raised categorical points of discussion that summarized nurses’ beliefs regarding the Ten Steps to Successful Breastfeeding.

Discussion

The Texas Ten Step Program

Current hospital trends indicate a growing awareness of the Baby-Friendly practices, as well as a movement towards adoption of those practices (Labbok, 2012). Texas is among several states to adopt the Ten Steps as an initial step to support that trend (United States Breastfeeding Committee, 2011). It is notable, therefore, that nurses in this study were largely unfamiliar with the Texas Ten Step program, considering that it was designed particularly for hospital personnel. Most nurses in this study either had not previously heard of the Texas Ten Step program, or were familiar with the program, but could not describe it.

This could be a reflection of lapses of the Texas Ten Step Program marketing efforts, as well as the hospital administration. The initial announcement email to nursing staff included a single-page flyer giving a brief definition of Texas Ten Step certification. Most staff either did not receive the email, fully read the flyer, or did not understand the language used in the flyer.

Responses regarding the benefits of Ten Step certification included patient satisfaction, bonding, publicity, and increased clientele. The importance of “bonding” as revealed by the responses means that nurses are cognizant of this idea. The fact that all nurses acknowledged that the role of their hospital should include breastfeeding promotion is optimistic. Staff buy-in for the Ten Steps is paramount (Semenic et al., 2012), thus this agreement can be viewed as recognition that breastfeeding promotion is believed to be part of the individual nurse’s responsibility.

Staff Beliefs

The results of this study indicate that the burden of Ten Step implementation primarily lies within staff training in several contexts. The responses implied a clear indication that training is valued more when it occurs outside the classroom. The desire was also expressed that the limited training that is available may not exactly meet the needs of the nurses. In other words, nurses would benefit from training content that covered the ability to communicate breastfeeding instruction and benefits in a sensitive manner. This idea was implemented in a program intervention by Bernaix, Beaman, Schmidt, Harris, and Miller (2010), with positive results.

Currently, training is only mandated for new employees. This practice overlooks staff that were hired before this practice was put into place, as well as any ongoing education requirement. The fact that breastfeeding knowledge seemed to vary greatly among participants is a possible result.

Although, the nurses' responses suggested that they were fairly knowledgeable about their existing practice of mothers rooming-in with their infants and skin-to-skin contact, other aspects of the Ten Steps included misconceptions about the steps themselves. For example, there existed a concern in the responses that feeding on demand could interfere with a mother's rest. The literature has shown that breastfeeding mothers actually enjoy improved sleep, compared to bottle-feeding mothers (Doan, Gardiner, Gay & Lee, 2007). The comments that suggested that a baby's temperament should dictate supplement or pacifier use may also be a misconception. According to Redsell et al., (2010), causes of infant distress is often misinterpreted by parents, and lead

to adverse feeding practices. The same idea has also been shown to be true for health care providers (Fisher et al., 2011).

Supplementation was also viewed as a sort of problem-solver in order to allow a mother to work through her breastfeeding problems. This sentiment is somewhat controversial based on the literature given the evidence that suggests early supplement feeding leads to early weaning (Semenic, Loiselle & Gottlieb, 2008). Finally, insufficient milk supply was frequently cited as a reason for supplementation. Although this is certainly true, it can be precarious for the ill-trained health provider to distinguish between an actual supply problem and a perceived supply problem that is likely due to another, often solvable, factor (Wiessinger et al., 2010).

The prevalence of maternal fatigue in the responses also raises the issue as to how a tired mother who wants to breastfeed can still undertake her breastfeeding tasks. According to Nelson (2007), nurse sensitivity to the vulnerabilities of new mothers may lead to giving incorrect breastfeeding advice, or offering non-evidence-based feeding practices. Although well-meaning, conflicting approaches to help tired mothers can leave them confused and frustrated. Heinig (2010) described this conflict and recognized the need for hospital staff to realize that a lack of sleep is simply inevitable for new parents. She also countered that an approach that addresses maternal fatigue alongside best infant feeding practices should be accompanied by adequate breastfeeding support.

There is evidence that referring mothers to breastfeeding support resources is among the Ten Steps that are less frequently implemented (Chien et al., 2006). This reality places a renewed importance on the value of lay support organizations (Semenic et al., 2012). The availability of WIC peer counselors, a resource that is free of charge for

WIC and non-WIC mothers alike, has been strongly associated with breastfeeding success in terms of initiation, duration and exclusivity (Gross et al., 2011; Olson, Haider, Vangjel, Bolton, & Gold, 2008). This is also the case in studies that examined populations with typically lower breastfeeding rates, such as African-Americans and adolescents (Wambach, Aaronson, Breedlove, Domian, & Rojjanasrirat, 2011; Gross et al., 1998).

When asked for knowledge of local breastfeeding support resources for which to refer to mothers, the responses were primarily limited to the lactation consultant and the discharge packet given out by the hospital. However, the hospital's community also offers a mother-to-mother support group, Women, Infant & Children (WIC) resources, and other community-supported breastfeeding classes. The nurses seem to have been uneducated about the resources available beyond the hospital's campus.

Hospitals that have written breastfeeding policies and that actively communicate those policies tend to have improved success with implementing the other nine steps of successful breastfeeding (Semenic et al., 2012). A significant number of participants in this study (25%) did not know their hospital had such a policy, and a further number of nurses only generally described their policy in terms of "supporting breastfeeding". Although the hospital had a written policy in place, it is evident that the posting and communication of the policy may not be effective. This is consistent with Grizzard et al., (2006), which described the same occurrence. It is also important to note that almost all levels of certification and both departments were represented among those uninformed of the hospital's policy. Therefore, this is a problem that is not limited to certain task or department.

Finally, the study revealed inconsistencies both in practice and in ideology among nursing staff in how they approach breastfeeding support. The discrepancies in training backgrounds are undoubtedly a contributing factor. However, the variation in personal commitment to the Ten Steps was suggested as another. This suggestion was not limited to nursing staff, but also to physicians. Implementation of the Ten Steps depends on a uniform approach from staff (UNICEF, 2005), and the efforts of one individual may be diminished by the reluctance of another.

The Postpartum Period

The results of this study indicated that there exists an operational gap between the LD and PP units. In addition to the aforementioned inconsistencies among individual nurse practices, there are problems inherent in the post-birth process at this hospital.

First, according to the responses, an emphasis on routine procedures often interferes with skin-to-skin contact, a problem also cited by Sobel et al. (2011). Nurses suggested that this bonding time is also dependent on the views of the attending physician or midwife. They also confirmed that skin-to-skin is more likely to occur if the mother has been educated on the subject, and if she specifically requests it. Several responses stated that a one-hour recovery time in LD is simply too short for both neonatal procedures and bonding to occur.

The role that visitors play after a mother gives birth frequently appeared in a variety of topics discussed, always negatively. From the nurses' points of view, the visitor problem was associated with mothers being unaware that these interruptions could adversely affect breastfeeding (Morrison & Ludington-Hoe, 2012). In truth, it seems that other than instilling "quiet hours" (i.e. no visitors), the hospital and its staff may be

limited in what else they can do, lest their clientele become unreceptive to any further restriction of visitors.

It is evident from the study's results that the promotion of breastfeeding using evidence-based practices is advocated conditionally by many respondents. Concern for parental preference was a recurring theme. Nurses provisioned support for an individual Ten Step, but not so aggressively that the hospital would be regarded negatively. The result is 1) a breastfeeding policy that must consider the exceptions to individual steps and 2) agreement that ultimately it is the parent's choice as to how to go about feeding their infant.

Recommendations

The results of this study revealed a number of immediate actions that can be taken to alleviate obstacles to implementing the Ten Steps. For example, communicating the hospital policy could be accomplished effectively in several ways. The hospital's existing policy is verging on high quality, as it mentions most of the Ten Steps in its current form. Once this has been amended, hospital administration should design a scheduled model of dispensing the policy, as well as posting it where it can be viewed by *all* those who are affected – physicians, nurses and parents. Similarly, communicating the benefits of Texas Ten Step recognition could lead to increased staff buy-in, and thus more effective implementation by nursing staff. In-house promotional efforts could convey the value of each individual nurse to the “team” idea of helping the mothers they serve achieve their breastfeeding goals.

As much as responses gave enthusiastic praise for the single existing lactation consultant (LC), just as many comments reflected how busy she is when on duty. The

obvious recommendation is to hire an additional one or two LCs to service nights and the days currently not staffed with an LC. As a supplement to this practice, additional nurse training may minimize support gaps in the event of a LC shortage such as this. This proposes that nursing staff with a higher skill level in breastfeeding support is able to troubleshoot basic breastfeeding problems and help mothers begin lactation. Because of the advanced skills of the LCs, they are reserved for more severe breastfeeding difficulties, and thus their time is better utilized (Morton, 2012).

The comments that described the chaos of the LD room after birth justify an evaluation of the recovery process. Several staff members suggested increasing this recovery time from one to two hours, a move that requires a policy change and the administration to reinforce that change by providing the manpower to accommodate the adjustment. In theory, this provides the time needed for routine procedures, while ensuring that the neonate is allowed adequate time to awaken, orient, and eventually nurse before being transferred to PP.

Ideally, any training offered by the hospital should be shaped to specifically address the breastfeeding misconceptions discovered by this study. The Texas State Department of Health Services offers a free on-site breastfeeding class to hospital staff. However, it consists of a handful of set modules with content that does not vary from location to location. As a result, it is possible to omit information relevant to a particular hospital staff's needs and weaknesses. A possible solution would be to use the results of this study, or one similar to it, to adapt staff training to their particular concerns and misconceptions.

Nurse training is only one-third of the equation, however. Prenatal education for mothers would theoretically make them both more familiar and more responsive to nurse breastfeeding instruction. For example, an educated mother may be more likely to ask for skin-to-skin contact, and thus be more likely to receive it, according to the nurses. Education during the prenatal period may also give mothers time to reconcile their individual beliefs within the context of their cultural backgrounds. This consideration may prevent disagreement and pressures from family members during the vulnerable neonatal days.

Encouragement to attend prenatal breastfeeding classes should likely come from the source with the most authority in their eyes – their physician (Declercq et al., 2008). Education of the health care provider has the potential to reduce inconsistencies of practice amongst doctors and nurses (Nelson, 2007), as well as encourage prenatal maternal awareness of breastfeeding issues and benefits (Declercq et al., 2008). In short, all three parties – mothers, physicians, and nurses – must participate in the dialogue in order to effect significant change.

Limitations

In this study's design and implementation, there were several limitations that deserve mention. The dual methodologies were utilized in order to increase the response rate by making participation more convenient to accommodate nurses' busy schedules. The responses of the focus group attendees were able to be probed for clarification, whereas this was not possible for the online survey responses. Further, a fundamental difference between the two methodologies was a limitation. Specifically, a focus group introduces a response bias in that a participant's response may inadvertently influence

another participant's feelings or thinking, and thus influence response. The data collected during a focus group may not be a pure collection of individual thinking, as responses can affect one another. A comparison of the quality of data between the two responses was beyond the scope of this study.

In order for the participants to take advantage of the incentive offered in the form of gift cards, it was required that they disclose their name and mailing address in the data collection process. Although this personal information was isolated and destroyed after incentive distribution, it may have impeded the participants' ability to speak honestly.

Recruitment efforts for this study included numerous onsite visits by the primary investigator. These visits were accompanied by personal invitations, posted flyers, and even snack foods. In addition, the nurses' supervisor, the Director of Labor & Delivery, sent frequent emails and announced the study at unit meetings. Despite having two opportunities to participate, (via a focus group or an online study), only 38% of the nursing staff agreed to do so.

Future Research

The study employed two data collection techniques in order to increase the number of subjects. Both methods used the same data collection instrument, but yielded slightly different responses in terms of tone and content. Future research that examines the differences in data quality between a focus group and an open-ended online survey may provide benefits for the arena of qualitative research.

Regarding breastfeeding promotion in the hospital setting, this study raises several opportunities for possible future research. First, increasing the training of attending nurses while reserving lactation consultants for more complex breastfeeding

issues has the potential to be an effective program. A random control trial intervention that studies this idea may be a provocative research pursuit.

Second, additional studies are needed to explore how parents make their infant-feeding decisions. Specifically, research could look into the beliefs that shape infant feeding choices, so that educational interventions could be designed with more relevance. Third, the subject of maternal fatigue from the viewpoint of nursing staff could be investigated more thoroughly than what is available in the literature. Comparing a mother's level of fatigue from the perceptions of both the mother and her nurses could reveal any variation and the degree of that variation.

Finally, the responses from this study exposed the fact that traditional classroom breastfeeding training for nurses is not necessarily an effective solution. Nurses seemed to be both asking and needing hands-on instruction in breastfeeding assistance and communication. Future research that considers and compares alternative teaching methods in this context could be useful to the health care industry.

In recent years government and health organizations have issued the call to increase breastfeeding rates based on the literature that affirms its superiority to formula feeding (Bunik et al., 2010; Gartner et al., 2005; USDHHS, 2011). Breastfeeding duration and exclusivity are dependent on a variety of factors individual to mother's understanding, personality and her environment (Thulier & Mercer, 2009). Ample evidence confirms that current hospital practices are key among those factors (Murray, Ricketts, & Dellaport, 2007; Perrine et al., 2012). As more hospitals make the positive shift to practice the evidence-based Ten Steps to Successful Breastfeeding, the literature is lacking in those articles that describe the process of adoption in conjunction with

attitudes of the frontlines of implementation, specifically the nursing staff. As previously discussed, nurse perceptions play an important role in the success of hospital implementation of each step, and more research is needed to effectively train and motivate nurse support.

Conclusion

The results of this study revealed that nurses generally have positive attitudes about the Ten Steps to Successful Breastfeeding, but may not have the tools or knowledge to fully execute them. The challenges that impede implementation occur within the actions of the participants – nursing staff, health care providers, and parents – all of whom share a responsibility in improving breastfeeding conditions during the hospital stay.

APPENDICES

9. The Texas Ten Step Hospital Program is designed to recognize hospitals for implementing the Ten Steps to Successful Breastfeeding. What do you know about the Texas Ten Step Hospital Program?
10. What could be some benefits of the Texas Ten Step Recognition?
11. What might be the challenges of the Texas Ten Step Recognition?
12. What are do you know about Providence's official breastfeeding policy?
13. What kind of training have you received about offering breastfeeding guidance to mothers? Do you feel it was adequate to show mothers how to breastfeed?
14. Do you think Providence should promote breastfeeding? Why or why not?
15. Many supporters of breastfeeding recommend getting a newborn baby skin-to-skin, i.e. a naked or diapered baby positioned on mom's bare chest, with the mother within an hour after birth. Is that important? What would the benefits be of doing that? What challenges or barriers may arise in doing this?
16. Many breast feeding supporters recommend teaching mothers to offer the breast when their babies show feeding cues rather than looking at the clock or trying to stick to a feeding schedule. What do you think about that (pros/cons)?
17. Some breast feeding supporters recommend that supplement feeding (using a bottle/formula) should be avoided unless medically indicated. What do you think about that (pros/cons)?
18. What do you think of Providence's rooming-in policy?
19. What do you think of Providence's no-pacifier policy?
20. What breastfeeding support resources do you recommend to mothers?

APPENDIX B

Request for the Approval of Research Involving Human Subjects

Proposal

Title of the research project/teaching exercise: Breastfeeding Promotion in the Hospital Setting: A Documentation of Implementing Ten Steps to Successful Breastfeeding

Are you using subjects in research? yes (yes or no)

Are you using subjects in teaching exercises? no (yes or no)

Part 1: Expedited Review Request (if applicable)

The Baylor University Committee for Protection of Human Subjects in Research (Institutional Review Board or (IRB) has agreed to perform expedited reviews of certain research proposals that involve only survey research that poses minimal risk to research subjects. Proposals handled through the expedited review process are held to the same standard as those that go through the normal review process.

I have reviewed the research or teaching exercise listed above. In my opinion, this proposal meets all three of the following criteria required for expedited review by the Baylor University Committee for Protection of Human Subjects in Research:

1. The only involvement of research subjects in the proposed research/teaching activity is response to written, oral, or electronic surveys;
2. The information requested in these surveys does not include any highly personal or sensitive information (reports of criminal activity or sexual behavior); and
3. The activity poses minimal physical and psychological risk to the research participant.

Part 2: Introduction and Rationale

Describe the research background and rationale for the project:

(Limit 500 words)

The benefits of breastfeeding are well-established in the published literature--the incidence of infant gastrointestinal infection decreases and maternal weight loss happens more rapidly (Kramer & Kakuma, 2009), the risk of childhood obesity is reduced by half for infants breastfed at least six months (Cathal & Layte, 2012), as is the occurrence of

Sudden Infant Death Syndrome (Vennemann et al., 2009). Americans could save \$13 billion each year if 90% of newborns were breastfed for six months (Bartick & Reinhold, 2010). This figure does not include estimated cost savings from the additional disease reductions for breastfeeding mothers. Recent evidence demonstrates that a mother's decision to breastfeed can impact the health of her child beyond infancy (Jackson & Nazar, 2007).

For these reasons, the US government's Healthy People (HP) 2020 goals aim to increase the number of exclusively breastfed babies to 46% at three months and 25% at six months. Although Texas has come close to reaching the HP 2020 goal of 82% (with an initiation rate of 75% in 2011), only 31% and 14% of Texas mothers meet the 3-month and 6-month exclusivity goals respectively (CDC, 2011).

Additionally, two out three mothers do not meet their breastfeeding goals (Perrine et al., 2012). Cultural expectations, personal beliefs, and hospital practices can frequently influence a woman's breastfeeding relationship with her child. Specifically, hospital practices such as high cesarean rates translate into mother and baby often having prolonged separation after birth, which can often be avoided (Crenshaw et al., 2012). Nurses, who are often the front lines of breastfeeding assistance, frequently have gaps in their knowledge of how to support mothers in all circumstances (McLaughlin et al., 2011). Finally, the supplementation of formula without a medical indication can interfere with breastfeeding success (Sievers et al., 2003; Dewey et al., 2003).

The World Health Organization (WHO) created The Ten Steps to Successful Breastfeeding as a guide for good hospital practices (1989). The Texas Department of State Health Services adapted those steps to form its own standards, the Texas Ten Step (TTS) Program. After meeting 85% of the evaluation criteria, a hospital can become a recognized Texas Ten Step Hospital. This recognition is often viewed as the first step towards achieving the more prestigious "Baby-Friendly" designation awarded by the Baby Friendly Hospital Initiative, the U.S. certification extension of the WHO and UNICEF.

Out of the 286 birthing centers in Texas, 81 have the TTS recognition. The region of Central Texas lacks any TTS hospitals within a 60-mile radius. And yet Central Texas remains especially vulnerable in terms of breastfeeding rates. Only 56% of newborns are exclusively breastfeeding at their second day of life (TXDSHS, 2008).

This study attempts to document the process of Texas Ten Step recognition for one Central Texas urban hospital, including examining nurse, physician, and client perceptions of the value and feasibility of the transformation. Also, attention will be placed on specific workplace dynamics, such as in-place strengths, obstacles, and team-building successes that motivated the process.

Clearly outline the questions being addressed:

(Limit 250 words)

- What are the strengths and challenges that accompany the process of Ten Steps to Successful Breastfeeding?
- What are the perceptions of benefits and weaknesses of obtaining Texas Ten Step recognition for breastfeeding practices, from the point of view of hospital staff?
- What are the existing strengths and weaknesses of current hospital breastfeeding practices, as perceived by the mothers that recently gave birth?
- What were sources of support, both in terms of resources formally offered by existing organizations, as well as local, informal resources?
- What activities during the certification process contributed to group motivation and effective forms of team-building?

Describe any expertise you have in this area or research or teaching:

Currently, I am enrolled at Baylor University, pursuing a Masters in Public Health (MPH) degree. In 2008, I became a Certified Childbirth Instructor through BirthWorks International. I have been a La Leche League (LLL) member for over five years, and became a LLL Leader last Spring. To address the need for in-home breastfeeding support in Waco, I became a Certified Lactation Counselor through the Healthy Children's Center for Breastfeeding in 2009.

As part of Baylor's MPH program, I currently instruct four undergraduate Health and Human Behavior classes as a Graduate Teaching Assistant. Each semester, I enjoy guest-speaking at several sections of Baylor's Human Sexuality class, specifically engaging college students about childbirth and breastfeeding issues. Prior to entering graduate school, I taught weekly childbirth and lactation classes at CareNet Pregnancy Center in Waco. I have also taught similar classes at Equal Opportunities Advancement Corporation's (EOAC) Head Start program and La Vega High School. These classes are in addition to regular series of classes I teach to pregnant couples in my home. All of these experiences have contributed to my passion for examining current systems in place that impede breastfeeding success. While I still love to help women on an individual basis, my recent interests are directed toward broader action initiatives which help to support the women who want to breastfeed.

Cite relevant research (including your own) in a bibliography:

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- WHO | Exclusive breastfeeding for six months best for babies everywhere. (n.d.). WHO. Retrieved May 22, 2012, from http://www.who.int/mediacentre/news/statements/2011/breastfeeding_20110115/en/index.html
- WHO | Protecting, promoting and supporting breast-feeding. (n.d.). WHO. Retrieved June 17, 2012, from <http://www.who.int/nutrition/publications/infantfeeding/9241561300/en/>
- Texas Department of State Health Services (TXDSHS), Newborn Screening Data, 2008

Part 3: Methodology

Thoroughly describe the methodology to carry out the project/teaching exercise:

This is a descriptive observational study, involving both qualitative and quantitative data collection. The study population includes those identified as key stakeholders in PHN's adoption of the Ten Steps to Successful Breastfeeding. These individuals consist of mothers who have recently given birth at Providence Hospital, nurses who work in maternity care, and health care providers such as pediatricians, certified nurse midwives, and obstetric-gynecologists. These results will be used in tandem with anecdotal observations of the Primary Investigator (PI) to draw broader conclusions about changing hospital practices to promote breastfeeding.

The Primary Investigator (PI) will conduct all interviews and observations onsite at Providence Hospital in Waco. The PI will report all events and progress back to the Baylor University Master's Thesis Chair (Dr. Rodney Bowden, P.h.D.) on a regular basis (at least once a month). In addition, the project has also been approved by Providence Health Network's Institutional Review Board, and will be subject to their ongoing review requirements.

Data collection will occur at a single point, with no follow-up. All participants' personal information will be anonymous.

How many subjects will be used? <100 subjects

How will the subjects be recruited?

Participants will be selected based on a convenience basis of existing stakeholders of the PHN Women's and Children's Center.

The mothers eligible for the questionnaire must be current patients of PHN, speak English and be able to fill out the survey independently. Specifically, participants will be recruited through the maternity center, with those most recently having given birth serving as the principal participants in assessing their perceptions about hospital-led breastfeeding promotion.

For inclusion in the study, physician participants must have current working relationships or be current employees of PHN. Certain characteristics will exclude a volunteer from participating. These include being a minor, non-English speaking, or a non-maternity employee of PHN.

Lastly, focus groups will be conducted with maternity care nurses. These participants will be invited to be a part of a focus group where a meal will also be served. The eligibility criteria includes that participants must be current employees of PHN. Certain characteristics will exclude a volunteer from participating. These include being a minor, non-English speaking, or a non-maternity employee of PHN.

In addition, the focus group guide, a previously IRB-approved set of 12 questions, will be

offered as an online survey for remaining PHN nurses who are unable to participate in the focus group. A link to this online survey will be emailed to all PHN nurses who have direct contact with either maternal or infant patients. Participants of the survey must have the same qualifying criteria. The informed consent text will headline the beginning of the online survey. Completion of the survey will translate to a participant's informed consent.

Possible risks to the subjects (both physical and psychological):

Participation in this study is not anticipated to pose any physical or psychological risks to the subject beyond what is encountered in everyday life. However, if a subject is uncomfortable answering a particular question, he or she will be instructed they do not have to answer the question, and may stop the study at any time.

Potential risks to nurses participating in the focus groups include a sense of intimidation and fear of ramifications of being critical of existing PHN policies. However, because participants' identities will remain anonymous, there will be no basis for connecting a set of comments to a particular individual. Management personnel such as the Director of Labor and Delivery and Lactation Consultants will not be involved in the focus groups, thus neutralizing the risks of speaking candidly. Those who choose to participate will be chosen from a similar level of the employee hierarchy.

Further, it is important to note that the questions posed during the focus group do not elicit responses about PHN policies, only the practices involved with implementing the Ten Steps to Successful Breastfeeding (pacifier use, for example).

Method(s) to limit risks:

In order to limit risks, the questionnaires, focus groups and personal interviews will be a one-time event with no personal identification associated with the questionnaires or interviews. All audio recordings and transcripts of the event will be stored in a locked cabinet offsite at Baylor University. These will be destroyed in June of 2013.

If a subject has any questions about the research project, he or she may ask Donna Robinson, Director of Women & Newborns Center or her associates at Providence Healthcare Network (PHN). If he or she has any questions about his or her rights as a research subject, he or she may call the PHN Independent Review Board Chairman at (254) 751-4840. PHN IRB is an ethics committee that is established to help protect the rights and welfare of study subjects.

Proposed safeguards to protect the subjects' right to privacy:

To protect the subjects' right to privacy, participation is completely voluntary. All research questionnaires, surveys, recordings, and any other materials will be kept off-site from the research location at Baylor University in a securely locked cabinet. In addition, all interview and survey materials will be anonymous.

Outline the method(s) to be used to obtain the data, to analyze the data, and to disseminate the results of the research project:

The project will be used to carry out implementation of the Texas Ten Steps certification at Providence hospital. To begin, the scores of the CDC's National Survey of Maternity Practices in Infant Nutrition and Care (mPINC, 2009) will be analyzed. This is a survey of maternity care practices and policies conducted every two years. A key part of the survey's scoring covers postpartum breastfeeding assistance. This aspect of the survey will be used in discussion with the Director of Labor and Delivery and Lactation Consultants to promote dialogue regarding possible areas for improvement.

Following these discussions, the Maternal Perceptions of Support Questionnaire regarding experience and knowledge of breastfeeding will be delivered to approximately 150 new mothers of Providence by either the PI or the attending nurse. It will be accompanied by an envelope that the mother will insert the completed questionnaire into, and seal upon completion. These envelopes will be turned over to the Director of Labor and Delivery, who will collect and safeguard them in her locked office until the PI can retrieve them.

The questionnaire is a pre-published, validated quantitative questionnaire. The tool will ask questions regarding Informational, Emotional, and Technical Support provided to the mothers in the neonatal period. They will be given statements and will select which response reflects their opinion from: strongly disagree, disagree, no opinion, agree, and strongly agree. The range of possible scores are from 46 – 230 with 46 representing the lowest score possible/ least perceived support and 230 representing the highest score possible/ highest perceived support. The results of the questionnaire will serve to analyze the feelings of support by hospital staff that the mothers have regarding breastfeeding and infant care. (See Appendix for the Maternal Perceptions of Support Questionnaire.)

To understand the perceptions of nurses regarding current practices and feelings regarding implementation of the Texas Ten Steps, there will be between one and three focus groups of 6-8 nurses. This will be a one-time data collection, recorded and transcribed. (See Appendix for Focus Group questions.) These same questions will be posed via an online survey for nurses who were unable to participate in the focus group.

Incentives

All focus group participants will receive a \$20 HEB gift card, to be mailed after the conclusion of the focus group event.

As an incentive, nurses who complete the online survey will be offered a \$10 HEB gift card. If they wish to receive the incentive, the survey will have an opportunity to leave an address where the incentive can be mailed. Subsequent to the distribution of the incentives, all contact information associated with an individual's survey responses will be destroyed.

The sample of 8-12 physicians and midwives will also be asked these questions but in a

personal, one-on-one interview. This one-time data collection will be used to address the perceptions and reservations of those implementing the Texas Ten Steps. (See Appendix for physician interview questions.)

All nurses' focus groups and physicians' interviews will be audiotaped and transcribed by the primary investigator. Transcriptions of the focus groups, online surveys, and interviews will be analyzed using a qualitative themes analysis technique. The primary investigator and a colleague will each read the transcripts and identify themes and subthemes throughout. Themes and subthemes of the researcher and her colleague will be compared and consensus will be reached to validate response themes.

The Mother's Perceived Support Questionnaire (MPSQ) results will be entered into Excel, SPSS or JMP statistical software packages. Measures of staff breastfeeding support will be analyzed in terms of informational, emotional, or technical support. Specifically, the analysis will determine which types of breastfeeding support, as perceived by mothers, are the strongest indicators of satisfaction with the postpartum hospital experience. Descriptive statistics such as means and frequencies will be utilized. It will be necessary to use reverse scoring for some questions. Scores will be tabulated to find recommendations regarding nurse education to improve in low-scoring skills.

Anecdotal notes will be taken by the PI throughout all stages of implementation of the project. This will include observations of activities and events that occur as the PI works with PHN staff onsite. These findings will be used as a supplemental and contextual narrative applicable to the process of becoming a Texas Ten Step Hospital.

Findings of the research project will be submitted for publication in a national journal. Copies of the report will be provided to advisory committee members, Baylor Department of Health, Human Performance, and Recreation faculty, and liaisons at Providence Hospital. A presentation of findings will be made to stakeholders at Providence Hospital if requested. A proposal presentation may also be made at similar hospitals if approved by Providence, with Providence's identity hidden, to promote the process of becoming certified as a Texas Ten Step hospital.

Part 4: Informed Consent Form Checklist

When using humans as subjects in research you must obtain their informed consent. Please upload a copy of your Informed Consent Form before submitting your proposal

I verify that the following items appear on my Informed Consent Form:

A statement explaining the purpose of the research.

A statement of the expected duration of the subject's participation.

A description of the procedures to be followed.

A description of any reasonable foreseeable risks or discomforts to the subject, including invasion of privacy.

A description of any benefits resulting from the research, either to the subject or to others.

A statement that informs subject of his/her right not to be a subject in a research project that is also a teaching exercise.

A statement informing subject about how his/her anonymity will be guarded; i.e., that their confidentiality will be protected by assigned code numbers, by limiting access to data, by locked storage of files, etc.

A statement that the subject's participation is voluntary, and that his/her refusal to participate will involve no penalty or loss benefits to which the subject is otherwise entitled, and that the subject may discontinue participation at any time without penalty or loss of benefits to which the subject is otherwise entitled.

A disclaimer, if applicable, regarding the use of the Internet to collect data.

For research involving more than minimal risk, an explanation regarding the availability of any compensation or any medical treatments if injury occurs (if applicable, see OHRP Reports).

If written informed consent is required, a place for the subject to sign and date the form and a statement that a copy of the signed consent form will be given to the subject for his/her records.

If the subject is a minor, a statement of parental responsibility in consenting to the child's participation in the study with a place for the parent to sign and date the form in addition to the participant's signature.

The name, address, and telephone number of the principal investigator of the research

project, and his/her affiliation with Baylor University. If the principal investigator is a graduate student, the name and telephone number of the faculty advisor is also required.

A statement informing subject that inquiries regarding his/her rights as a subject, or any other aspect of the research as it relates to his/her participation as a subject, can be directed to Baylor's University Committee for Protection of Human Subjects in Research.

Part 5: Research Instrument(s)

Please upload any non-standard, newly developed interview or questionnaire instrument (one that has not been previously published) that will be used

also

Upload as appendices any other information pertinent to the proposal, such as consent letters from participating agencies, etc.

APPENDIX C

Waiver of Informed Consent

Nurse Perceptions of Breastfeeding Promotion In the Hospital Setting

Sponsor Name: Baylor University

Sponsor Address: One Bear Place #97313, Waco, TX, 76798-7313

Site Name: Providence Healthcare Network (PHN)

Site Address: 6901 Medical Parkway, Waco, TX, 76707

Study Related Phone Numbers: 254-751-4970 / 254-495-8100

Principal Investigator: Emilie Cunningham

Thesis Mentor: Rodney Bowden, Ph.D. □ Phone: 254-710-4499

Introduction

You are being asked to voluntarily participate in a study being undertaken by Baylor University, and conducted by Emilie Cunningham, MPH'13. Your participation will allow us to assess the attitudes and behaviors of PHN staff, regarding hospital-led breastfeeding promotion. The United States Food and Drug Administration (FDA) regulations require the investigator to obtain your signed agreement (consent) to participate in this project. In order for you to decide whether or not to participate in this study, you should understand the study procedures, risks, and benefits to make an informed judgment, all of which is provided here. In addition, you have the right to have your questions answered by study personnel. You will be given a copy of this form to take with you.

This consent form may contain words that you do not understand. Please ask the study investigator to explain any words or information that you do not clearly understand. You may take home an unsigned copy of this consent form to think about or discuss with family or friends before making your decision.

Purpose of the Study

The purpose of this study is to examine perceptions and beliefs about a hospital's adoption of purposeful promotion of breastfeeding activities, in order to evaluate the priority of becoming a Texas Ten Step facility.

Study Procedures

If you decide to participate in this study, you will take part in a focus group discussion with 5-7 other participants, which will be led by the principal investigator, Emilie Cunningham. The session will be audiotaped and made into a written copy for later analysis. The questions posed by the investigator will address your feelings about hospital practices that promote breastfeeding, your impressions of certain breastfeeding practices, and your opinions about strengths and weaknesses of existing practices. Your name will not be recorded, maintaining your response anonymity. The focus group session will last approximately 1/2 to 1 hour.

Inclusion Criteria

Participants must be current employees of PHN.

Exclusion Criteria

Certain characteristics will exclude a volunteer from participating. These include being a minor, non-English speaking, or a non-maternity employee of PHN.

Risks and Discomforts

Possible risks and discomforts will be limited in this study, but may include personal offense/sensitivity to topics of breastfeeding. The study procedures pose limited risk/discomfort to you physically, but may yield emotional or intellectual discomfort, given personal background or differing opinions within the focus group.

Benefits

You may benefit from participating in the study by having the opportunity to give your opinions, which may otherwise go unvoiced or unheard. Another benefit is the chance to help determine how/if hospital-led breastfeeding promotion will unfold at the facility in the future, lending ideas for promotional procedures from a healthcare provider's standpoint. Participants will have the opportunity to learn about breastfeeding benefits, the opinions of their co-workers, and what becoming a Texas Ten Step hospital entails for PHN.

Cost to Subjects/ Compensation

There is no cost to you, the subject, as this study is strictly volunteer-based.

Should you wish to participate in the focus group, you will receive a \$20 HEB gift card as compensation for your time. Should you wish to participate in the online survey, you will receive a \$10 HEB gift card as compensation for your time.

Privacy and Confidentiality

We will keep the records of your participation in a focus group private and confidential. Certain people may need to see study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

- The research team, including the Principal Investigator, study coordinator, research nurses, and any other research staff.

- Certain government and university personnel who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety. This includes the Baylor & PHN Institutional Review Boards (IRB) and their related staff, who have oversight responsibilities for this study.
- Any agency of the federal, state, or local government that regulates this research. This includes the United States Food and Drug Administration (FDA), Texas Department of State Health Services (DSHS), and the Argus Independent Review Board or the sponsoring drug company may inspect and copy your medical records relating to this study, and the results of the study may be reported to the FDA and other health authorities.

All audio recordings and transcripts of the event will be stored in a locked cabinet offsite at Baylor University. These will be destroyed in June of 2013.

Medical Care for Injury Related to This Study

If your use of the test products provided in this research project directly results in physical injury to you, medical treatment will be available to you at no cost. There is no compensation available to you for such injury. For information about the treatment of injury, call Donna Robinson, Director of Women & Newborns Center at PHN: (254) 751-4970. You do not waive your legal rights by signing this form.

Information

If you have any questions about this research project, you may ask Donna Robinson, Director of Women & Newborns Center or her associates at PHN. If you have any questions about your rights as a research subject, you may call the PHN Independent Review Board Chairman at (254) 751-4840. PHN IRB is an ethics committee that is established to help protect the rights and welfare of study subjects. You may also contact Dr. David W. Schlueter, Ph.D., Chair Baylor IRB, Baylor University, One Bear Place #97368 Waco, TX 76798-7368. Dr. Schlueter may also be reached at (254) 710-6920 or (254) 710-3708.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study, nor will it affect your employment with PHN.

You may be discontinued from the study without your consent for safety/professional reasons, or if you fail to comply with the conditions of the study. PHN reserves the right to discontinue the study prior to inclusion of the intended number of participants, but intends only to exercise this right for valid scientific or administrative reasons. Any significant new findings developed during the course of this study that may relate to your willingness to continue to participate will be provided to you.

Authorization

I have read and understood the information provided. I have been given the opportunity to discuss this information with my employer and study personnel, and have had my questions answered in language I understood. I meet all the study criteria. The risks and benefits have been explained to me. I understand that I will be given a copy of this consent form after signing it. I freely agree to participate in this study.

I understand that my participation is voluntary and that I may withdraw from the study at any time after signing this form without penalty. I also understand that I may be withdrawn from the study for non-compliance, or if it is determined that it is in my best interests to do so. I agree to abide by all subject instructions, reminders, and precautions given to me before and during the study.

Subject Name (Please Print Full Name)

Signature of Subject	Date	Time (24 hr clock)
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Signature of Investigator/Representative	Date	Time (24 hr clock)
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Signature of Witness	Date	Time (24 hr clock)
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