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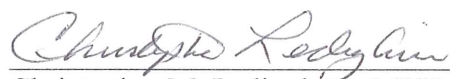
EVALUATION OF AN EDUCATIONAL BREASTFEEDING PROGRAM FOR A NON-
PROFIT AGENCY IN SOUTH TEXAS

BY

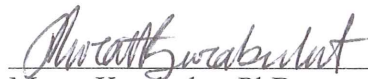
MARCELA URBINA ZAVALA

A THESIS PRESENTED TO THE GRADUATE FACULTY
OF THE COLLEGE OF EDUCATION IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF EDUCATION IN CURRICULUM AND INSTRUCTION WITH AN EMPHASIS
IN HEALTH AND HUMAN PERFORMANCE

Approved by the Thesis Committee



Christopher M. Ledingham, MPH, PhD
Thesis Director



Murat Karabulut, PhD
Committee Member

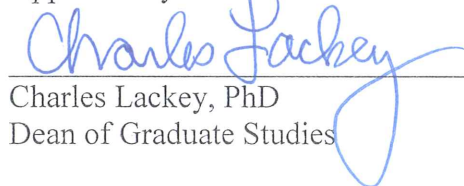


Terry P. Overton, PhD
Committee Member



Dianna Garcia-Smith, PhD
Committee Member

Approved by the Graduate Office



Charles Lackey, PhD
Dean of Graduate Studies

Graduate School

University of Texas at Brownsville

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JULY 2014

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JULY 18, 2014

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ABSTRACT

Breastfeeding has been recognized as the most cost effective practice to promote healthier babies among populations (Dennis, 2002). The purpose of the study was to evaluate the effect of an educational breastfeeding and a prenatal + breastfeeding program for individuals attending group classes and to compare the differences between Spanish only and English only versions of the curriculum. Two research questions were stated to know if there were significant differences between pre and post-tests scores and if there were any significant differences in the impact of the intervention between English only and Spanish only versions of the classes.

The present investigation was a secondary data analysis from records of participants from the non-profit agency. The breast feeding only group class (BF) had a total of 30 participants attending Spanish and English classes, and the prenatal + breast feeding class (PreN+BF) had a total of 131 Spanish speaker participants. The classes were taught by a bilingual lactation consultant from 2012 to 2014 with duration of 90 minutes each class. A pre-test was given before the class and a post-test was given immediately after the conclusion of the class. Results indicated significant differences between pre and post-test scores of breast feeding knowledge suggesting that both programs were successful in increasing the scores from the breast feeding and prenatal care tests among participants. No significant differences between English and Spanish versions of the curriculum were found in the BF class. The reliability of the instruments was low indicating a low consistency of items from both questionnaires. Further research needs to be conducted to modify and implement a new curriculum and develop new instruments to assess the breastfeeding knowledge among participants.

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CHAPTER 1

INTRODUCTION

Breastfeeding provides numerous short-term and long-term benefits for the baby, the mother and the family, and has demonstrated to be a better cost-effective practice to promote healthier babies (Dennis, 2002). Considerable research has been done to clarify the factors involved in breastfeeding and how educational interventions can contribute to an increase in the initiation and duration of this practice (Hannula, 2008; Bonuck, 2005; Anderson, 2005; Meier, 2007; Gill, 2007; Gill, 2004; Chapman, 2004; Schlickau, 2005).

Healthy People is an initiative created by the U.S. Department of Health and Human Services as a nationwide health promotion model to control and prevent diseases and contribute to healthier behaviors among the U.S. population. The last version of Healthy People includes the objectives proposed to be reached by the year 2020. This initiative includes approximately 600 objectives related to health promotion including maternal, infant, and child health where there are specific stated objectives about breastfeeding practices (U.S. Department of Health and Human Services, 2013).

The South Texas population has specific demographic and cultural characteristics that differ from the rest of the country due to the high numbers of Hispanic persons in the population. An appropriate breastfeeding intervention has to take in to consideration these demographic

characteristics and should be culturally and linguistically appropriate in the pursuit of the expected outcomes.

Statement of the problem

There is a need for a formal bilingual breastfeeding curriculum that is tailored to the unique clientele served by non-profit agencies in South Texas.

Purpose

The purpose of the study was to evaluate the effect of an educational breastfeeding and a prenatal + breastfeeding program for individuals attending group classes and to compare the differences between Spanish only and English only versions of the curriculum.

Significance

The creation of a bilingual curriculum is necessary to ensure that useful information is provided to pregnant mothers who seek to learn the principles and advantages of breastfeeding their babies. Previous studies (Meier, Olson, Benton, Eghtedary, & Song, 2007) and (Bonuck, Trombley, Freeman, & McKee, 2005) have shown that most mothers made their choice about

when and how to feed their babies before they were born and educational programs were more successful when a prenatal intervention was given and completed, solving questions after the baby's birth. Providing adequate information at the appropriate time is a key to increasing the rate of breastfeeding among different populations. According to Hannula (2007), mothers who attended prenatal breastfeeding classes had a higher percentage of breastfeeding initiation and exclusive breastfeeding. Hannula also stated that breastfeeding continuation and duration increased when it was followed by postnatal telephone orientation or lactation consultant monitoring (2007).

Some of the advantages of providing prenatal information to mothers include the knowledge of the benefits of breastfeeding for the baby, mother and family, as well as the appropriate techniques used to breastfeed and what differences mothers can expect between breastfed babies versus bottle fed babies. With this orientation mothers are able to evaluate the information and decide how to feed their newborns understand the pros and cons of breastfeeding practices.

According to the Window on State Government, 81% of South Texas population is Hispanic and it is below the US income average (Window on State Government, 2012). The population in this area is also much younger than the rest of the country with 44% of the population under the age of 25. There are also a higher percentage of low-income families with slightly less education than the rest of Texas (United States Census Bureau, 2012).

Table 1: Cameron County Family Income

Family Income	Percent
Less than \$10,000	5.1%
\$10,000 to \$14,999	3.8%
\$15,000 to \$24,999	9.3%
\$25,000 to \$34,999	10.0%
\$35,000 to \$49,999	13.3%
\$50,000 to \$74,999	18.6%
\$75,000 to \$99,999	13.4%
\$100,000 to \$149,999	15.0%
\$150,000 to \$199,999	5.8%
\$200,000 or more	5.7%

Retrieved from: (United States Census Bureau, 2012).

Hispanics represent 88.1% of Cameron County population (United States Census Bureau, 2012). This population is divided by its origin in: 80.5% Mexicans, 0.3% Puerto Rican, 0.1% Cuban, and 7.2% other Hispanic or Latino. Approximately 24.7% are foreign born persons and 73.2% of the population speaks a language other than English at home (United States Census Bureau, 2012).

Non-profit agencies in South Texas need a bilingual breastfeeding curriculum to provide proper information to mothers to be and interventions created for this population should be culturally and linguistically appropriate. In Texas, 12.31% of the population spoke only Spanish and 33.9% speak Spanish and English (United States Census Bureau, 2012); this suggests a need for curricula to be written in both languages. Also, population characteristics for South Texas indicate that education levels are low with 14.9% of people with a bachelor's degree or higher (United States Census Bureau, 2012).

The evaluation of the educational breastfeeding program is necessary to assess the outcomes of the intervention and the results will show the next steps to follow in the

implementation and modification of the existing programs to increase the practice of breast feeding among women in South Texas.

Assumptions

The following assumptions have been made:

- Participants in the breastfeeding intervention will complete both the pre-test before the group class and the post-test immediately following the group class.
- Participants have appropriate abilities to read and respond to pre-test and post-test evaluations.
- Participants will complete the pre-test and post-test answering all items with honesty and doing the best use of their abilities.

Delimitations

The study will be delimited as follows:

- Only complete pre-test and post-test scores from the Educational Breastfeeding Program will be evaluated.
- Only data from participants who completed pre-test and post-test will be analyzed.

Research Questions

To accomplish the purpose of this study, the following research questions were addressed:

- Was there a significant difference between pre-test and post-test knowledge scores of participants who completed the intervention?
- Were there any significant differences in the impact of the intervention between the English only and Spanish only classes?

Hypotheses

The study was designed to address the following hypotheses:

- Participants attending the breastfeeding group class would gain significantly higher post-test knowledge scores as compared to pretest knowledge scores.
- There would be no significant differences between classes in English only or Spanish only.

Theoretic Framework

The Health Belief Model (HBM) is the framework to be used in the evaluation of the intervention (Hochbaum, 1958; Rosenstock, 1960, 1974). The HBM was developed in the 1950's

by scientists from the U.S. Public Health Service as a way to understand why people take action or not about detecting, controlling and preventing an illness.

The HBM is based on the principle that individuals respond differently in order to take action for their health. Researchers (Hochbaum, 1958; Rosenstock, 1960, 1974) found that those responses could be classified into six different groups determined by common factors making them want to change and take care of their health. This model is useful in determining which factors are more important depending on the participant's individual beliefs and the stage and ability to change their behavior. Every participant reacts differently and we would expect positive changes in behaviors which may result in a greater percentage of mothers breastfeeding their babies. However, this study will not measure the prevalence of mothers' breastfeeding their infants, rather there it would be an evaluation of the gain of breast feeding knowledge after a group class held in either English or Spanish.

Summary

Breastfeeding provides numerous short-term and long-term benefits for the baby, the mother and the family, and has been demonstrated to be a better cost-effective practice to promote healthier babies (Dennis, 2002). The South Texas population has specific demographic and cultural characteristics that differ from the rest of the country due to the high numbers of Hispanic persons in the population and appropriate breastfeeding interventions must be developed according to the cultural and linguistic characteristics of the population.

The purpose of this study was to evaluate the effect of an educational breastfeeding program and a prenatal + breastfeeding program for individuals attending group classes and to

compare the differences between Spanish only and English only versions of the curriculum. The following research questions were stated to be answered by the present investigation:

1. Was there a significant difference between pre-test and post-test knowledge scores of participants who completed the intervention?
2. Were there any significant differences in the impact of the intervention between the English only and Spanish only classes?

Chapter 2 contains a review of the literature to understand more about breastfeeding programs among Hispanic populations living in the U.S. Chapter 3 describes the methodology used on this study; it defines the characteristics of study participants, and how data collection and data analysis were done. The results and analysis of the investigation are presented and discussed on Chapter 4. Chapter 5 contains the summary and conclusions for the present study. It also includes recommendations for future research related to breastfeeding classes.

CHAPTER 2

REVIEW OF THE LITERATURE

The World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the American Academy of Pediatrics, among other national and international organizations, recommend all infants to be fed, through breastfeeding, exclusively for the first 6 months of life and continue to be breastfed complemented with other food until 1 year postpartum or longer. Breastfeeding has been demonstrated to be the ideal and “most cost-effective, health promoting, and disease-preventing activity new mothers can perform (Dennis, 2002, p. 12).”

For many years breast feeding practices have diminished in number and duration in the U.S. Healthy People, is an initiative created by the U.S. Department of Health and Human Services as a nationwide health promotion model to control and prevent diseases and contribute to healthier behaviors among the U.S. population is based on four previous initiatives: 1) 1979 Surgeon General's Report, Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention, 2) Healthy People 1990: Promoting Health/Preventing Disease: Objectives for the Nation, 3) Healthy People 2000: National Health Promotion and Disease Prevention Objectives, and 4) Healthy People 2010: Objectives for Improving Health (U.S. Department of Health and Human Services, 2013). The most recent version of Healthy People includes the objectives proposed to be reached in 2020. Healthy People 2020 includes approximately 600 objectives related to health promotion including objectives related to

maternal, infant and child health where they stated eight objectives about breastfeeding practices (U.S. Department of Health and Human Services, 2013).

Table 2: Healthy People 2020 Breastfeeding Objectives

Healthy People 2020 Breast Feeding Objectives
Increase the proportion of infants who are ever breast fed to 81.9%
Increase the proportion of infants who are breast fed exclusively through 6 months to 25.5%
Increase the proportion of infants who are breast fed exclusively through 3 months to 46.2%
Increase the proportion of infants who are breast fed at 6 months to 60.6%
Increase the proportion of infants who are breast fed at 1 year to 34.1%
Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies to 8.1%
Decrease the proportion of breast fed newborns who receive formula supplementation within the first 2 days of life to 14.2%
Increase the proportion of infants who are put to sleep on their backs to 75.9% (In order to decrease the risk of Sudden Infant Death Syndrome)
Increase the proportion of employers that have worksite lactation support programs to 38%

Retrieved from: (U.S. Department of Health and Human Services, 2013)

According to (Meier, Olson, Benton, Eghtedary, & Song, 2007) Healthy People 2010 data showed that only 68.4% of babies were breastfed and only 35.1% continued breastfeeding for the WHO recommended period. Table 2 shows data from the National Immunization Survey (NIS) 2009 on how Healthy People objectives can improve concerning to breastfeeding.

Table 3: Breastfeeding data from the National Immunization Survey, 2009

Breastfeeding data from the National Immunization Survey, 2009
74% infants were breastfed in 2006
14.1% infants were breastfed exclusively through 6 months
33.6% infants were breastfed exclusively through 3 months
43.5% infants were breastfed at 6 months
22.7% infants were breastfed at 1 year
Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies to 8.1%
24.2% breastfed newborns received formula supplementation within the first 2 days of life
2.9% infants were put to sleep on their backs
25% employers have worksite lactation support programs

Retrieved from: (U.S. Department of Health and Human Services, 2013)

Breastfeeding benefits

Breastfeeding has been demonstrated to have benefits for the baby, mother and family. These benefits can be classified as short-term and long-term. Short-term benefits have been closely studied by researchers because they are easy to observe in a shorter period of time, but unfortunately few studies have been conducted to verify the long-term effects of breastfeeding (Dennis, 2002).

Benefits for the baby

Newborn babies are immature and during the first year of life children will have changes to normally function. As the time goes by, children will be more mature and resistant to combat infections and their immune system will be stronger to fight against diseases. When babies are born, the neonatal gut is immature and highly likely to contract infectious diseases. Breast milk is the only natural source providing the exact and ideal components to help gut maturation, growth and stimulation of the infant's own intestinal defense (Walker, 2012). Human milk

contains antibodies capable of enhancing children antibody response giving a protection against infectious diseases (Penttila, 2010). Breastfed babies obtained this protection from immunoglobulins and antibodies. Immunoglobulin A (IgA) excreted in milk and absent in babies until 30 days after birth is directed through mammary cell circulation to the breastfed baby to protect against gastrointestinal infections and diarrhea (Brandtzaeg, 2003). Anti-idiotypic antibodies enhance antibody responses in the babies making them stronger to fight common infections (Van de Perre, 2003).

Transforming Growth factor β -s (Tg β) is also present in breast milk and is involved in gastrointestinal tract homeostasis. Tg β work as inflammation regulators and play an important role in allergies and promote an oral food tolerance development in infants (Penttila, 2010). Breastfeeding is recommended to continue even when new food is introduced to the baby because breast milk will give protection against allergies through Tg β decreasing the risk of food allergies through life (Penttila, 2010).

Exclusive breastfeeding for 6 months is also responsible for long-term effects like decreasing by 70% the risk of leukemia and lymphoma, among other types of cancer between 2 and 14 years old children. Therefore, there is not clear the mechanism by which breastfeeding protects against leukemia, one possible explanation is related with the immune response that antibodies and immune factors provide to fight against infections (Parker, 2001). Another study also suggested that breastfeeding significantly decreases the risk for leukemia and Hodgkin's and non-Hodgkin's lymphomas among 6 month and older breastfed children (Bener, Denic, & Galadari, 2001).

Sudden infant death syndrome (SIDS) is one of the major causes of death in 1 to 12 month children. The precise origins of death are unknown but studies have demonstrated that breastfeeding decreases the risk of SIDS. A German study confirmed that breastfeeding provides a protection against SIDS as long as the baby is breastfed and reduced the risk of SIDS by 50% in breastfed children at all ages (Vennemann, et al., 2009).

It remains unclear how cognitive development is affected by breastfeeding but there are some possible factors interfering with a better cognitive development between breastfed children versus bottle fed children. In a large study made by (Kramer, et al., 2008) data suggests higher IQ scores among children and adults who were breastfed and a dose-response relationship between longer and exclusive breastfeeding periods. However, it is not clear how other breast milk components can interfere with those results. It seems that essential polyunsaturated fatty acids (especially docosahexaenoic and arachidonic acid), neural growth factors and insulin like growth factor I (peptides also related with a better immune response) are present in high concentrations in breast milk and they have an important role on cognitive and mental development in the child brain growth (Angelsen, Vik, Jacobsen, & Bakketeig, 2001). A study done in Latin America showed that long-chain polyunsaturated fatty acids supplemented in bottle formula fed infants did not provide neurocognitive benefits versus breastfed infants (Stuebe, 2009). When a mother is breastfeeding her infant, physical and emotional interactions between mother and child could also be a cause of greater cognitive development because of the time spent together and the verbal interaction. Verbal interaction is also stimulated by the frequency and proximity with the mother (Kramer, et al., 2008).

Obesity is also more prevalent in bottle fed infants because of the differences in breast milk and formula composition, food intake self-regulation and feeding practices related to

lifestyle factors. Breast milk composition provides long-term benefits for the infant. It gives adipokines promoting a better food intake self-regulation decreasing obesity risk in the infancy (Stuebe, 2009).

Benefits for the mother

Studies suggest that breastfeeding decreases the risk of breast cancer and pregnancy also gives a protective effect against this type of cancer (Stuebe, 2009). Both pregnancy and breastfeeding promote healthier breasts because of hormonal responses providing a healthier mammary epithelium. Research suggested that the longer the duration of breastfeeding the lower the risk of breast cancer (González, García, Aguilar, Padilla, & Álvarez, 2013). Other studies showed that breastfeeding and pregnancy are protective factors against breast cancer but they also protect against ovarian cancer. Both types of cancer among women are the more prevalent (Parker, 2001).

Additionally, research suggests that breastfeeding decreases post-partum maternal blood loss because of the hormonal responses to lactation decreasing the risk of mortality during partum and puerperium (Stuebe, 2009). Breastfeeding also helps to promote faster uterus involution versus mothers who are not breastfeeding their infants. Hormones, especially oxytocin is released to circulating blood and in the uterus oxytocin causes contractions stimulating the tissue to return faster to pre-pregnancy size (Stuebe, 2009).

Lactation causes amenorrhea because it delays the time of ovulation and leads to increase child spacing. Child spacing contributes to a decrease in the risk of giving birth a pre-term infant. This process is also called lactation amenorrhea and it also grants a protection against breast

cancer and ovarian cancer among 6 months exclusive breastfeeding mothers (American Academy of Pediatrics, 2012).

According to Stuebe, et al. (2009), mothers who are breastfeeding have favorable glucose and lipid levels, and arterial pressure is also reduced. Breastfeeding mothers have greater energy expenditure rates because they are burning more energy to produce breast milk. Approximately 500kcal extra per day are required in exclusive breastfeeding mothers which allows them to produce breast milk and this extra energy used in breast milk production contributes to weight loss in the mother (Stuebe, 2009).

Lactation is also related to a decreased risk of type 2 diabetes mellitus among mothers without gestational diabetes who were exclusively breastfeeding. Researchers found that for every year mothers spent breastfeeding; the risk decreased about 4% to 12% (American Academy of Pediatrics, 2012). Cumulative lactation decreased the risk of hypertension, hyperlipidemia, cardiovascular disease and type 2 Diabetes when mothers summed 12 to 23 months breastfeeding their infants (American Academy of Pediatrics, 2012).

Breastfeeding educational programs

Breastfeeding educational programs have been created with the objective of increasing the prevalence of breastfeeding throughout the population (Hannula, 2007). Interventions have been analyzed to determine the best practices to promote breastfeeding.

Educational interventions try to create awareness against the main public health issues with the objective of having healthier citizens. The promotion of healthy habits should be appropriate considering the current cultural, economic, social and political elements among population (Schlickau & Wilson, 2005).

Breastfeeding in Hispanic women

In 2004, 66% of Hispanic mothers in the South of the U.S. were breastfeeding their babies at birth and 31% continued breastfeeding until 6 months after birth (Lucke, 2007). Data from mothers in Texas, participating in the Women, Infant, and Children Supplemental Nutrition Program (WIC) showed that 50.6% of mothers initiated breastfeeding and 19% continued breastfeeding for 6 months (Gill, Reifsnider, & Lucke, Effects of support on the initiation and duration of breastfeeding, 2007).

Hispanic women have higher prevalence of breastfeeding their newborns babies than Caucasian U.S. mothers and by every year that these Hispanic mothers spend in the U.S. the likelihood of breastfeeding decreases by 4% (Gill, 2009). Women with a college degree living with a partner and women receiving some prenatal information, participating in a program or having support from health professional staff are more likely to breastfeed their infants (Gill, 2007).

The study by Bonuck, et al. (2005) achieved the Healthy People 2000 goal of 50% of women breastfeeding for 5 to 6 months but breastfeeding did not continue beyond 6 months which was one of the Healthy People 2000 objectives. This intervention used a control group and an experimental group which received the breastfeeding educational program but unfortunately the final results found similar prevalence on breastfeeding in both groups suggesting the intervention was not successful. However, data showed higher breastfeeding prevalence among foreign women living in the U.S. than natal U.S. women (Bonuck, et. al., 2005 & Heck, et. al., 2006). They determined that U.S. women were 5 to 8 times more likely to have lower breastfeeding prevalence (Bonuck, Trombley, Freeman, & McKee, 2005).

Other factors causing breastfeeding barriers are the concerns about pain, breastfeeding in public, and an inappropriate environment. Low income is also a determinant to avoid breast feeding among Hispanic women. (Bonuck, Trombley, Freeman, & McKee, 2005). According to (Gill, Reifsnider, Mann, Villarreal, & Tinkle, 2004) low income groups, including Hispanic women, are less likely to breastfeed their babies because the lack of education and cultural barriers. On the other hand, educational breastfeeding programs among low income Hispanic women seem to have a positive effect on the initiation of breastfeeding but that does not mean they keep that practice for prolonged duration (Gill, 2007).

Research also suggests that knowing why breastfeeding is important is not an incentive for mothers to breastfed their babies. Particularly in Hispanic women, the environment and support around where their live is crucial to determine whether they will or will not breastfeed their newborns. Family customs and beliefs are the most important aspect that Hispanic women consider when deciding how to feed their babies. The low-income that Hispanic women's families have are related to the low education they received (Gill, 2007). Breastfeeding interventions should cover all of those factors to create an adequate program to encourage mothers take the initiative and decide to breastfeed their infants. A support figure such as a lactation consultant, family member, partner, among others, will be the key to initial and prolonged breastfeeding among Hispanic women. Programs must be appropriate for mothers, but also, if necessary the education should include the family to teach them how to support the mother to have a successful experience breastfeeding their infants. (Gill, Reifsnider, Mann, Villarreal, & Tinkle, 2004).

Breastfeeding educational interventions among Hispanic women

Supporting mothers and their families is reported to be important for increasing the incidence of breastfeeding among U.S. population. Giving the proper support and encouragement to mothers intending to breastfeed have been demonstrated to have a significant relevance on health educational interventions. Therefore, providing breastfeeding education by itself has not shown to improve breastfeeding prevalence compared with breastfeeding education and peer support or other types of support interventions. Also, having a better understanding of the importance of breastfeeding, the benefits for the baby, mother and family or even the right techniques to breastfeed are not enough to encourage women to initiate and keep that practice. Research has shown that support is the ideal complement to increase the efficiency of educational programs and peer counselors, lactation consultants and other figures have the necessary knowledge to provide mothers with the information and care they need (Gill, 2007).

The result from the study of Anderson, et al. (2005) showed that peer counselor among Hispanic low-income women living in the U.S. increased the time of exclusive breast feeding as well as duration (Anderson, Damio, Young, Chapman, & Pérez-Escamilla, 2005).

Gill, et al., (2004) conducted a study among Hispanic (Mexican-American origin) low income women and their families (male partners and their mothers) to evaluate the factors involved in making the decision of breastfeeding or not breastfeeding their infants. They assessed women and their families participating in the WIC program and found out some common beliefs. The authors classified the responses in:

1. Breastfeeding benefits: All women knew at least 5 benefits of breastfeeding for the infant and the mother. They identified breast milk as the better “food” an infant can

consume and women also recognized that breastfeeding creates a special bond between mother and infant. Participants mentioned the cost saving that breastfeeding could bring to their economy.

2. Making the decision to breastfeed: The decision to breastfeed was made by women and male partners did not influence the participation. Instead, women searched for opinions with female family members and close friends.
3. Barriers to breastfeeding: The authors classified 3 main concerns among participants. The first one was embarrassment to expose the breast in public or to any male family member. Women said that breastfeeding in public was inappropriate. The second concern was the pain they could feel while breastfeeding. Women stated that female friends or older female family members told them how painful it was to breastfeed and that was the reason why they would not want to breastfeed their infant. The third concern was that breastfeeding is inconvenient because they would have to feed the infant very often and they would not have enough time for themselves. Males also stated that bottle feeding was more convenient because anyone could feed the infant; breastfeeding requires that the mother will have to be near the infant all the time (Anderson, Damio, Young, Chapman, & Pérez-Escamilla, 2005).

Successful breastfeeding is strongly related to mothers being supported by health professionals or family members. When a mother is having problems the lack of support is the most important reason for stopping breastfeeding. Usually during engorgement stage, mothers without support stop breastfeeding because they do not know how to treat the problem and pain (Chapman, Damio, Young, & Pérez-Escamilla, 2004). The same study has demonstrated that

informal support through older female family members (grandmother and/or mother's mother) or close female friends has a positive strong relation on the initiation and duration of breastfeeding. Health-care professionals, especially nurses, have a negative effect on breast feeding practices among Hispanic women because the lacks of knowledge nurses have and because of the inconsistencies in their recommendations and advices (Gill, Reifsnider, Mann, Villarreal, & Tinkle, 2004).

Another study made by Heck, et al., (2006) showed that maternal breastfeeding education programs were positive predictors of breastfeeding and low income or mother's employment were not related to breastfeeding practices. This study gave recent and new information about male partners' participation in breastfeeding decisions. Data showed that women whose male partner has low education are at a high risk of not breastfeeding their infants. This problem could be linked to cultural and social norms among Hispanic population living in the U.S. (Heck, Braveman, Cubbin, Chávez, & Kiely, 2006).

Women, Infant and Children program (WIC)

The Women, Infant and Children program (WIC) provides eligible families with nutrition education, healthy food benefits, health care and breastfeeding support. This strategy aims to help low-income pregnant, breastfeeding and postpartum women and their children up to age five who are at nutritional risk. The program encourage women to breastfeed their infants and it provides women with support and counseling to appropriately feed their children. Once mother and/or father are eligible for participating in the program they are classified as: mother who is fully breastfeeding her infant (exclusively breastfeeding), partially breastfeeding, and fully formula feeding. Families receive a monthly package with food and/or formula to cover their

infants' needs. This is a short-term program because it lasts 6 months to 1 year but it can be extended if children are at nutritional risk (Texas Department of State Health Services, 2014).

Supplemental Nutrition Assistance Program (SNAP)

The supplemental Nutrition Assistance Program (SNAP), better called “stamps or food stamps” is a program for low-income families (less than \$2,001 American dollars in their accounts or less than \$3,001 American dollars in their account when there is a person with a disability), and it provides benefits for participants to buy foods for the household to eat, it includes baby food, formula and diapers through a domestic hunger safety environment. The benefits are given to only one member per family who meets the program requirements. The duration of this program can last from 1 month to 3 years and participants need to renew their application after the end of each period. The eligible family member received a Lone Star card where credit will appear every month to buy food items and other eligible products (United States Department of Agriculture, 2014).

Summary

Literature suggests the creation of educational breastfeeding programs to increase the prevalence of breastfeeding practices among the general population in the U.S. Minority groups, such as Hispanics or Latinos, need a culturally and linguistically appropriate breastfeeding programs to increase breastfeeding among their women (Gill, 2009; Hannula, 2007). WHO recommends exclusively breastfeed infants for 6 months and continuing the practice with complementary foods for at least 1 year postpartum.

Extensive research supports the practice of breastfeeding to get the most possible health benefits for infants and mothers. Su, et al., (2007) concluded that the longer the duration of breastfeeding, the more health benefits for both mother and infant (Su, Zhao, Binns, Scott, & Oddy, 2007). Low income in Hispanic women is an important factor to be considered when creating interventions. The education level in this population is low, that is why information should be developed to be understood by 5th and 6th graders to decrease the likelihood of misunderstandings.

Several researches have demonstrated different approaches to promote breastfeeding among Hispanic women. Most of them concluded that effective interventions should not just give information about breastfeeding benefits. Instead, interventions should provide support for mothers and their families in order to increase the prevalence in breastfeeding initiation and duration (Anderson, 2005; Bonuck, 2005; Chapman, 2004; Gill, 2004).

U.S. authorities created Healthy People 2020 objectives as a way to conduct health programs through a common goal. In this case, Healthy People stated maternal and infant objectives to increase the number of infants being breastfed during the first year of life. They also want to increase the number of baby friendly hospitals and the proportions of health professionals with breastfeeding training. Those strategies will decrease the mortality among women and infants and it will lead to healthier infants and mothers.

Breastfeeding educational programs in South Texas population should provide information and materials in their first language (English or Spanish), communicate all the information to be understood by 5th to 6th graders to avoid misunderstandings, be culturally appropriate, offer support through peer counselors, lactation consultants, nurses at baby friendly

hospitals, etc., and include family members in the intervention so they can be support figures during breastfeeding.

These efforts will contribute to increase breastfeeding among Hispanic women and will contribute to the national statistics to reach maternal, infant and child health objectives stated by Healthy People 2020 initiative to healthier lifestyles and healthier citizens in the U.S.

Breastfeeding programs in Cameron County should be adapted to fit with the characteristics of their population but following the national and state guidelines to pursue the indicated breastfeeding objectives.

CHAPTER 3

METHODOLOGY

The purpose of this study was to evaluate the effect of an educational breastfeeding program and a prenatal + breastfeeding program for individuals attending group classes and to compare the differences between Spanish only and English only versions of the curriculum. The methods and procedures used in this study are presented in this chapter under the following topics:

- Study participants
- Instruments
- Data collection
- Data analysis

Study Participants

The data used in this study came from pre-existing pre and post-tests collected by a non-profit agency in South Texas between the years of 2012 and 2014. The data included all participants who completed both pre and post-tests from two different classes. The breastfeeding group (BF) included 30 participants who attended a breastfeeding only group class. The other group consisted on 131 participants who attended a prenatal + breastfeeding group class (PreN+BF). Consent for the completion of the present study was obtained from both the non-profit agency from South Texas and from The University of Texas at Brownsville.

Instruments

The instruments used to evaluate the gain of knowledge among participants were developed by the non-profit agency previous to the beginning of the study and the researcher was not involved in the process. The non-profit agency designed one instrument for each class. The instrument used for the BF class was available in Spanish and English (See Appendix I: BF pre-test (English and Spanish), and Appendix II: BF post-test (English and Spanish)). This instrument was developed to evaluate the change of knowledge between pre and post-test scores. The instrument consisted of 10 multiple choice questions about the following topics: general breast feeding knowledge, breast feeding techniques, breast feeding benefits, and breast milk characteristics. There were no demographic items included or a designed space to write down the name.

The instrument used for the PreN+BF class contained information from prenatal care and breastfeeding general knowledge. The instrument consisted of 10 multiple choice questions about the following topics: pregnancy general knowledge, special care during and after pregnancy, and breastfeeding general knowledge (See Appendix III: Prenatal + Breastfeeding Pre and Post-test).

Data collection

The data used for this study were collected by the lactation consultant from the non-profit agency over 2012 to 2014. The non-profit agency had all the data in hard copies and none of the information was on electronic format. Pre and post-tests from BF and PreN+BF classes were classified by year and month, and the researcher created a data base using the pre and post-tests scores and the attendance lists for each class. The data base was capture in Excel by Windows and a copy of the electronic data was provided to the non-profit agency.

The researcher attended 6 classes during the last semester of 2013 and January and February of 2014 and only was there as an external observer without any participation or interaction with the lactation consultant or any of the subjects. The researcher attended 4 classes of the BF program (2 classes were taught in English and the other 2 were for Spanish speakers) and 2 classes of the PreN + BF (Spanish).

Data analysis

The data from pre and post-test scores were entered into a data base in which each correct answer was given a score of one and each incorrect answer were given a score of zero. The total score for every test was obtained by adding up the given score for the questions to provide and overall score for each student.

The data from the BF classes and the PreN+BF classes were analyzed separately because the available information for each class and the tests were different between each other. When the researcher stated the purpose of the present investigation, the total participants for the study were unknown because all the files were only available in hard copies and the non-profit agency only had an approximate number of participants. When the researcher obtained the authorization to start the research, the available information was classified depending on the type of class and the pre and post-tests available. The researcher organized the information provided by the non-profit agency from the classes between 2012 and 2014. The total number of participants who attended the BF classes was 31 but one participant did not have the post-test and had to be excluded from the study. According to the attendance lists for the PreN+BF classes, 134 participants took the class but only 131 records contained complete information for the pre and post-tests. The total participants for the PreN+BF class was 131, and 3 participants' records had

to be excluded from the present study because they did not contain all the required information. The existing data for both programs were limited and as it was a secondary data analysis, the researcher was not involved on the intervention process. The available data from the non-profit agency was transformed into an electronic data base to address the research questions.

The data analysis was completed using the Statistical Package for Social Sciences (SPSS) software. The hypotheses were tested using the Mann Whitney U Test because participants were not randomly selected and the t-test of significance could not be used for this purpose. In addition to the testing of the hypotheses, a reliability test was conducted over the instruments to determine the appropriateness of their use as evaluation instruments. Cronbach's alpha was calculated to measure the reliability of BF and PreN+BF classes.

Summary

In order to know the effect of two different breastfeeding group classes on the breastfeeding knowledge, an evaluation of the pre and post-test scores of participants from the non-profit agency were undertaken. This was a secondary data analysis from previous records obtained by the non-profit agency between the years of 2012 to 2014. The instruments to evaluate the program (pre and post-tests) were developed by the non-profit agency and the same instruments were used during the specified years to assess the breastfeeding and prenatal care knowledge. The reliability of the two instruments had not been previously determined and a Cronbach's alpha was calculated for each instrument. Each correct item within each instrument was given a score of 1 and each incorrect item was given a score of 0 to determine a total score from both pre and post-tests. The scores were entered into a data base to run a statistical analysis

using the Statistical Package for the Social Sciences to determine the effects of the program.

Only data from participants who completed pre and post-tests were analyzed.

CHAPTER 4

RESULTS

The purpose of this study was to evaluate the effect of an educational breastfeeding program and a prenatal + breastfeeding program for individuals attending group classes and to compare the differences between Spanish only and English only versions of the curriculum. This chapter contains the results of the present study and they are presented in the following sections:

- Limitations
- Descriptive analysis
- Analysis of Research Questions
- Summary

The data analysis was completed using the Statistical Package for Social Sciences (SPSS) software for Microsoft and data analysis procedures were used to explore differences in breast feeding and prenatal care knowledge before and after the classes. The present study was a secondary data analysis where researcher was not involved on any part of the intervention.

Limitations

The data analysis was subject to the following limitations:

1. There was not a written curriculum for any of the classes.
2. The researcher was not involved in curriculum implementation or evaluation.
3. The researcher was not involved in the development of the curriculum.

4. The researcher was not involved in the development of the testing instruments (pre and post-test).
5. The researcher was not involved on the data collection for the present study.
6. The psychometric quality of the instruments was not determined previous to their use for the program evaluation.
7. The researcher was not involved with any subject.
8. There was no available documentation about the procedures used for testing process and there is no information either about how the curriculum was taught.
9. There was not a tracking system to determine if subjects were attending the classes more than one time.
10. It was not documented if subjects were exposed to other prenatal or breast feeding programs.

Subject demographics

Breastfeeding only group class (BF)

Secondary data was obtained from a nonprofit agency in South Texas yielding information from two different breastfeeding classes. The researcher only worked with pre-existing data collected by the lactation consultant and the objective of the present study was only to determine if the breastfeeding and the prenatal programs were successful on increasing the knowledge among participants. The BF group had a total of 30 participants who attended the BF classes between the years of 2012 and 2014. The subjects ranged in age from 20 to 55 years ($M=28.56$ years; $SD=7.859$). Among the 30 subjects, 24 were female and 6 were male, there is

no further data or specification on how many of them were pregnant women and how many were accompanying the pregnant women. There is also no information about income, marital status or education level of the subjects.

Prenatal + Breastfeeding group class (PreN + BF)

The other group analyzed in the present study was the PreN+BF class which had a total of 131 participants who attended the classes between the years of 2012 and 2014. The subjects ranged in age from 14 to 43 years ($M=27.07$ years, $SD=6.969$) and were all females. The annual income for the participants' family was ranged from \$24,150 to \$42,800 American dollars ($M=25.825.57$, $SD=3707.883$) and the number of persons per home ranged from 1 to 8 individuals ($M=3.91$, $SD=1.422$). Government support was received by 71.75% of the subjects with 91.48% coming from WIC, 50% from SNAP, and 5.31% from Housing.

Pre-test and Post-test assessments

Breastfeeding only class (BF)

The pre and post-tests were exactly the same and they were applied immediately before and after the conclusion of the class. The instrument consisted of 10 items and contained the following information: 4 items related to general breastfeeding knowledge, 3 items related to breastfeeding techniques, 2 items related to breastfeeding benefits, and 1 item related to breast milk characteristics. Pre and post-tests were available in English and Spanish to cover the population attending the classes. The instrument was developed by the lactation consultant and they were not tested or validated before its use as class evaluation instruments. Appendices I and II contain the Pre-test and Post-test in English where three spelling errors and one grammar error

were present and Spanish where three spelling and one grammar errors were present in both versions.

Prenatal and breastfeeding class (PreN + BF)

The pre and post-test instruments were exactly the same between each other and they were applied before and immediately after the conclusion of the class. The instrument consisted of 10 items and contained the following information: 5 items related to pregnancy general knowledge, 3 items related to special care during pregnancy, and, 2 items related to breastfeeding general knowledge. The pre and post-tests were available in English and Spanish, however, only the Spanish version of the test was used for this sample because 100 percent of the participants were Spanish speakers. This instrument was developed by the lactation consultant and it was not tested before its use as a class evaluation instrument. Appendices III and IV contain the Spanish version of the pre and post-tests exactly how they were presented to the participants; three grammar and 9 spelling errors were present on the test.

Descriptive analysis

The descriptive analysis of the results was done to show a general perspective of the changes and differences between pre and post test scores. Pre and post test scores provide general information about the changes in knowledge before and after the BF class and the PreN + BF classes. Table 4 contains the number of subjects per class, mean knowledge scores, and standard deviation of those pre and post-tests.

Table 4: Pre and post-test knowledge scores for breastfeeding only class and prenatal + breastfeeding class

Program	N	Number of Items	Mean Score	Standard Deviation
Breastfeeding only class				
Pre Test	30	10	5.93	1.837
Post Test	30	10	8.83	2.534
Breastfeeding + Prenatal class				
Pre Test	131	10	7.32	1.595
Post Test	131	10	9.41	0.952

Program description

The breastfeeding only classes and prenatal + breast feeding classes were taught by a bilingual (Spanish and English) lactation consultant. Both classes were instructed by the same lactation consultant and groups were formed depending on their preferred language (Spanish or English).

Breastfeeding only class (BF)

The BF class was designed as a one day 90 minute class for pregnant women and other members of the family. There is no record of how many subjects were pregnant and how many of them were there accompanying the pregnant woman. The BF class did not have a formal curriculum to organize the information that was being taught in class, the only information the lactation consultant had was a curriculum outline containing the main topics to teach. This curriculum outline did not have instructions on how to teach the class, it did not contain a lesson plan to follow or the material proposed to complement the class. It did not specify how long the class should last or how much information had to be covered under each topic. The curriculum outline was limited on information and was mainly used to report the topics covered in class but

it was not used as a guide to orientate the lactation consultant through the class (See Appendix V: Breastfeeding only class curriculum outline).

At the beginning of the class, the lactation consultant asked participants to fill out their name, phone, sex, and number of children on an attendance list and a pre-test was given before the start of the class. The setting for the classes was a conference room and chairs were set on a “U” shape which allowed participants to watch the lactation consultant at all times. The lactation consultant did not use any kind of technology during the class; instead she used different materials including:

- Breast model and printed breast images to explain the anatomy and functioning of the breast while breastfeeding an infant.
- Colostrum and breast milk models to explain the differences in composition and amount between colostrum, foremilk and hindmilk.
- Lanolin samples
- Nipple shields
- Baby stomach size models to provide an example of the amount of colostrum or breast milk that infants are capable of tolerating depending on their maturation and age.
- Baby model and a special cushion for breastfeeding mothers to provide examples of breastfeeding techniques and breastfeeding positions to successfully feed their infants.
- Manual and electric breast pumps to show the use of these devices in case of mothers going back to work or school, breast milk storage, and special situations where mothers should use breast pumps to keep stimulating breast milk production or pumping out breast milk to help alleviate an engorged breast.

- Different handouts were also used as a guide for the class. These materials were available in English and Spanish, the titles for the handouts were the following:
 - English
 - Breastfeeding better for baby and mom (See Appendix VII)
 - Breast care. Breast and nipple care. Prevention and treatment of sore nipples (See Appendix VIII)
 - Preventing engorgement (See Appendix IX)
 - Breast milk management. Breast milk collection and storage. Guidelines for healthy newborns (See Appendix X)
 - Baby Bellies (See Appendix XI)
 - Diapers of the breast fed baby (See Appendix XII)
 - Going back to work. Tips for continued successful breastfeeding (See Appendix XIII)
 - Spanish
 - Beneficios para el bebé y la mama (Appendix XIV)
 - Cuidado de los senos y los pezones. Prevención y tratamiento de la irritación de pezones (Appendix XV)
 - Cómo prevenir la congestión mamaria (Appendix XVI)
 - Recolección y almacenamiento de la leche materna (Appendix XVII)
 - Barrigas de bebé (Appendix XVIII)
 - Pañales del bebé alimentado al seno materno (Appendix XIX)
 - El regreso al trabajo. Consejos para que la lactancia materna sea un éxito constante (Appendix XX)

A question and answer session was allowed to answer subjects' questions about breastfeeding. At the end of the class, post-test was given to participants and lactation consultant asked them to answer the test without any help. The final scores from pre and post-test were used to provide some feedback about the questions which were incorrectly answered.

It is important to point out that the lactation consultant made a special emphasis on information contained on the test probably with the objective of improving the outcomes from the post-test. This teaching technique was found when the researcher observed classes from the last semester of 2013 and classes from January and February of 2014 (total of 6 classes observed (4 BF and 2 PreN + BF).

Analysis of Research Questions

The present study was designed to address two research questions:

1. Was there a significant difference between pre-test and post-test knowledge scores of participants who completed the intervention?
2. Were there any significant differences in the impact of the intervention between the English only and Spanish only classes?

Research Question Number One

The first research question addressed in this study was to identify if there were significant differences between pre and post-tests knowledge scores on the BF class and on the PreN + BF class. The sample for this study was not randomized and it was unknown if the distribution of values followed a normal distribution, unlike the t-test which compares the mean values of two groups. The Mann-Whitney U test compares their medians and the differences between 2

independent groups on a continuous scale. It relies on scores being ranked from the lowest to highest. Following are the results from the Mann Whitney U test for the BF class.

Table 5: Mann Whitney U Test for Breastfeeding only class (BF)

Test	N	Mean Rank	Sum of Ranks	Z	p
Pre-test	30	18.33	550.00	-5.496	.000*
Post-test	30	42.67	1280.00		
Total	60				

*The difference is highly significant since $p < .001$.

As shown by the results in Table 5: Mann Whitney U Test for the BF class, there was a significant difference between the pre and post-test scores of breastfeeding knowledge scores at the level of $p < .001$ ($Z = -5.496$; $p = .000 < .001$). These results suggest that the breastfeeding only class significantly increased the breastfeeding knowledge scores among participants.

Table 6: Mann Whitney U test for Prenatal + Breastfeeding class (PreN + BF)

Test	N	Mean Rank	Sum of Ranks	Z	p
Pre-test	131	81.59	10688.50	-10.978	.000*
Post-test	131	181.41	23764.50		
Total	262				

*The difference is highly significant since $p < .001$.

As shown by the results in Table 6: Mann Whitney U test for PreN + BF class, there was a significant difference between pre and post-test scores of prenatal and breastfeeding knowledge scores at the level of $p < .001$ ($Z = -10.978$; $p = .001 < .001$). These results also suggest that the PreN + BF class was successful on increasing the breastfeeding and prenatal care knowledge scores among females participating in the program.

Research Question Number Two

The second research question was designed to identify if there were significant differences in the impact of the intervention between English only and Spanish only classes. This research question was only identified in the BF class because all participants from the PreN + BF class were Spanish speakers.

Pearson correlation indicated no significant differences between English and Spanish breastfeeding group classes. These results could be attributed to a small sample and further research is needed to have a broader vision on how English and Spanish speakers are performing on the pre and post-tests and what are the differences between both groups. The majority of the populations attending the breastfeeding classes were Spanish speakers with 73.33% percent. The breastfeeding only class was very limited on demographic information and it was not possible to analyze other possible correlations to know more about what was happening with the population and what were the factors involved in participants' pre and post-test performance.

The research questions stated in the study were answered. The information available was not enough to have a broad vision of participants' demographics and further research is needed to complement these findings with the objective of creating new and successful breastfeeding programs for the South Texas population.

Breastfeeding only group class

The Spearman's rho correlation showed a moderate positive correlation between pre and post-test 0.559 $p < 0.001$, meaning that higher scores on pre-test are associated with higher scores on post-test. These data correspond with Pearson's correlation suggesting that participants' total

pre and post-test scores are related. Those findings suggested that the higher the pre-test total score is the higher the post-test scores will be for all matched subjects.

Reliability of the instruments

The reliability of the instruments was determined after the fact and also the reliability of each instrument from each class (BF and PreN+BF) was separately assessed. The instrument was measured to assess the consistency between the 10 items from the questionnaire and the Cronbach's Alpha for the BF class resulted on .437 indicating a low reliability for the test; a reliability between 0.8 and 0.95 is desired indicating a good consistency between items (See Table 6: Cronbach's alpha for the breastfeeding only class). The researcher also tested if eliminating one of the items from the test could improve the reliability from the test, Cronbach's Alpha increased from .437 to .503 when item number seven was deleted but reliability continues to be lower than acceptable.

Table 7: Cronbach's alpha for the breastfeeding only class

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.437	.448	10

The PreN+BF instrument was also assessed and the reliability was even lower than the breast feeding only class of a .365 indicating a very low consistency between items from the test (See Table 7: Cronbach's alpha for the prenatal + breast feeding class). Cronbach's Alpha when item was deleted was run to determine if there was an improvement on tests' reliability, the findings showed an increase from .365 to .420 if item number nine was deleted. This data

suggested very low reliability on the test and shows that deleting item nine increase reliability but the test is far from having acceptable reliability scores.

Table 8: Cronbach's alpha for the prenatal + breast feeding class

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.365	.463	10

The reliability was assessed using the Cronbach's Alpha test which indicated low scores on both instruments (BF and PreN+BF classes). These results suggested that instruments do not have the appropriate quality to assess the knowledge because the items from each test do not seem to have a good consistency between each other. Items do not correspond to the main topics taught in the classes. Other concerns about instruments' reliability were that both versions of the tests (English and Spanish) contained spelling and grammar errors through the test and also some of the tests were difficult to read because they were copies of a copy, they were not properly printed and they were of poor quality making hard to read the questions and answers. One way to increase the reliability of the test could be increase the number of items from the test. That way can help to inflate the value of reliability for BF and PreN + BF classes. Increasing the number of items and taking out the items contributing with the lowest reliability to the test could result in greater reliability coefficients for the desire assessment tools.

Confounding factors

It was not determined if participants were involved in other prenatal and/or breastfeeding classes before attending the program offered by the non-profit agency and it was not possible to

indicate external factors that could be affecting the test scores. There is also no way to determine if the pre-test served as a treatment and interfered with the post-test scores of the participants.

Summary

The secondary data analysis provided a record from 30 participants attending the breastfeeding only group class (BF) and 131 participants attending the prenatal + breastfeeding group class (PreN+BF). As this was a secondary data analysis the researcher was not involved in the intervention and the development of the classes and instruments. The classes were in charge of a bilingual lactation consultant who taught the classes from 2012 to 2014.

The results from the present investigation indicated a significant gain of knowledge between pre and post-test scores from both programs (BF and PreN+BF). No significant differences between English and Spanish versions of the BF curriculum were found. However, spearman's rho correlation indicated a moderate positive correlation between pre and post-test $0.559 p < 0.001$, meaning that higher scores on pre-test are associated with higher scores on the post-test.

The reliability from both instruments was measured post fact to show the consistency between items of each instrument from the BF and PreN+BF classes. The results showed a low reliability on both instruments. Grammar and spelling errors were founded on pre and post-tests from both evaluated classes.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

According to the literature review (Gill, 2007, 2009; Bonuck, 2005; Hannula, 2007; Meier, 2007) breastfeeding and prenatal programs have been demonstrated to be successful on increasing breastfeeding knowledge among Hispanic population. Breastfeeding practices provide benefits for the infant, mother and family when used exclusively for the first four to six months of life (Angelsen, 2001; Benner, 2001; Brandtzaeg, 2003; Kramer, 2008; Stuebe, 2009). When implementing and evaluating breastfeeding programs among Hispanic population; it is important to determine some cultural and/or linguistic barriers to align the strategy through better results.

In ongoing research by Gill, et al. on breastfeeding programs, practices and beliefs among Hispanic women and their families living in San Antonio, Texas the authors have determined that successful breastfeeding programs with this population had available curriculums in English and Spanish, proper handouts with information about engorged breasts, sore nipples, breast pumps and pumping, and appropriate assessment tools to evaluate breastfeeding knowledge and beliefs about breastfeeding and prenatal care(Gill, 2004, 2007, 2009). In the present study, a formal bilingual curriculum was not available for any of the programs, instead curriculum outlines were used to guide the class and inform the participants about the topics they would learn. The English and Spanish versions of the curriculum were being taught by same lactation consultant depending on participants preferred language and handouts about engorgement prevention and management, sore nipples, and breast pumps were also available in both

languages. However, the assessment tools to evaluate the breastfeeding and prenatal care knowledge did not use a reliable and validated questionnaire and the psychometric quality of the instruments was not determined prior to their use.

The present study examined the gain of breastfeeding and prenatal care knowledge after two different group classes. The BF class evaluated 30 participants who attended a breastfeeding only group class between 2012 and 2014. The class was available in English and Spanish, and 73% of the participants preferred the class being taught in Spanish. This percentage simulates the percentages of Hispanic population in South Texas which is 81% (United States Census Bureau, 2012). The second group evaluated 131 participants who attended a prenatal + breastfeeding class during the years of 2012 and 2014. The class was available in English and Spanish, however, 100% of the participants selected Spanish as their preferred language to take the class.

Statistical analyses were run with the available information and the researcher found significant differences between pre and post-test scores showing that both strategies (breastfeeding only group class and prenatal + breastfeeding group class) increase the clients' breastfeeding knowledge scores after taking the class. These results cannot be attributed only to the class and it was not determined if the pre-test worked as a treatment indirectly increasing the post-test scores. It is very likely that participants have attended a breastfeeding and/or prenatal class before. Statistics showed that 91.48% of the participants were receiving some type of government support and 71.75% of those subjects were participating on the WIC program where some of their strategies consisted on providing with nutritional and health education classes to promote breastfeeding among families. This situation suggests that participants receiving the WIC support could be influenced by previous information about breastfeeding and prenatal care. Other factors involved on the increase of breastfeeding and prenatal care knowledge scores could

be related to the conducts of the lactation consultant who may have given away or made emphasis on information contained on the tests. The low reliability of both instruments is a major concern on the analysis of the results and they may have interfered with the interpretation of the results.

The researcher observed 6 classes (4 classes from the BF program and 2 classes from the PreN + BF program) from the second semester of 2013 and January and February of 2014. According to the curriculum outline for both classes, the lactation consultant covered all the topics. However, it was observed that the lactation consultant made special emphasis on the information contained in the test, suggesting that results could be altered because of the emphasis made in that information. Also the tests were hard to read because of the quality of the copies and the questions and answers contained misspelling and grammatical errors in both test (BF and PreN + BF) in English and Spanish.

The researcher was not involved in any part of the programs, other than as an external observer. The only information used for this study was provided by a hard copy data base from the non-profit agency. The instruments were developed by lactation consultant from the non-profit agency and the same instruments for each of both classes were the same during the analyzed period of time.

Both research questions from the present study were answered. The researcher discovered that there were significant positive differences between pre and post-tests from both classes. These findings suggest that both programs were successful on increasing breastfeeding and prenatal care knowledge scores among participants. The second research question aimed to know if there were significant differences between the English and Spanish versions of the program but

not significant differences were found on the breastfeeding only class. The prenatal + breastfeeding class was not evaluated because all participants were Spanish speakers.

The reliability of the instruments was calculated and findings showed a low reliability. Items from both tests do not corresponded to the taught topics and there was not a good distribution of the questions. There is a need for the development of new instruments to properly assess the gain of knowledge among participants and these new assessment tools should be evaluated prior their use. The researcher suggests that the lactation consultant receives training on how to develop assessment tools to appropriately evaluate the breastfeeding programs. The lactation consultant also needs to be aware of the importance of giving away or emphasizing information present on the test and how the intervention could be bias because of those conducts.

As seen in the results, there was a significant difference between pre and post-test scores among both classes, suggesting that the two interventions were successful on increasing the post-test scores as compared with the pre-test scores. These results showed that there was an improvement of knowledge scores from pre-test to post-test. However, it was not possible to evaluate the complete class process as the researcher was not able to determine if there were some teaching techniques influencing these results. During the six classes that the researcher observed, the lactation consultant made special emphasis on information contained in the test. As this study was a secondary data analysis, this concern could not be determined. This conduct of the lactation consultant could be affecting the post-test scores and further research would be needed to address this concern.

The pre and post-test instruments from both classes were not tested before their use and that could be a factor interfering with the results. For the breastfeeding only classes, the

curriculum outline contained ten main topics. The test developed by the lactation consultant to evaluate the class only included 10 items and they were classified under only four of the ten topics included in the class. This situation could be indicating a failure to evaluate the class as a whole breastfeeding program because the test is not correctly measuring all the information taught.

The pre and post-tests for the prenatal + breast feeding class neither followed the curriculum outline structure for the class, nor were the items properly assigned to successfully evaluate the program. More questions and a better distribution of the topics are needed to improve the instrument as an evaluation tool.

Recommendations

Based on the analysis of results and findings, these recommendations are suggested to increase the quality of the breast feeding program:

- There is a need of a formal bilingual curriculum to appropriately guide the breast feeding and prenatal + breast feeding class.
- New instruments need to be developed to evaluate the breast feeding and prenatal knowledge among participants. The psychometric quality of the instruments should be determined before the use of the tests to ensure an appropriate reliability of the assessment tool and the instruments need to be validated before their use.
- Instruments' items should be built according to the curriculum learning objectives.
- The lactation consultant and other members of the non-profit agency should be aware of the importance of having appropriate instruments to evaluate the gain of knowledge. If

necessary, they can ask for an expert on the topic to help them to develop new assessment instruments.

- The use of technology to illustrate the information and provide with examples for both classes (BF and PreN+BF), will be useful to complement the lesson plan.
- Further research could be conducted to evaluate the breast feeding practices among participants who attended the programs. The researcher could make a follow up of participants at child's birth and after 6 months to get data on the use of breast feeding practices and to have a broader knowledge on the long-term impact of both programs.

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APPENDICES

Appendix I:
Breast feeding only class pre-test (English and Spanish)

Breast feeding pre-test

Name: _____

1. Breast milk is best for babies because it:
 - a. Contains nutritional components that are natural tranquilizers for babies
 - b. Is always clean and at the right temperature
 - c. Gives babies a stronger immune system
 - d. All of above
2. When is it easier for my baby to latch on?
 - a. When she is sucking on her hand, displaying early hunger cues.
 - b. When she is crying because I let her get very hungry.
 - c. When she is asleep and I wake her to eat.
3. Breast feeding helps my uterus shrink back to its normal size faster
 - a. YES
 - b. NO
4. Should breastfeeding be painful?
 - a. YES
 - b. NO
5. How long does freshly expressed milk last at room temperature
 - a. 1 hour
 - b. 2 hours
 - c. 4 hours

- d. 30 minutes
6. When should I expect my milk to come in?
- a. Right after giving birth
 - b. One week later
 - c. 3-4 days later
 - d. I don't know
7. Should I see large amounts of colostrum the first few days?
- a. YES
 - b. NO
8. How do I know my baby is getting enough breastmilk?
- a. My baby sleeps 4 hours after feedings
 - b. She lasts 1 hour latched on
 - c. My baby wets at least 6 diapers every day
 - d. All of above
9. What color should my baby's stool be?
- a. Greenish
 - b. Brownish
 - c. Mustard color
10. An exclusive breastfed infant should feed how many times in 24 hours?
- a. 3-5 times
 - b. 4-7 times
 - c. 8-12 times

Lactancia materna pre-test

Nombre: _____

1. La leche materna es la mejor para los bebés porque:
 - a. Contiene componentes que tranquilizan al bebé
 - b. Siempre está limpia y a la temperatura ideal
 - c. Contribuye a tener un sistema inmunológico más fuerte
 - d. Todas las respuestas están correctas
2. Cuando es más fácil para mi bebé prenderse del pecho?
 - a. Cuando se lleva la mano a la boca, mostrando los primeros signos de hambre.
 - b. Cuando está llorando porque ya tiene mucha hambre.
 - c. Cuando está durmiendo y lo despierto para comer.
3. La lactancia materna ayuda a mi útero a regresar a su tamaño original más rápido.
 - a. Verdadero
 - b. Falso
4. Dar pecho es doloroso?
 - a. SI
 - b. NO
5. Cuánto tiempo dura la leche materna recién extraída a temperatura ambiente?
 - a. 1 hora
 - b. 2 horas
 - c. 4 horas
 - d. 30 minutos
6. Cuándo empiezo a producir leche materna?

- a. Inmediatamente después de dar a luz
 - b. Una semana después
 - c. 3 o 4 días después
 - d. No sé
7. Tengo que ver grandes cantidades de calostro los primeros días?
- a. SI
 - b. NO
8. Como puedo saber si mi bebé está consumiendo suficiente leche materna?
- a. El bebé duerme 4 horas después de comer
 - b. Pasa 1 hora prendido del seno
 - c. Moja al menos 6 pañales cada día
 - d. Todas las respuestas están correctas
9. De qué color debe ser la popo de mi bebé?
- a. Verdosa
 - b. Café
 - c. Color mostaza
10. Un bebé exclusivamente alimentado al seno materno debe alimentarse cuantas veces al día?
- a. 3 a 5 veces
 - b. 4 a 7 veces
 - c. 8 a 12 veces

Appendix II:
Breast feeding only class post-test (English and Spanish)
(NON-PROFIT AGENCY NAME)
Breast feeding post-test

Name: _____ Date: _____

1. Breast milk is best for babies because it:
 - a. Contains nutritional components that are natural tranquilizers for babies
 - b. Is always clean and at the right temperature
 - c. Gives babies a stronger immune system
 - d. All of above
2. When is it easier for my baby to latch on?
 - a. When she is sucking on her hand, displaying early hunger cues.
 - b. When she is crying because I let her get very hungry.
 - c. When she is asleep and I wake her to eat.
3. Breast feeding helps my uterus shrink back to its normal size faster
 - a. YES
 - b. NO
4. Should breastfeeding be painful?
 - a. YES
 - b. NO
5. How long does freshly expressed milk last at room temperature
 - a. 1 hour
 - b. 2 hours

- c. 4 hours30 minutes
6. When should I expect my milk to come in?
- a. Right after giving birth
 - b. One week later
 - c. 3-4 days later
 - d. I don't know
7. Should I see large amounts of colostrum the first few days?
- a. YES
 - b. NO
8. How do I know my baby is getting enough breastmilk?
- a. My baby sleeps 4 hours after feedings
 - b. She lasts 1 hour latched on
 - c. My bay wets at least 6 diapers every day
 - d. All of above
9. What color should my baby's stool be?
- a. Greenish
 - b. Brownish
 - c. Mustard color
10. An exclusive breastfed infant should feed how many times in 24 hours?
- a. 3-5 times
 - b. 4-7 times
 - c. 8-12 times

Lactancia materna pre-test

Nombre: _____

1. La leche materna es la mejor para los bebés porque:
 - a. Contiene componentes que tranquilizan al bebé
 - b. Siempre está limpia y a la temperatura ideal
 - c. Contribuye a tener un sistema inmunológico más fuerte
 - d. Todas las respuestas están correctas
2. Cuando es más fácil para mi bebé prenderse del pecho?
 - a. Cuando se lleva la mano a la boca, mostrando los primeros signos de hambre.
 - b. Cuando está llorando porque ya tiene mucha hambre.
 - c. Cuando está durmiendo y la despierto para comer.
3. La lactancia maternal ayuda a mi útero a regresar a su tamaño original más rápido.
 - a. Verdadero
 - b. Falso
4. Dar pecho es doloroso?
 - a. SI
 - b. NO
5. Cuánto tiempo dura la leche materna recién extraída a temperatura ambiente?
 - a. 1 hora
 - b. 2 horas
 - c. 4 horas
 - d. 30 minutos

6. Cuándo empiezo a producir leche materna?
- a. Inmediatamente después de dar a luz
 - b. Una semana después
 - c. 3 o 4 días después
 - d. No sé
7. Tengo que ver grandes cantidades de calostro los primeros días?
- a. SI
 - b. NO
8. Como puedo saber si mi bebé está consumiendo suficiente leche materna?
- a. El bebé duerme 4 horas después de comer
 - b. Pasa 1 hora prendido del seno
 - c. Moja al menos 6 pañales cada día
 - d. Todas las respuestas están correctas
9. De qué color debe ser la popo de mi bebé?
- a. Verdosa
 - b. Café
 - c. Color mostaza
10. Un bebé exclusivamente alimentado al seno materno debe alimentarse cuantas veces al día?
- a. 3 a 5 veces
 - b. 4 a 7 veces
 - c. 8 a 12 veces

Appendix III:

Prenatal + Breast feeding pre-test (Spanish)

Nacer y Crecer con Amor

Pre-test and post-test

Nombre:_____ Fecha:_____

Circula solamente una respuesta

- 1) Cuales síntomas pueden indicar que estoy embarazada?
 - a. Nauseas por la mañana
 - b. Falta de uno o más periodos mensuales
 - c. Pechos muy sensibles
 - d. Todas las respuestas están correctas
- 2) Cuando debo de empezar mi cuidado prenatal?
 - a. Cuando no me ha bajado menstruación por segundo mes
 - b. Cuando se me empieza a notar (el estómago)
 - c. Antes de planear embarazarme
- 3) Como debo de alimentarme durante el embarazo?
 - a. Él bebe recibe los nutrientes de mi cuerpo comoquiera
 - b. Tengo que comer doble
 - c. Debo comer tres comidas balanceadas mas 1 o 2 meriendas al día
 - d. Debo dejar de cenar para no engordar mucho
- 4) Puedo fumar, tomar alcohol o cerveza cuando estoy embarazada?
 - a. Si

- b. No
- 5) Cuanto peso debo aumentar durante mi embarazo?
- a. 15 a 25 libras
 - b. 25 a 35 libras
 - c. 35 a 45 libras
 - d. No importa
- 6) Cual de estas señales indica que puedo estar en trabajo de parto?
- a. Liquid o sangrado vaginal
 - b. Dolor fuerte en el abdomen
 - c. Dolor o presión fuerte en la parte baja de la espalda
 - d. Todas las respuestas están correctas
- 7) Qué ejercicio debo hacer durante el embarazo?
- a. El trabajo de la casa es suficiente
 - b. Ejercicio moderado como caminar, bajo aprobación del doctor
 - c. Es peligroso hacer ejercicio durante el embarazo
 - d. No necesito hacer ejercicio
- 8) Si das pecho a tu bebe, Cuales beneficios recibirá?
- a. Nutrición perfectamente balanceada
 - b. Disminuye la posibilidad de infecciones respiratorias y del oído
 - c. Promueve un crecimiento y desarrollo sano
 - d. Un coeficiente intelectual mas alto
 - e. Todas las respuestas son correctas
- 9) Si quiero tener más hijos, Cuánto tiempo debo esperar para embarazarme de nuevo?

- a. 6 meses
- b. 1 año
- c. 2 a 3 años
- d. No importa

10) A qué edad puedo a empezar a dar cereal a mi bebé?

- a. 3 meses
- b. 4 meses
- c. 6 meses

Appendix IV:
Prenatal + Breast feeding post-test (Spanish)

Nacer y Crecer con Amor

Pre-test and post-test

Nombre:_____ Fecha:_____

Circula solamente una respuesta

- 1) Cuales síntomas pueden indicar que estoy embarazada?
 - a. Nauseas por la mañana
 - b. Falta de uno o más periodos mensuales
 - c. Pechos muy sensibles
 - d. Todas las respuestas están correctas
- 2) Cuando debo de empezar mi cuidado prenatal?
 - a. Cuando no me ha bajado menstruación por segundo mes
 - b. Cuando se me empieza a notar (el estómago)
 - c. Antes de planear embarazarme
- 3) Como debo de alimentarme durante el embarazo?
 - a. Él bebe recibe los nutrientes de mi cuerpo comoquiera
 - b. Tengo que comer doble
 - c. Debo comer tres comidas balanceadas mas 1 o 2 meriendas al día
 - d. Debo dejar de cenar para no engordar mucho
- 4) Puedo fumar, tomar alcohol o cerveza cuando estoy embarazada?
 - a. Si

- b. No
- 5) Cuanto peso debo aumentar durante mi embarazo?
- a. 15 a 25 libras
 - b. 25 a 35 libras
 - c. 35 a 45 libras
 - d. No importa
- 6) Cual de estas señales indica que puedo estar en trabajo de parto?
- a. Liquid o sangrado vaginal
 - b. Dolor fuerte en el abdomen
 - c. Dolor o presión fuerte en la parte baja de la espalda
 - d. Todas las respuestas están correctas
- 7) Qué ejercicio debo hacer durante el embarazo?
- a. El trabajo de la casa es suficiente
 - b. Ejercicio moderado como caminar, bajo aprobación del doctor
 - c. Es peligroso hacer ejercicio durante el embarazo
 - d. No necesito hacer ejercicio
- 8) Si das pecho a tu bebe, Cuales beneficios recibirá?
- a. Nutrición perfectamente balanceada
 - b. Disminuye la posibilidad de infecciones respiratorias y del oído
 - c. Promueve un crecimiento y desarrollo sano
 - d. Un coeficiente intelectual mas alto
 - e. Todas las respuestas son correctas
- 9) Si quiero tener más hijos, Cuánto tiempo debo esperar para embarazarme de nuevo?

- a. 6 meses
- b. 1 año
- c. 2 a 3 años
- d. No importa

10) A qué edad puedo a empezar a dar cereal a mi bebé?

- a. 3 meses
- b. 4 meses
- c. 6 meses

Appendix V:

Curriculum Outline

Breast feeding only group class

Curriculum Outline

1. Breast feeding and its recommended time
 - a. What is breast feeding?
 - b. 6 months WHO exclusive breast feeding recommendations
2. Breast feeding benefits
 - a. Baby
 - i. Immunologic system
 - ii. Digestive system maturation
 - iii. Obesity prevention
 - iv. Other diseases prevention
 - b. Mother
 - i. Weight loss/Milk production
 - ii. Uterus contractions (oxytocin)
 - iii. Lower breast cancer risk
 - c. Family
 - i. Milk is free and has an ideal composition for the baby
3. Anatomy of the breast
 - a. Montgomery glands
 - b. Alveoli

- c. Milk ducts
 - d. Nipple
- 4. Maintaining breast health
 - a. Nursing bras
- 5. Preventing engorgement
 - i. When engorgement happens?
 - ii. Tips to avoid lesions on the nipple and areola
- 6. Types of milk
 - a. Colostrum
 - b. Mature milk
 - i. Foremilk
 - ii. Hindmilk
- 7. Breast feeding positions
 - a. Suction
 - b. Correct and incorrect breast feeding positions
 - c. Rooting reflex
 - i. Hunger cues
- 8. Characteristics of breastfed baby's stools and urine
 - a. Baby stomach size
 - b. Stool color
 - c. Amount of urine
- 9. Breast pumps
 - a. How to use a breast pump

b. Mothers back to work or school

c. Milk storage

10. Questions and answers session

Appendix VI:

Curriculum Outline Prenatal + Breast feeding group class

1. Early signs of pregnancy
 - a. Pregnancy test
2. Prenatal care
 - a. Nutrition
 - b. Exercise and rest
3. High risk behaviors
 - a. Drinking alcoholic beverages
 - b. Prescription drugs
 - c. Nicotine, caffeine, vitamins
4. Female menstrual cycle
5. Fetal development
 - a. Multiple births
6. After delivery changes
 - a. Uterus, after birth pain, birth canal, bladder, weight loss, skin changes
 - b. Emotional changes and postpartum depression
 - c. Rest and sleep
7. Breast feeding benefits
 - a. Baby
 - b. Mother
8. Anatomy of the breast
9. Preventing engorgement

- a. When engorgement happens?
 - b. Tips to avoid lesions on the nipple and areola
- 10. Types of milk
 - a. Colostrum
 - b. Foremilk
 - c. Hindmilk
- 11. Characteristics of breastfed baby's stools and urine
 - a. Baby stomach size
 - b. Stool color and urine
- 12. Breast pumps
 - a. Mothers back to work or school
 - b. Milk storage
- 13. Questions and answers session

Appendix VII:

Breast feeding better for baby and mom

BREASTFEEDING: BETTER FOR BABY

end Out 1. English

Healthier from the start

Breastfed babies have:

- Stronger immune systems
- Less diarrhea
- Less constipation
- Fewer colds and ear infections
- Better vision
- Lower rates of infant mortality
- Possibly lower rates of Sudden Infant Death Syndrome (SIDS)
- Less illness overall and less hospitalization
- Parents who have up to 6 times less absenteeism at work

Breast milk is best for babies because it:

- Contains nutritional components that are natural tranquilizers for babies
- Is always clean and at the right temperature
- Produces bowel movements with a less offensive, buttermilk-like odor

Fit for life

Breastfeeding improves IQ:

A clinical study¹ shows infants breastfed exclusively for the first 6 months of life test 11 IQ points higher than formula babies.

Breastfed babies may become healthier children...

- Less allergy, eczema and asthma
- Fewer childhood cancers
- Lower risk of juvenile onset diabetes
- Less Crohn's disease, and other chronic and acute diseases
- Lower rates of respiratory illness
- Healthier jaw and tooth development
- Fewer cavities
- Less likely to become obese later in childhood

... teens and adults

- Less likely to develop juvenile rheumatoid arthritis
- Less likely to develop heart disease in adulthood
- Lower risk of multiple sclerosis
- Lower rates of pre- and postmenopausal breast cancers

¹ Anderson, James W., et al., "Breast-feeding and Cognitive Development: A Meta-analysis", *The American Journal of Clinical Nutrition*, Vol. 70, No. 4, 525-535, October 1999.

Courtesy of the Playtex

M.O.M. Program
Mother's Own Milk

1225 Boca Chica Blvd
(956) 541-9250
BREASTFEEDING HELPLINE
561-MILK (6455)

BREASTFEEDING: BETTER FOR MOM

Healthier physically...

- Promotes faster weight loss after birth – burns about 500 extra calories a day to build and maintain a milk supply
- Stimulates uterus to contract and return to normal size
- Less postpartum bleeding
- Fewer urinary tract infections
- Less chance of anemia

...and emotionally

- Breastfeeding produces the naturally soothing hormones oxytocin and prolactin
- Increased calmness, self-esteem, and confidence

Fit for life

Breastfeeding may:

- Lower the risk of breast cancer
- Lower the risk of ovarian cancer
- Lower the risk of uterine cancer
- Lessen osteoporosis and resulting risk of hip fractures with age

Sources: Sears, Martha, RN, and William Sears, MD. *The Breastfeeding Book*. Boston: Little, Brown and Company, 2000. American Academy of Pediatrics, "Breastfeeding and the Use of Human Milk," *Pediatrics*, Vol. 100, No. 6, Dec. 1997. "Underfive Infants Score Higher on IQ Tests if Breastfed Exclusively," *National Institutes of Health*, March 20, 2002, available at www.nichd.nih.gov. "Life-Known Benefits of Breastfeeding," available at www.askdrsears.com, 6/15/02. "Breastfeeding Benefits," University of Michigan Health System, available at www.med.umich.edu, 6/16/02. Bauregard, Naomi, MD, and Dia L. Michels, MEd. *Milk, Money and Madness: The Culture and Politics of Breastfeeding* (Seymour A. Garvey), CT, 1996.

Courtesy of the Playtex **M.O.M.** Program
Mother's Own Milk™

Appendix VIII:

Breast care, breast and nipple care, and prevention and treatment of sore nipples.



Breastfeeding is meant to be a comfortable and pleasant experience. When you are first getting started with breastfeeding, you may feel awkward – that is common. It will take some practice and patience to get relaxed. Remember, both you and your baby are learning a new skill.

Breastfeeding is not supposed to hurt, but many new mothers find that in the first week or two of nursing, they may experience nipple tenderness and soreness. This is normal and will improve as the baby gets better at nursing.

The key to comfortable breastfeeding is getting the baby attached (or latched) to the breast correctly with your nipple deep into his mouth. Helping your baby latch and nurse the right way will help to prevent sore nipples even if they are already sore. If they are already sore, it will help them to heal quickly. A proper latch also helps your baby relax and get more milk during the feeding. You may need to experiment with different positions, but the basic latch is the same.

Positioning and Latch Technique:

- You and your baby should be in a comfortable position.
- You may find it helpful to use some pillows to support your arm.
- Hold your baby so his head, shoulder, and neck are in a straight line facing you and your breast.

- Hold your breast so your thumb is on top and fingers below, away from the areola (darker part surrounding the nipple).



- Pointing the nipple upward, tickle his lips until he opens his mouth wide. Be patient, sometimes this takes a minute or two.



- Bring baby's chin into your breast and pull him close so he takes in a big mouthful of breast.



- It's OK if baby's nose touches the breast. Keep baby's body pressed close to yours. This allows the nipple to stay deep in the baby's mouth.



- After the first few sucks, you should feel a tug at the breast, but no pain. (In the first few days the latch itself may hurt a bit, but the discomfort should ease over time.)

Signs of a good latch

- Baby sucks actively at the breast.
- Mouth is opened wide.
- Lips are flanged outward (like a rosebud).
- You may hear swallowing.
- Baby's chin is touching your breast (nose may also be touching).
- Baby's ear, shoulder and hip are in a straight line and baby's body is facing you.
- You should feel a tugging at the breast but no "toe-curling" pain after the first few sucks.

Breast CARE

If your Nipples are already Sore

- You may want to begin the feeding on the side that hurts less.
- Massage your breast for a minute or two before breastfeeding to stimulate the milk flow before baby latches on.
- If your breasts are full or firm, express some milk to soften the breast and make it easier for the baby to get the breast and nipple far back into his mouth.
- Make sure the baby is positioned properly with a wide open mouth and has hold of a large mouthful of breast. If baby is sucking on the nipple only, this can be extremely painful and your nipple may become damaged.
- For pain relief, you can apply Tender Care Lanolin on your nipples and areola after feeding to soothe the tender skin.
- If your nipples are very sore or there is a break in the skin, a moist environment is recommended for optimal healing. Medela® HydroGel Pads provide immediate cool and soothing pain relief and promote tissue healing. The pads are placed over the nipple and worn inside the bra between feedings. Tender Care Lanolin can also be used with the HydroGel Pads if needed.
- SoftShells™ for sore nipples can be worn inside your bra between feedings to allow air to circulate and protect the tender nipples from rubbing on the fabric.
- If you have tried these comfort measures for a few days and the nipple pain increases or you see bleeding or cracks, call a lactation consultant, or health care professional for extra help.



Helpful Hints

- If you must take the baby off the breast, remember to break the suction first by inserting a clean finger into the baby's mouth between the gums and holding it there while pulling him away.
- Breastfeed frequently (8-12 times in 24 hours). Watch for early feeding cues such as gentle stirring, being awake and alert, putting his hand to his mouth, etc. It is a good idea to try to breastfeed when baby is calm and alert, before he is crying and upset.
- Avoid early use of bottles and pacifiers.
- Keep bras and bra pads clean and dry.



Resources and References

Got to www.medela.com to educate yourself on products and information available for you and your baby.

To locate Medela products or a breastfeeding specialist in your area, go to www.medela.com or call 1-800-TELL YOU, 24 hours a day, 7 days a week.

Some other excellent resources include:

- International Lactation Consultant Association
www.ilca.org
- La Leche League International
www.llli.org
- United States Lactation Consultant Association
www.uslcaonline.org

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Medela, Inc., P.O. Box 880, 1101 Corporate Drive, McHenry, IL 60051-0880 USA
Medela Canada, Inc., 40905 Steeles Crescent, Unit 2, Mississauga (Ontario) L4L 5T5 CANADA
Phone: 1-800-435-8318 or 1-815-353-1155 Fax: 1-815-353-1245 Email: customer.service@medela.com www.medela.com

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Appendix IX:

Preventing engorgement

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Preventing Engorgement



For the first few days after giving birth, breasts remain soft and produce colostrum – the first milk. The amounts may seem small, but colostrum is available in just the right amount for the size of your baby's stomach. Colostrum is rich in nutrients and immune factors which feed your newborn baby and protect him from diseases.

Within 72-96 hours, you will notice changes in your breasts. They will become full, firm, warm, and perhaps tender as milk production increases and colostrum begins to change to mature milk. Breast fullness and mild to moderate swelling is normal. It is caused by milk and extra blood and fluid in the breasts. Your body will use the extra fluids to make milk for your baby. This breast fullness and swelling may last a day or two.

Your breasts will adjust over time, making the exact amount of milk that your baby needs. *In cases of extreme or prolonged, painful engorgement, get help from a lactation consultant or healthcare professional.* Your baby helps you manage engorgement by removing milk frequently. This means you should breastfeed at least 8-12 times each 24 hours. If your baby is not latching properly or feeding frequently, you may use a breastpump to keep your breasts from becoming overly full. Engorgement reduces the elasticity of the breasts and nipples, leading to more latch problems and sore nipples.

If breast fullness or swelling becomes severe, your breasts may redden and become very painful. If the excessive milk is not removed from the breast, chemical signals are released which can decrease milk production. Unrelieved, prolonged engorgement leads to a lowered milk supply.

A temperature over 100.4 °F or 38 °C may be a sign of an infection. Call your healthcare professional.



Prevention

Begin breastfeeding as soon as possible after birth and frequently thereafter to prevent painful engorgement.

- Avoid early use of bottles and pacifiers while baby is learning to breastfeed.
- Avoid unnecessary supplements, as this can lower milk supply.
- Breastfeeding at least 8-12 times in 24 hours is the most important thing you can do to prevent engorgement.
- Be sure that your baby is latching well. Improper latch can reduce the amount of milk your baby removes from your breasts which can lead to engorgement.
- Let baby nurse until he finishes each breast. Do not limit baby's time at the breast.
- Gently massage and compress the breast when your baby pauses between sucks. This can help drain the milk from the breast.
- Ask for help from your nurse, lactation consultant or healthcare professional so that latch problems are resolved as soon as possible.
- If you must miss a feeding or if baby is not nursing well, use hand expression or a breastpump to remove the milk.

Seek help if:

- Engorgement becomes severe or you are in pain.
- If you develop a temperature over 100.4 °F or 38 °C.
- Your baby has trouble latching on.

A black and white photograph of a woman with dark, curly hair, smiling and holding a young child. The woman is wearing a light-colored, possibly white, top. The child is looking directly at the camera with a neutral expression. The background is plain and light-colored.

Resources and References

- Use relaxation techniques and gentle breast massage to help improve milk flow and reduce engorgement.
- To start milk flow, use warm moist heat on the breasts for a few minutes; or take a brief warm shower before breastfeeding.
Note: Using heat for extended periods of time (over 5 minutes) may make swelling worse.
- Hand expression or brief use of a breastpump will soften the nipple and areolar tissue, making it easier for baby to latch well and deeply.
- Pumping once to completely drain the breasts after baby nurses can resolve engorgement for some women. Then return to frequent breastfeeding to manage breast fullness.
- Gently massage and compress the breast when your baby pauses between sucks. This helps drain the breast, leaving less milk behind.
- Although research data is scarce, cabbage leaf compresses have been used for generations to reduce pain and swelling from breast engorgement. Apply clean, whole leaves of cabbage to breasts for approximately 20 minutes between feedings 3 to 4 times a day until engorgement subsides.
- A bag of frozen vegetables wrapped in a thin towel works well as a cold compress. Some women find a cold compress before nursing reduces swelling and helps relieve pain.
- If your breasts are uncomfortably full, express a little milk by either hand expressing or pumping with a quality breastpump on a low setting. Express just enough until you are comfortable; avoid over stimulating. Use manual expression or a quality breastpump on a low setting. A hospital-grade rental pump can manage engorgement in cases where the baby is unable to breastfeed. Call 1-800 TELL YOU for a local rental location or visit www.medela.com.
- Ask your healthcare professional about medications such as ibuprofen to reduce pain and inflammation.
- A well-fitted, supportive nursing bra makes some women feel better. Others prefer to go braless during engorgement.
- Fever higher than 100.4 °F or severe pain may signal a breast infection. Call your healthcare professional if this occurs.

To locate Medela products or a breastfeeding specialist in your area, go to www.medela.com or call 1-800-TELL YOU, 24 hours a day, 7 days a week.

Some other excellent resources:

- International Lactation Consultant Association – www.ilca.org
- La Leche League International – www.llli.org
- United States Lactation Consultant Association – www.uslcaonline.org

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Modela, Inc., P.O. Box 680, 1121 Corporate Drive, Melbury, IL 60551-0680
 Modela Corp., Inc., 4160 Midway, Cincinnati OH 45243, OH 1/2, OH
 Phone: 202-426-8116 or 212-955-1160 Fax: (202) 363-1245
 Email: customerservice@modela.com
www.modela.com

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Appendix X:

Breast milk management. Breast milk collection and storage. Guidelines for healthy newborns.



Many mothers find it convenient or even necessary to collect their breastmilk and store it to be used at a later time. Such is the case for mothers who are returning to work or school or for mothers who may need to be separated from their infants. The guidelines offered below may answer the many questions mothers have about safely storing their breastmilk.

Collecting Breastmilk

- Wash hands well with soap and water.
- Wash all the collecting bottles and breastpump parts that touch your breasts or the milk. Use hot, soapy water or a dishwasher. Rinse carefully. Air dry on a clean towel. When soap and water are not available use Medela Quick Clean™ products. If your baby is premature or ill, the hospital may ask you to sterilize your pump parts.
- Read the instruction book that comes with your pump and follow the suggestions. Sterilize your pump parts once a day as described.
- Practice pumping when you are rested, relaxed and your breasts feel full. Once a day try to nurse your baby only on one side and pump the other breast. Or pump for a few minutes if your baby skips a feeding or nurses for only a short while. Read the *Breastmilk Storage* chart to learn how to store breastmilk. Be sure to use the right size breastshield so that your nipple fits comfortably. Medela makes different sizes of PersonalFit™ breastshields to fit all nipple sizes, from small to extra large.
- Employed moms can help their baby learn to take a bottle once breastfeeding is going well. It is best to wait for three (3) to four (4) weeks to introduce bottles. If you are having problems breastfeeding, ask for help from a lactation consultant or healthcare provider.
- Begin to pump to store milk one (1) to two (2) weeks before returning to work. Many employed moms use the fresh milk they pump at work for feedings the next day. They refrigerate Friday's milk for use on Monday. Save your frozen milk for emergencies.
- Pump three (3) times during an eight (8) hour work shift, or every three (3) hours you are away from your baby. Ten minutes of pumping during breaks and 15 minutes of pumping during lunch with a good pump will help protect your milk supply. If you can't pump three (3) times, pump as much as you can during each day.



Breastfeeding in the evening and on days off helps maintain your milk supply and protects your special bond with your baby.

Storing Breastmilk

- It is normal for pumped milk to vary in color, consistency and scent depending on your diet. Stored milk separates into layers. Cream will rise to the top. Gently swirl the warmed bottle to mix the milk layers.
- You can continue to add small amounts of cooled breastmilk to the same refrigerated container throughout the day. Avoid adding warm milk to already cooled milk.
- Pumped milk may be added to frozen milk provided it is first chilled and the quantity is less than what is frozen.
- Store your milk in Medela's BPA-free breastmilk collection bottles or in disposable bags specifically designed for breastmilk, such as BPA-free Pump & Save™ Bags, by Medela.
- Freeze milk in two (2) to five (5) oz portions. Small amounts will thaw more quickly. You will waste less milk this way and will avoid over-feeding. Liquids expand when frozen. Be sure to leave some extra room at the top of the container so the bottle or bag won't burst.
- Seal containers tightly. Write the date on a piece of tape on the bag or bottle. Use the oldest milk first.
- Some mothers report their defrosted breastmilk has a soapy taste or odor. This is due to a normally occurring enzyme, lipase, which helps to digest the fat content of the breastmilk. To avoid this from occurring, scald the breastmilk (do not bring to a boil) on a stove until tiny bubbles appear along the sides of the pan; do this before it is frozen. The scalding process will neutralize the enzyme preventing the soapy taste or smell.
- If you do not plan to use the milk within a few days, freeze it right away in the coldest section of your freezer. Do not place the bottle or bag up against the wall of the freezer.



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Breastmilk MANAGEMENT

Breastmilk Storage (For Healthy Term Babies)					
	Room Temperature	Cooler with 3 Frozen Ice Packs	Refrigerator	Self-contained Refrigerator Freezer Unit	Deep Freezer
Freshly expressed breastmilk	4 hours at 66-72°F (19-22 °C) ¹	24 hours at 59 °F (15 °C) ¹	5-7 days at 32-39 °F (0-4 °C) ²	3-4 months ³	6-12 months at 0 °F (-19 °C) ³
Thawed breastmilk (previously frozen)	Do not store	Do not store	24 hours ⁴	Never refreeze thawed milk	Never refreeze thawed milk

Defrosting

- Thaw milk overnight in the refrigerator, or hold the bottle under warm running water to quickly thaw. You can also place the sealed container in a bowl of warm water for 20 minutes to bring it to body temperature.
- Thawed milk is safe in the refrigerator for 24 hours. **Do not refreeze.**

CAUTION

Never microwave breastmilk. Microwaving can cause severe burns to baby's mouth from hot spots that develop in the milk during microwaving. Microwaving can also change the composition of breastmilk.

Your Milk Supply and Your Baby's Needs

- We used to think that mothers needed to make more and more milk as their babies grew. Scientists now know that a healthy milk supply remains fairly constant over the six (6) months of exclusive breastfeeding.
- During the early weeks, babies eat very frequently and grow very quickly. By Day 10, babies should recover any lost birth weight. For the next few months, little girls should gain about an ounce a day, and little boys slightly more than an ounce.

- Around three (3) to four (4) months, a breastfed baby's rate of growth begins to slow down. Continuing to gain weight rapidly after this time may contribute to obesity later on. This means that the milk supply established in the early days will continue to satisfy the baby until it is time to introduce solids at 6 months.
- By the end of the first week of life, women who are breastfeeding one baby normally make between 19 to 30 oz of milk each day. Infants between one (1) and six (6) months of age normally drink an average of 19 to 30 oz a day⁵. An average size "meal" for a baby is between three (3) to five (5) oz of breastmilk. Formula is harder to digest and less well absorbed. Formula fed babies may need larger feeds. Consult your doctor for advice.

Resources and References

Got to www.medela.com to educate yourself on products and information available for you and your baby.

To locate Medela products or a breastfeeding specialist in your area, go to www.medela.com or call 1-800-TELL YOU, 24 hours a day, 7 days a week.

Some other excellent resources include:

- International Lactation Consultant Association www.ilca.org
- La Leche League International www.llli.org
- United States Lactation Consultant Association www.uslcaonline.org

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Phone: 1-800-435-0315 or 1-815-363-1100 Fax: 1-815-363-1245 Email: customer.service@medela.com www.medela.com

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Appendix XI:

Baby Bellies



Baby Bellies™

How much breastmilk does my baby need?

Your newborn has a tiny tummy and only needs a small amount of breastmilk at a time for the first days. The circles represent the approximate size of a newborn's stomach to show about how much breastmilk it can hold on the first, third, and tenth days of a baby's life.

How do I know my baby is getting enough breastmilk?

Look for approximately 6 wet diapers each day after the first few days. Expect three or more stools by the fourth day. Look for a baby who seems satisfied after feedings and has a healthy skin tone. Talk with a lactation consultant or your baby's healthcare professional if you have questions about breastfeeding your baby.

How often should I feed my baby?

Your newborn needs frequent feedings to grow and feel full. Breastfeed your baby at least 8 to 12 times every 24 hours.

Day 1: 6 mL

Day 3: 26 mL

Day 10: 60 mL


Appendix XII:

Diapers of the breast fed baby

Diapers of the Breastfed Baby

Looking at a baby's poop and pee can help you tell if your baby is getting enough to eat.

The baby's poop should change color from black to yellow during the first 5 days after birth.



The baby's first poop is black and sticky.



The poop turns green by Day 3 or 4.




The poop should turn yellow by Day 4 or 5.



Poop can look seedy.



Poop can look watery.



Illness, injury, or allergies can cause blood in poop. Call Doctor.



Babies make some large and some small poops every day.

Only count poops larger than this.



By Day 4, most breastfed babies make 3 or 4 poopy diapers every day.



On Day 1 or 2 some babies have orange or red pee.

By Day 3 or 4, breastfed babies should make 3 or 4 wet diapers with pee that looks like clear water.

A wet diaper is as heavy as 3 tablespoons of water.



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First Week Diaper Diary

1. Circle the hour closest to when your baby starts each breastfeeding.
2. Circle a **W** when your baby makes a wet diaper.
3. Circle a **P** when your baby makes a poopy diaper.
Some babies make more diapers each day than shown. This is great!

Sample Record for Day 4

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 12 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: (W) (W) (W) (W) (W) (W) (W) (W)
 Green or Yellow Poops: (P) (P) (P) (P) (P)

In this sample, the baby had nine feedings, six wet diapers, and three poopy diapers. By Day Four, most babies breastfeed 8 to 12 times each day.

Birth Date: ____/____/____ Time: ____ AM ____ PM

Birth Weight: ____ Discharge Weight: ____

Baby's weight at one week: ____

For breastfeeding help call: ____

Call your doctor, nurse, midwife, or breastfeeding helper if:

- Your baby is not making enough wet or poopy diapers
- There is dark colored pee after Day 3
- There is dark colored poop after Day 5

Day 1

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W
 Black Tarry Poops: P

Day 2

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W
 Black Tarry Poops: P P

Day 3

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W
 Green Poops: P P P

Day 4

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W
 Green or Yellow Poops: P P P P

Day 5

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Day 6

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Day 7

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Orders: Barbara Wilson-Clay, 12710 Burson Drive, Manchaca, TX 78652
 Phone: 512-292-7227 Fax: 512-292-7228 E-Mail: bwc@lactnews.com
 www.lactnews.com

Appendix XIII:

Going back to work. Tips for continued successful breast feeding.



Going Back to Work

Tips for Continued Successful Breastfeeding



The American Academy of Pediatrics recommends exclusive breastfeeding for the first six months. Women everywhere are returning to work and successfully continuing to breastfeed. Advanced planning, family and workplace support, and a high quality breastpump help create success for working moms. The longer babies are breastfed, the greater the health benefits for both mom and baby. Breastfeeding is good for your employer too – it reduces employees' absence from work for baby's illnesses.



Breastfeed often in the evenings and learn how to breastfeed lying down while you rest. Nighttime breastfeeding boosts your supply! Remember, pumping takes practice. If you only get a small amount of milk the first few times you pump, don't worry. With practice and patience you'll soon be pumping more milk.

Choosing the Right Pump & Accessories

It is important to select the best breastpump and accessories for your work situation. Many working moms choose Freestyle®, Pump in Style® Advanced or a hospital-grade breastpump, such as Symphony®. These pumps offer superior performance, comfort and convenience. Medela pumps have either a vehicle lighter or battery pack for options. Call 1-800 TELL YOU for a local retail or rental location or visit www.medela.com.



Freestyle

Choosing the correct size breastshield is important for the flow of breastmilk and comfort to moms who are pumping. Medela makes PersonalFit™ breastshields in a variety of sizes to fit your needs. Breastpumping should be comfortable. If pumping is uncomfortable or if you have questions, check with your lactation consultant or healthcare professional to help provide you with the proper fit.

Choosing a Childcare Provider for Your Baby

Choose a childcare provider you trust who is comfortable caring for your breastfed baby. You can also check with your state or county for a list of licensed childcare providers. By choosing a childcare provider that is close to your workplace, you can visit your baby and breastfeed during lunch.

Benefits of Breastfeeding

For Baby	For Mom
Breastfed infants have fewer and shorter episodes of illness.	Convenient and always ready for baby.
Nutrition provided by breastmilk benefits your baby's IQ.	Decreases risk of breast and ovarian cancers.
Reduces the risk of obesity and hypertension.	Just the right temperature, and is the healthiest choice at the least cost.
Helps the baby's immune system mature.	Increases the rate of weight loss in most mothers.
Increases the effectiveness of immunizations.	Breastfed babies are healthier, and mothers miss less work and spend less time and money on pediatric care.
Perfect nutrition.	Reduces risk of diabetes, heart attack, high blood pressure and stroke.
Fewer allergies.	
Protects against developing chronic diseases.	Decreases risk of osteoporosis.

...there are many other benefits to breastfeeding.

Go to www.medela.com to see references and find more.

You and Your Milk Supply

Your milk supply is established in the first days after birth. Breastfeed your baby frequently to help produce lots of milk. Make use of the time after your baby is born to rest and regain your energy. Avoid giving bottles and/or pacifiers until breastfeeding is well-established.

Going Back to Work

Tips for Continued Successful Breastfeeding



First Week of Work

Going back to work can be overwhelming. Start slowly, if possible, by returning to work for only a half-day, or mid-week. It is normal to feel tired at first. On days off, nap with your baby, enjoy your time together, and breastfeed often. Protect your milk supply by pumping often while away and breastfeeding when you are with your baby. Avoid having your breasts become overly full, as engorgement sends a signal to your body to slow down milk production.

Pumping at Work

The milk you pump at work one day may or can be used the next day to feed your baby. After pumping, cool your milk in a refrigerator or cooler. Store your milk in Medela's BPA-free breastmilk collection bottles or storage bags specifically designed for breastmilk, such as Medela Pump & Save™ bags. Freeze milk in 2-4 ounce containers and thaw when needed to use as back-up supply. Use a cooler carrier with frozen ice packs to transport your milk from work or to your daycare provider.

Freshly Expressed Breastmilk Storage Guidelines (For Healthy Term Babies)				
Room Temperature	Cooler with 3 Frozen Ice Packs	Refrigerator	Freezer	Thawed Breastmilk
4-6 hours at 66-78 °F (19-26 °C)	24 hours at 59 °F (15 °C)	3-8 days at 39 °F or lower (4 °C)	6-12 months 0-4 °F (-18-20 °C)	use within 24 hrs

If your work involves overnight travel, milk can be shipped home packed in dry ice, or shipped on the airlines packed in cooler containers with dry ice packs. Check www.faa.gov for the most recent rules and regulations.

Medela offers breastpumps that are ideal for pumping at work. The Freestyle® and Pump In Style® Advanced include everything you need in convenient carrying bags and feature 2-Phase Expression® technology for more milk in less time.* In addition, Freestyle is uniquely small and lightweight and includes accessories for optional hands-free pumping.

More Tips for Pumping at Work

- Two-piece clothing that opens easily at the waist makes pumping easier.
- If your supply is low, breastfeeding or pumping more often is the simplest way to increase your supply.

*When pumping at Maximum Comfort Vacuum™

- You may find it helpful to have the support of another pumping mom to talk to.
- Two (2) pump kits make pumping more convenient – one (1) for home and one (1) for work.
- Use Medela's Quick Clean™ Micro-Steam™ bags or wipes for easy clean up. Make sure you bring your pump parts home to wash before using the next day.
- Return to work mid-week so you only have 2 or 3 days before the weekend. It makes the first week back to work a short week and easier to handle.

Resources and References

Got to www.medela.com to educate yourself on products and information available for you and your baby.

To locate Medela products or a breastfeeding specialist in your area, go to www.medela.com or call 1-800-TELL YOU, 24 hours a day, 7 days a week.

Some other excellent resources:

- International Lactation Consultant Association – www.ilca.org
- La Leche League International – www.llli.org
- United States Lactation Consultant Association – www.uslcaonline.org
- Federal Aviation Administration – www.faa.org

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Medela, Inc., P.O. Box 900, 1101 Corporate Drive, McHenry, IL 60051-0900
Medela Canada, Inc., 4150 Steeles Avenue East Unit B1, Markham, ON L3R 0Y1
Phone: (800) 435-0210 or (915) 363-1100 Fax: (915) 363-1240
Email: customerservice@medela.com
www.medela.com

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Appendix XIV:

Beneficios para el bebé y la mama

Información sobre la lactancia materna

La leche materna es el mejor alimento para los bebés y los niños pequeños:

- Disminuye el riesgo de reacciones alérgicas y asma
- Es el alimento más fácil de digerir para los bebés
- Promueve un crecimiento y un desarrollo sanos
- Puede hacer que los bebés tengan un coeficiente intelectual más alto, según estudios
- Protege contra el cáncer y la diabetes
- Transmite las propiedades inmunológicas de la madre
- Hace que haya menos infecciones respiratorias y del oído
- Es posible que proteja contra el síndrome de muerte súbita del lactante (SIDS)
- Aporta beneficios de salud que duran toda la vida
- Disminuye el llanto y el cólico
- Disminuye los casos de maltrato y abandono
- Da a la mamá tiempo para abrazar a su bebé y ser cariñosa con él
- Cambia a lo largo del periodo de lactancia para satisfacer las necesidades específicas del bebé en un momento dado
- Disminuye el mal olor de los pañales
- Es el alimento más seguro para bebés en cualquier emergencia

Amamantar es lo mejor para las mamás:

- Hace que el cuerpo produzca prolactina, la hormona materna tranquilizante
- Es posible que retrase la ovulación y la menstruación
- Protege contra el cáncer del seno y el cáncer ovárico
- Ayuda a que el útero recupere el tamaño y la forma previos al embarazo
- Hace que la mamá falte menos al trabajo o a la escuela porque el bebé se enferma con menos frecuencia
- Crea un momento especial para que la mamá y el bebé formen lazos afectivos
- Ahorra tiempo preparando biberones
- Permite que las mamás duerman más por la noche (si duermen con el bebé)

Amamantar es lo mejor para las familias:

- Ahorra dinero con la fórmula para bebés y los costos de atención médica
- Hace que el bebé y la mamá sean más sanos
- Permite que la mamá pase más tiempo con toda la familia
- También puede brindar un lazo afectivo especial para hermanos y padres
- Hace más fácil viajar
- Hace que sea más fácil calmar al bebé (llora menos)

Amamantar es lo mejor para la tierra:

- Usa un recurso natural
- Protege el medio ambiente. No hay paquetes ni plástico ni desechos
- Disminuye el hambre en el mundo y la muerte de bebés
- Aporta una fuerza laboral más sana para el futuro
- No necesita almacenamiento
- Ahorra impuestos al disminuir los costos de atención médica

¡Amamantar es lo mejor!

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(956) 541-9250
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561- MILK (6455)



Appendix XV:

Cuidado de los senos y los pezones. Prevención y tratamiento de la irritación de pezones



Cuidado de los senos y los pezones

Prevención y tratamiento de la irritación de pezones



Se supone que la lactancia materna es una experiencia cómoda y agradable. Cuando comienza a amamantar por primera vez, es normal que se sienta incómoda; le tomará cierta práctica y paciencia relajarse. Recuerde que tanto usted como su bebé están aprendiendo una nueva destreza.

Si bien la lactancia materna no debería doler, durante la primera o la segunda semana de amamantamiento, muchas mujeres que acaban de ser madres notan que tienen dolor e irritación en los pezones. Esta situación es normal y mejorará a medida que el bebé aprenda a mamar.

La clave para amamantar con comodidad es prender (o colocar) al bebé correctamente en el seno y ponerle el pezón bien adentro de la boca. La manera en que su bebé se prende y las posiciones en las que usted lo amamanta pueden contribuir a prevenir la irritación de los pezones. Si sus pezones ya están irritados, una correcta colocación y postura puede ayudar a que se curen un poco más rápido. También es una buena opción comunicarse con un consultor de lactancia o un profesional de atención médica para que la ayude a adoptar técnicas que le permitan amamantar con comodidad.

- Coloque la barbilla del bebé contra el seno y acérquelo para que tome con la boca una buena parte del seno.



- Mantenga el cuerpo del bebé presionado cerca del suyo para que el pezón quede bien adentro de la boca. No hay ningún problema si la nariz del bebé toca el seno.



- Después de las primeras succiones, sentirá un tirón en el seno, pero no dolor. (Durante los primeros días, la colocación en sí puede doler un poco, pero las molestias se aliviarán con el tiempo).

Técnicas de colocación y postura

- Usted y su bebé deben estar cómodos.
- Quizá le resulte útil usar algunas almohadas para apoyar el brazo.
- Sostenga a su bebé de modo que quede frente a usted y a los senos. Los oídos, los hombros y el cuello del bebé deben estar en línea recta.

- Sostenga el seno de modo que el pulgar esté arriba, y el resto de los dedos, abajo, bien lejos de la areola (la parte oscura que rodea al pezón).



- Con el pezón hacia arriba, haga cosquillas en los labios del bebé hasta que abra bien la boca. Tenga paciencia, a veces tarda uno o dos minutos.



Signos de una buena colocación

- El bebé succiona activamente los senos.
- La boca está bien abierta.
- Los labios están volteados hacia afuera (como un pimpollo de rosa).
- Es posible que escuche que el bebé traga.
- La barbilla del bebé toca el seno (a veces también la nariz).
- Los oídos, los hombros y las caderas del bebé están en línea recta, y el cuerpo del bebé está frente a usted.
- Sentirá un tirón en el seno, pero ningún dolor fuerte después de las primeras succiones.

Cuidado de los senos y los pezones

Prevención y tratamiento de la irritación de pezones



Si los pezones ya están irritados

- Lo más aconsejable es comenzar a amamantar del lado que duele menos.
- Masaje los senos durante un minuto o dos antes de amamantar para estimular el flujo de leche antes de colocar al bebé.
- Si los senos están llenos o firmes, extraiga un poco de leche para ablandarlos y para que sea más fácil colocar el seno y el pezón bien adentro de la boca del bebé.
- Asegúrese de que el bebé esté colocado correctamente, con la boca bien abierta y con una buena parte del seno en la boca. Si el bebé succiona del pezón solamente, puede ser muy doloroso para usted y puede dañarle el pezón.
- Para suavizar la piel delicada y aliviar el dolor, puede aplicarse lanolina Tender Care™ en los pezones y en la areola después de amamantar.
- Si los pezones están muy irritados o hay grietas en la piel, es recomendable mantenerlos húmedos para que se curen. Las almohadillas de hidrogel Tender Care refrescan y alivian de inmediato el dolor, además de estimular la cicatrización de los tejidos. Dichas almohadillas se colocan sobre el pezón y se llevan dentro del sostén entre las sesiones de amamantamiento. De ser necesario, también puede usar lanolina Tender Care con las almohadillas de hidrogel.
- Entre las sesiones de amamantamiento, puede usar dentro del sostén protectores SoftShells™ para pezones irritados, a fin de permitir la circulación de aire y evitar que los pezones doloridos rocen la tela.
- Si ha probado estas medidas para el alivio del dolor durante unos días, pero el dolor en los pezones aumenta o nota sangrado o grietas, llame a un consultor de lactancia o a un profesional de atención médica para pedir ayuda.

Consejos útiles

- Cuando saque al bebé del seno, recuerde primero interrumpir la succión insertando un dedo limpio entre las encías del bebé y dejándolo allí mientras saca al bebé del seno.
- Amamante con frecuencia (de 8 a 12 veces cada 24 horas). Esté atenta a las señales iniciales de hambre, por ejemplo si el bebé hace movimientos suaves, está despierto y alerta, se lleva la mano a la boca, etc. Es una buena idea intentar amamantar al bebé cuando está en calma y alerta, antes de que lllore y se ponga de mal humor.
- Antes de incorporar biberones y chupetes, espere a que el amamantamiento esté bien establecido.
- Mantenga limpios y secos los sostenes y las almohadillas para sostenes.



Recursos y referencias

Visite www.medela.com para familiarizarse con los productos y con la información disponibles para usted y su bebé.

Para localizar en su zona productos de Medela o un especialista en lactancia materna, visite www.medela.com o llame al 1-800-TELL YOU, las 24 horas, todos los días de la semana.

Otros recursos excelentes:

- International Lactation Consultant Association (Asociación Internacional de Consultores de Lactancia): www.ilca.org
- La Leche League International (Liga Internacional de la Leche): www.llli.org
- United States Lactation Consultant Association (Asociación de Consultores de Lactancia de los Estados Unidos): www.uslcaonline.org

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Medela, Inc., P.O. Box 880, 1101 Corporate Drive, Michigami, IL 60051-0880
Medela Canada, Inc., 4110 Steeles Ave. East Unit #6, Markham, ON L3R 9V1
Teléfono: (905) 421-4015 y (905) 922-1160 Fax: (905) 323-1245
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Appendix XVI:

Cómo prevenir la congestión mamaria

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Cómo prevenir la congestión mamaria



Durante los primeros días después del parto, los senos están blandos y producen calostro: la primera leche. Si bien el calostro puede parecer poco, es la cantidad justa para el tamaño del estómago de su bebé. El calostro tiene un alto contenido de nutrientes y factores inmunológicos que alimentan a su recién nacido y lo protegen de enfermedades.

Dentro de las 72 a 96 horas, usted se notará cambios en los senos. Los sentirá llenos, firmes, tibios y, quizá le duelan a medida que aumenta la producción de leche y el calostro comienza a transformarse en leche madura. Es normal sentir los pechos llenos y una hinchazón de leve a moderada, ya que ahora los senos contienen leche y un mayor flujo de sangre y líquidos. El organismo usará estos fluidos adicionales para producir leche para su bebé. Es posible que los senos permanezcan llenos e hinchados durante uno o dos días.

Los senos se adaptarán con el tiempo y producirán la cantidad exacta de leche que necesita su bebé. *En casos de congestión dolorosa extrema o prolongada, pida ayuda a un consultor de lactancia o a un profesional de atención médica.* Su bebé la ayuda a controlar la congestión extrayendo leche con frecuencia. Esto significa que usted debe amamantar, como mínimo, de 8 a 12 veces cada 24 horas. Si su bebé no se prende adecuadamente o no se alimenta con frecuencia, puede usar un sacaleches para evitar que los senos se llenen demasiado. La congestión reduce la elasticidad de los senos y los pezones, lo que lleva a tener pezones irritados y más problemas de colocación.

Si la congestión o hinchazón se agrava, los senos pueden enrojecerse y causarle dolor intenso. Cuando el exceso de leche no se elimina de los senos, se producen señales químicas que pueden disminuir la producción de leche. Por lo tanto, una congestión prolongada y continua hace que se reduzca el suministro de leche.

Tener más de 100.4 °F o 38 °C de fiebre puede ser síntoma de infección. Llame a su profesional de atención médica si esto ocurre.



Prevención

Comience a amamantar tan pronto como sea posible después del parto y con bastante frecuencia para evitar una congestión dolorosa.

- Evite el uso temprano de biberones y chupetes mientras el bebé está aprendiendo a mamar.
- Evite los suplementos innecesarios, ya que pueden disminuir la producción de leche.
- Amamante, como mínimo, de 8 a 12 veces cada 24 horas; es la mejor medida que puede tomar para prevenir la congestión.
- Asegúrese de que su bebé se prenda adecuadamente. De lo contrario, la cantidad de leche que su bebé extrae de los senos disminuye, lo cual causa congestión.
- Deje que el bebé mame de ambos senos hasta que termine. No limite el tiempo que el bebé pasa prendido al seno.
- Masajee y comprima los senos con suavidad cuando su bebé haga pausas entre succiones. Esto puede ayudar a extraer toda la leche de los senos.
- Pida ayuda a un enfermero, a un consultor de lactancia o a un profesional de atención médica para que los problemas de colocación se resuelvan lo antes posible.
- Si debe omitir una sesión de amamantamiento o si su bebé no se está alimentando bien, ayúdese con las manos o con un sacaleches para extraerse la leche.

Pida ayuda si:

- La congestión se agrava o le causa dolor.
- Tiene más de 100.4 °F o 38 °C de fiebre.
- A su bebé le cuesta prenderse al seno.

Cómo prevenir la congestión mamaria



Tratamiento de la congestión mamaria

- Las técnicas de relajación y los masajes suaves en los senos pueden contribuir a mejorar el flujo de leche y reducir la congestión.
- Para iniciar el flujo de leche, aplique calor húmedo en los senos durante unos minutos o tome una ducha tibia breve antes de amamantar. **Nota:** El uso de calor por periodos prolongados (más de 5 minutos) puede empeorar la inflamación.
- Usar las manos o brevemente un sacaleches ablandará el pezón y el tejido areolar, lo cual ayudará a que su bebé se prenda de manera correcta y profunda.
- En algunas mujeres, extraerse leche una vez después de amamantar al bebé a fin de vaciar totalmente los senos puede resolver el problema de la congestión. Después regrese al amamantamiento frecuente para controlar la congestión de los senos.
- Masaje y comprima los senos con suavidad cuando su bebé haga pausas entre succiones. Esto ayuda a vaciar los senos, dejando menos leche en ellos.
- Si bien las investigaciones al respecto son pocas, durante generaciones se han usado compresas con hojas de col para disminuir el dolor y la hinchazón que provoca la congestión de los senos. Entre sesiones de amamantamiento, coloque hojas de col enteras y limpias sobre los senos durante aproximadamente 20 minutos, de 3 a 4 veces al día, hasta que la congestión disminuya.
- Una bolsa de verduras congeladas envuelta en un paño no muy grueso sirve como compresa fría. Para algunas mujeres, aplicarse una compresa fría antes de amamantar reduce la hinchazón y ayuda a aliviar el dolor.
- Si los senos están llenos y le causan molestias, extraiga un poco de leche con las manos, o bien con un sacaleches de calidad a baja potencia. Extrágase la cantidad necesaria para calmar las molestias; evite la estimulación en exceso. Use las manos para extraer leche o un sacaleches de calidad a baja potencia. Un sacaleches de calidad hospitalaria alquilado sirve para aliviar la congestión en los casos en que el bebé no puede mamar. Llame al 1-800 TELL YOU para consultar sobre un lugar de alquiler en su zona o visite www.medela.com.
- Pregúntele a su profesional de atención médica sobre medicamentos, tales como el ibuprofeno, para reducir el dolor y la inflamación.
- Un sostén para lactancia del tamaño correcto que sostenga bien los senos hace que algunas mujeres se sientan mejor. Otras prefieren no usar sostén cuando tienen congestión.
- Tener más de 100.4 °F (38 °C) de fiebre o un dolor agudo puede ser síntoma de una infección en los senos. Llame a su profesional de atención médica si esto ocurre.

Recursos y referencias

Visite www.medela.com para familiarizarse con los productos y con la información disponibles para usted y su bebé.

Para localizar en su zona productos de Medela o un especialista en lactancia materna, visite www.medela.com o llame al 1-800-TELL YOU, las 24 horas, todos los días de la semana.

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- La Lache League International (Liga Internacional de la Lache): www.llli.org
- United States Lactation Consultant Association (Asociación de Consultores de Lactancia de los Estados Unidos): www.uslcaonline.org

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Medela Canada, Inc., 4165 Steeles Avenue East, Unit 18, Markham, ON L3R 9V4
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Appendix XVII:

Recolección y almacenamiento de la leche materna

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Recolección y almacenamiento de la leche materna

Pautas para recién nacidos saludables



A muchas mujeres les resulta conveniente recolectar su leche materna y almacenarla para usarla después. Es el caso de las madres que regresan al trabajo o a la escuela o que están separadas de sus bebés. Las siguientes pautas pueden servirle de respuesta a algunas de las preguntas que quizá tenga sobre cómo almacenar la leche materna en forma segura para alimentar a su bebé nacido a término. Si su bebé nació prematuro, consulte a su profesional de atención médica para que le explique cuáles son las pautas para almacenar y transportar la leche materna en forma segura y correcta.

- Cuando no está con su bebé, lo ideal es que se extraiga leche cada tres (3) horas. Diez minutos de extracción con un buen sacaleches durante los descansos y quince minutos durante el almuerzo ayudarán a proteger su producción de leche. Si no puede extraerse leche cada tres (3) horas, extraiga todo lo que pueda a diario.
- Amamante a su bebé por la noche y en los días libres para ayudar a mantener su producción de leche y proteger el vínculo especial que tiene con él.

Recolección de la leche materna

- Lávese bien las manos con agua y jabón.
- Use agua caliente y jabonosa o un lavaplatos para lavar todos los biberones de recolección y las piezas del sacaleches que estén en contacto con los senos o con la leche. Enjuague con agua fría y deje secar al aire sobre una toalla limpia. Si no hay agua y jabón disponibles, use las toallitas Quick Clean™ de Medela. Si su bebé es prematuro o está enfermo, es posible que el hospital le pida que desinfecte las piezas del sacaleches.
- Lea el manual de instrucciones que viene con su sacaleches para aprender los procedimientos de recolección apropiados. Desinfecte las piezas del sacaleches una vez al día según lo descrito.
- Practique extraerse leche cuando esté descansada y relajada, y sienta que los senos están llenos. Puede intentar amamantar a su bebé de un solo seno y extraerse la leche del otro; o bien extraerse durante unos minutos si su bebé perdió una sesión de amamantamiento o tomó poca leche. La extracción no debe doler, y el embudo debe ajustarse cómodamente al pezón.
- Medela fabrica embudos PersonalFit™ de diferentes medidas para todos los tamaños de pezón, desde pequeños hasta extragrandes. Si tiene problemas para encontrar un embudo del tamaño apropiado o tiene preguntas sobre cómo colocárselo, pida ayuda a un consultor de lactancia o a un profesional de atención médica.
- Puede ayudar a que su bebé aprenda a tomar el biberón una vez que el amamantamiento esté establecido y funcione satisfactoriamente. Es mejor esperar de tres (3) a cuatro (4) semanas para empezar a usar el biberón. Si tiene problemas para amamantar, pida ayuda a un consultor de lactancia o a un proveedor de atención médica.
- Comience a extraerse y almacenar la leche de una (1) a dos (2) semanas antes de volver al trabajo. Muchas madres que trabajan usan la leche fresca que se extraen en el trabajo para la alimentación del día siguiente. Congele la leche que le sobra para casos de emergencia.



Almacenamiento de la leche materna

- Es normal que la leche extraída varíe en cuanto a color y consistencia según su alimentación. La leche almacenada se separará en capas, y la crema subirá a la parte superior. Agite suavemente el biberón (no lo sacuda) para mezclar las capas de la leche.
- Evite agregar leche recién extraída a la leche ya refrigerada. A lo largo del día, puede incorporar pequeñas cantidades de leche materna fría en el mismo recipiente refrigerado.
- Puede agregar leche extraída a la leche congelada, siempre que la refrigere primero y que la cantidad sea menor que la de la leche congelada.
- Almacene la leche en los biberones de recolección de leche materna sin bisfenol A (BPA, por sus siglas en inglés) de Medela o en bolsas de almacenamiento específicamente creadas para leche materna, como las bolsas Pump & Save™ sin BPA de Medela.
- Refrigere la leche en porciones de dos (2) a cuatro (4) onzas (de 59 a 118 ml). En pequeñas cantidades, la leche se descongela más rápido; de esta manera, desperdiciará menos leche. Asegúrese de no llenar el biberón o la bolsa hasta el tope para que no se desborden al congelar o descongelar la leche.
- Cierre bien los recipientes. Escriba la fecha en un trozo de cinta adhesiva y péguelo en la bolsa o el biberón. Use primero la leche más vieja.
- Si bien no es común, algunas madres notan que su leche materna descongelada tiene gusto u olor a jabón. Esto se debe a la lipasa, una enzima que ayuda a digerir el contenido graso de la leche materna. Si esto sucede, escalde la leche materna (sin que llegue a hervir) en una estufa hasta que aparezcan burbujas pequeñas en los lados de la cacerola; haga esto antes de congelar la leche. Escaldar la leche neutralizará la enzima, lo que evitará el gusto u olor a jabón.
- Si no planea usar la leche dentro de unos pocos días, congéla inmediatamente en la parte más fría del congelador.



Recolección y almacenamiento de la leche materna

Pautas para recién nacidos saludables



Pautas para el almacenamiento de la leche materna recién extraída (para bebés sanos, nacidos a término)

Temperatura ambiente	Enfriador con 3 paquetes de hielo	Refrigerador	Congelador	Leche descongelada
4-6 horas a 66-78 °F (19-26 °C)	24 horas a 59 °F (15 °C)	3-8 días a 39 °F o menos (4 °C)	6-12 meses a 0-4 °F (-18--20 °C)	usar dentro de las 24 horas

Descongelación

- Descongele la leche toda la noche en el refrigerador o coloque el biberón bajo un chorro de agua tibia hasta que se descongele. También puede poner el recipiente cerrado en un bol con agua tibia durante 20 minutos para que alcance temperatura corporal. No deje que el agua alcance el nivel de la tapa del recipiente.
- La leche descongelada puede conservarse en el refrigerador durante 24 horas.

ADVERTENCIA

Nunca use el microondas para calentar la leche materna. Hacerlo puede causar quemaduras graves en la boca del bebé por los puntos calientes que se forman en la leche cuando se la calienta de esta manera. El microondas también puede alterar la composición de la leche.

Su producción de leche y las necesidades de su bebé

- Antes se creía que las madres necesitaban producir más leche a medida que sus bebés crecían. En la actualidad, los científicos saben que, durante los seis (6) meses de amamantamiento exclusivo, la producción de leche saludable es relativamente constante. Su bebé tomará la cantidad que necesite.
- Durante las primeras semanas, los bebés comen con mucha frecuencia y crecen muy rápido. Entre el día 10 y 14, normalmente los bebés recuperan el peso que perdieron al nacer. Durante los siguientes meses, los bebés aumentarán entre 1/2 y 1 onza (14 y 28 g) por día.
- Alrededor de los tres (3) o cuatro (4) meses, la tasa de crecimiento de un bebé amamantado se vuelve más lenta. Su producción de leche seguirá satisfaciendo al bebé hasta los 6 meses, momento en que se empiezan a introducir alimentos sólidos.
- Hacia el final de la primera semana de vida del bebé, las mujeres que amamantan a uno solo suelen producir entre 19 y 30 onzas (562 y 887 ml) de leche por día. Los bebés de entre uno (1) y seis (6) meses de edad normalmente toman de 19 a 30 onzas (de 562 a 887 ml) por día.

Una "comida" promedio para un bebé consta de tres (3) a cinco (5) onzas (de 89 a 148 ml) de leche materna. Las leches maternizadas son más difíciles de digerir y no se absorben tan bien. Es posible que los bebés alimentados con leche maternizada necesiten tomar más cantidad de leche. Pídale asesoramiento a su profesional de atención médica.

Recursos y referencias

Visite www.medela.com para familiarizarse con los productos y con la información disponibles para usted y su bebé.

Para localizar en su zona productos de Medela o un especialista en lactancia materna, visite www.medela.com o llame al 1-800-TELL YOU, las 24 horas, todos los días de la semana.

Otros recursos excelentes

- International Lactation Consultant Association (Asociación Internacional de Consultores de Lactancia); www.ilca.org
- La Leche League International (Liga Internacional de la Leche); www.llli.org
- United States Lactation Consultant Association (Asociación de Consultores de Lactancia de los Estados Unidos); www.uslcaonline.org

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Medela, Inc., P.O. Box 600, 1101 Cassperson Drive, McHenry, IL 60050-0600
Medela Canada, Inc., 1160 Steeles Avenue East, Unit 40, Markham, ON L3R 9A1
Teléfono: 800-435-5219 o (916) 365-1100 Fax: (916) 365-1240
Correo electrónico: customer.service@medela.com
www.medela.com

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Appendix XVIII:

Barrigas de bebé

A close-up photograph of a newborn baby lying down, looking towards the camera. The baby's face is in focus, showing its eyes, nose, and mouth. The baby's skin is smooth and has a natural pinkish tone.

Barrigas de bebés

¿Qué cantidad de leche materna necesita mi bebé?

Su recién nacido tiene una barriga pequeña y necesita sólo un poquito de leche materna en ciertos momentos en los primeros días. Los círculos representan el tamaño aproximado del estómago del recién nacido para demostrar la capacidad aproximada de leche materna que hay en el primer, tercer y décimo días de la vida del bebé.

¿Cómo sé que mi bebé recibe suficiente leche materna?

Esté atenta a que haya 6 pañales al día después de los primeros días. Espere tres heces fecales o más al cuarto día. Esté atenta a que el bebé parezca estar satisfecho después que se le alimente y que la tonalidad de la piel sea saludable. Converse con un consultor sobre lactancia o el profesional de la Medicina de su bebé, si desea hacer más preguntas sobre cómo darle el pecho a su bebé.

¿Con qué frecuencia debo alimentar a mi bebé?

Hay que alimentar a su recién nacido frecuentemente para que crezca y se le satisfaga el hambre. Déle el pecho a su bebé, al menos, de 8 a 12 veces cada 24 horas.

Día 1: 6 mL

Día 3: 26 mL

Día 10: 60 mL

La información que aparece en esta hoja desprendible no tiene el propósito de reemplazar el consejo del profesional de la Medicina.

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Appendix XIX:

Pañales del bebé alimentado al seno materno

Diapers of the Breastfed Baby

Looking at a baby's poop and pee can help you tell if your baby is getting enough to eat.

The baby's poop should change color from black to yellow during the first 5 days after birth.




The baby's first poop is black and sticky.



The poop turns green by Day 3 or 4.




The poop should turn yellow by Day 4 or 5.



Poop can look seedy.



Poop can look watery.



Illness, injury, or allergies can cause blood in poop. Call Doctor.



Babies make some large and some small poops every day.

Only count poops larger than this. ➔



By Day 4, most breastfed babies make 3 or 4 poopy diapers every day.



On Day 1 or 2 some babies have orange or red pee.

By Day 3 or 4, breastfed babies should make 3 or 4 wet diapers with pee that looks like clear water.

A wet diaper is as heavy as 3 tablespoons of water. ➔



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First Week Diaper Diary

1. Circle the hour closest to when your baby starts each breastfeeding.
2. Circle a **W** when your baby makes a wet diaper.
3. Circle a **P** when your baby makes a poopy diaper.
Some babies make more diapers each day than shown. This is great!

Sample Record for Day 4

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 12 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: (W) (W) (W) (W) (W) (W) (W) (W)
 Green or Yellow Poops: (P) (P) (P) (P) (P)

In this sample, the baby had nine feedings, six wet diapers, and three poopy diapers. By Day Four, most babies breastfeed 8 to 12 times each day.

Birth Date: ____/____/____ Time: ____ AM ____ PM

Birth Weight: ____ Discharge Weight: ____

Baby's weight at one week: ____

For breastfeeding help call: ____

Call your doctor, nurse, midwife, or breastfeeding helper if:

- Your baby is not making enough wet or poopy diapers
- There is dark colored pee after Day 3
- There is dark colored poop after Day 5

Day 1

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W
 Black Tarry Poops: P

Day 2

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W
 Black Tarry Poops: P P

Day 3

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W
 Green Poops: P P P

Day 4

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W
 Green or Yellow Poops: P P P P

Day 5

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Day 6

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Day 7

Feedings: 12 1 2 3 4 5 6 7 8 9 10 11 Noon 1 2 3 4 5 6 7 8 9 10 11
 Wet Diapers: W W W W W
 Yellow Poops: P P P P P

Orders: Barbara Wilson-Clay, 12710 Burson Drive, Manchaca, TX 78652
 Phone: 512-292-7227 Fax: 512-292-7228 E-Mail: bwc@lactnews.com
 www.lactnews.com

Appendix XX:

El regreso al trabajo. Consejos para que la lactancia materna sea un éxito constante



El regreso al trabajo

Consejos para que la lactancia materna sea un éxito constante



La American Academy of Pediatrics (Academia Estadounidense de Pediatría) recomienda el amamantamiento exclusivo durante los primeros seis meses. En la actualidad, las mujeres de todo el mundo regresan a trabajar y siguen amamantando satisfactoriamente. Para lograrlo, las madres que trabajan necesitan contar con una planificación anticipada, con el apoyo de la familia y de su lugar de trabajo y con un sacaleches de buena calidad. Cuanto más tiempo se amamanta al bebé, mayores son los beneficios para la salud de la mamá y del niño, lo cual también beneficia al empleador, ya que reduce la cantidad de ausencias de la empleada debido a que el bebé está enfermo.



Usted y la producción de leche

La producción de leche se establece durante los primeros días después del nacimiento. Amamante a su bebé con frecuencia para ayudar a producir mucha leche. Utilice el tiempo posterior al nacimiento de su bebé para descansar y reponer energías. Evite el uso de biberones y chupetes hasta tanto el amamantamiento esté bien establecido.

Amamante a menudo por la noche y aprenda a hacerlo acostada, mientras descansa. ¡Amamantar de noche estimula su producción de leche! Recuerde que extraerse leche requiere práctica. No se preocupe si las primeras veces solo obtiene una pequeña cantidad; con práctica y paciencia, pronto podrá extraerse más.

Cómo elegir el sacaleches y los accesorios adecuados

Es importante seleccionar el mejor sacaleches y los mejores accesorios según su situación laboral. Muchas mamás que trabajan eligen Freestyle®, Pump in Style® Advanced o un sacaleches de calidad hospitalaria, como Symphony®. Estos sacaleches ofrecen mayor rendimiento, comodidad y conveniencia. Los sacaleches de Medela funcionan tanto con el encendedor del vehículo como con baterías. Llame al 1-800 TELL YOU para consultar sobre un lugar de alquiler o de venta minorista en su zona, o visite www.medela.com.



Elegir el tamaño correcto de embudo es importante para el flujo de la leche materna y para la comodidad de las mamás que se la extraen. Medela fabrica embudos PersonalFit™ de diferentes medidas para satisfacer todas las necesidades. Si al extraerse leche se siente incómoda, o tiene alguna duda al respecto, pida ayuda a su consultor de lactancia o a su profesional de atención médica para conseguir el tamaño de embudo apropiado.

Cómo elegir un proveedor de cuidado infantil para su bebé

Elja un proveedor de cuidado infantil en quien confie y que se sienta cómodo cuidando a un bebé que amamanta. También puede pedir en su estado o su condado una lista de proveedores de cuidado infantil con habilitación. Si elige un proveedor que esté cerca de su trabajo, podrá visitar a su bebé y amamantarlo durante el horario de almuerzo.

Beneficios de la lactancia materna

Para el bebé	Para la mamá
Los bebés amamantados se enferman menos y las enfermedades duran menos.	Resulta cómoda y está siempre a disposición del bebé.
La nutrición que proporciona la leche materna beneficia el coeficiente intelectual del bebé.	Reduce el riesgo de contraer cáncer ovárico y de mama.
Reduce el riesgo de obesidad e hipertensión.	La leche tiene la temperatura justa y es la opción más saludable al menor costo.
Contribuye al desarrollo del sistema inmunológico del bebé.	Aumenta la tasa de pérdida de peso en la mayoría de las madres.
Aumenta la eficacia de las vacunas.	Los bebés amamantados son más saludables, y las madres pierden menos días de trabajo y gastan menos tiempo y dinero en cuidados pediátricos.
Es la alimentación ideal.	Reduce el riesgo de diabetes, ataque cardíaco, hipertensión arterial y derrame cerebral.
Se contraen menos alergias.	Disminuye el riesgo de tener osteoporosis.
Protege contra la formación de enfermedades crónicas.	
... la lactancia materna tiene muchos otros beneficios.	
Visite www.medela.com para obtener referencias y encontrar más información.	