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Barriers to Exclusive Breastfeeding Among Mothers During the First Four Weeks Postpartum

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Abstract

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Project Submitted in Partial Fulfillment

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Abstract

According to the World Health Organization, breastfeeding is natural and the most effective way of nourishment to feed infants and young children to ensure child health and survival. Currently, the World Health Organization, the American Academy of Pediatrics, and other health organizations recommend exclusive breastfeeding through the first 6 months of life. Although exclusive breastfeeding has been shown to reduce the occurrence of adverse health outcomes to the infant and mother, the duration of exclusive breastfeeding remains relatively low in the United States. The theory of planned behavior was used as a theoretical framework for this study. The purpose of the project was to identify the barriers to exclusive breastfeeding among mothers during the first 4 weeks after delivery. A descriptive research design and a convenient sampling method were used to conduct this study. A questionnaire was used to collect the data from 75 mothers who met the inclusion criteria and who attended three selected obstetric and gynecologic private practice physicians' offices. Data analysis was performed by using descriptive and correlational statistics. The findings showed that only eight mothers continued exclusive breastfeeding during the first 4 weeks postpartum. The major maternal problems identified for not continuing exclusive breastfeeding were (a) insufficient breast milk, (b) sore or painful nipples, (c) return to work or school, and (d) poor latching. Findings suggested that healthcare professionals use the model of theory of planned behavior to develop interventions that promote a positive attitude toward breastfeeding. A positive attitude toward breastfeeding will create a social change within the community to promote exclusive breastfeeding.

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Section 1: Nature of the Project

Introduction

Breastfeeding provides a wide array of physical and psychological short-term and long-term health benefits for mothers, infants, and young children. According to the American Academy of Pediatrics (AAP, 2005) and the World Health Organization (WHO, 2001), there is strong evidence that infants receiving only breast milk with no other liquids or solids known as exclusive breastfeeding (EBF), have many health benefits to mothers, babies, the environment, and society. EBF is recommended for the first six months of life as the best way of feeding an infant (AAP, 2005; WHO, 2003). EBF in the first six months of life and continued breastfeeding from 6-11 months, has shown to be the single most effective preventive intervention for reducing child mortality, with the potential of saving 1.3 million lives worldwide each year (Bai, Wunderlich, & Fly, 2011).

Development of appropriate breastfeeding promotion interventions will help to achieve the Healthy People 2020 goals of increasing the proportion of mothers who breastfeed their infants to 82% initiating in the early postpartum period, with 61% breastfeeding their infants at six months and 34% breastfeeding at one year of age (U.S. Department of Health and Human Services [DHHS], 2011). Although breastfeeding initiation rates in the United States have increased overall because of breastfeeding promotion efforts, the proportion of infants who are exclusively breastfed at six months after birth has increased at a much slower rate compared to that of infants who receive mixed feedings (Rojjanasrirat & Sousa, 2010). A report by the DHHS (2011) stated that

although there are many evidence-based documented breastfeeding promotional activities, EBF rates are still far below the stated Healthy People 2020 goals. The continuation of EBF is positively associated with the value of skilled support and advice a woman receives on breastfeeding from healthcare professionals (Whelan, McEvoy, Eldin, & Kearney, 2011). Implementation of culturally sensitive awareness programs and interventions directed at populations of specific geographic areas are essential to improving the prevalence of breastfeeding (Gill, 2009).

The literature is rich in documentation stating that continuation of EBF is associated with many factors (Philips, Brett, & Mendola, 2011; Thulier & Mercer, 2009). Evidence-based research articles reported that the most common factors for discontinuation of early breastfeeding were lack of paid maternal leave, maternal beliefs, and perceptions, such as insufficient breast milk and painful breastfeeding associated with incorrect infant position and latch (Li, Fein, Chen, & Grummer-Strawn, 2008; Ogbuanu, Glover, Probst, Liu, & Hussey, 2011). Maternal characteristics such as age, income, education, knowledge, and ethnicity have been associated with the initiation and continuation of EBF (Wiener & Wiener, 2011). The lack of support, encouragement, and education from healthcare professionals, family, and friends can become barriers to exclusive breastfeeding (Moore & Coty, 2006; Murimi, Dodge, Pope, & Erickson, 2010).

Several studies discovered a higher level of self-efficacy and breastfeeding rates among mothers who attended education and support programs (Dennis, 2006; Kupratakul, Taneepanichskul, Voramongkol, & Phupong, 2010). Shannon, O'Donnell and Skinner (2007) found that although mothers delivered a healthy full-term infant and

received excellent breastfeeding education, continued support and guidance are needed for breastfeeding success. This study concluded that providing encouragement and continued support are keys to breastfeeding success. Breastfeeding women and families need adequate breastfeeding counseling to initiate and maintain optimal breastfeeding practice. Globally, no more than 40% of infants below six months of age are exclusively breastfed (WHO, 2014). Studies have reported that the gradual increase in the EBF rate in the United States is associated with an inconsistent definition of EBF and a lack of studies addressing the importance of increasing the duration of EBF (Bai, Middlestadt, Joanne Peng, & Fly, 2009; WHO, 2003). Identifying the barriers to exclusive breastfeeding will help to develop appropriate clinical practice guidelines to overcome those hindrances associated with discontinuation of breastfeeding during the early postpartum period.

One of the key strategies in promoting breastfeeding to childbearing women is antenatal breastfeeding education (Jennifer, Elaine, Athena, & Virginia, 2013). Studies on breastfeeding concluded that women who failed to receive adequate support from healthcare professionals when faced with breastfeeding challenges were less likely to continue breastfeeding (Cross-Barnet, Augustyn, Gross, Resnik, & Paige, 2012). This project identified barriers affecting EBF and recommended evidence-based practice interventions aimed at overcoming the identified barriers to increase the EBF continuation rate among postpartum women.

Background

Breastfeeding is acknowledged as the optimal way to feed infants for the first six months by national and many other health organizations (AAP, 1997; United Nations Children's Fund, 2006; WHO, 2003). Despite its countless benefits to children and mothers, the continuation rates of EBF are low in the United States (Centers for Disease Control and Prevention [CDC], 2013c; Dudenhausen, 2014; Silfverdal, 2011). It is essential to understand how multiple factors affect breastfeeding practices in order to improve the duration of exclusive breastfeeding. Studies have consistently shown positive associations between increased duration of breastfeeding and demographic, biological, and social factors associated with mothers (Thulier & Mercer, 2009). It is estimated that improved breastfeeding practices could save almost $13 billion per year in the United States if exclusive breastfeeding rates increased from 64% to 75% in the hospital and from 29% to 50% by six months of age (Bartick & Reinhold, 2010).

A wide range of health benefits of exclusive breastfeeding to the infant and mother have been well documented in various evidence-based research studies (AAP, 2005). Numerous studies have shown that EBF between six months and two years of age has been associated with a decreased incidence of allergic disease, bacterial meningitis, bacteremia, diarrhea, respiratory tract infection, necrotizing enterocolitis, otitis media, urinary tract infection, late onset sepsis in preterm babies, lymphoma, leukemia, Hodgkin's disease, hypercholesterolemia, asthma, and postneonatal infant mortality (Dudenhausen, 2014; Silfverdal, 2011; Wiener & Wiener, 2011). Research shows that prolonged and EBF has been associated with a reduction in the risk of sudden infant

death syndrome, allergic dermatitis, respiratory infections in infants, and necrotizing enterocolitis in preterm infants (Krame & Kakuma, 2012). Studies have concluded that EBF also provides many maternal benefits such as reducing the chances of developing adverse health outcomes such as obesity and ovarian and breast cancer in mothers (Stevens, Hanson, Prasek, & Elliott, 2008; Thulier & Mercer, 2009). In order to effectively increase breastfeeding rates, there is a need for multi-dimensional interventions that concurrently tackle different aspects of breastfeeding barriers (Nabulsi et al., 2014).

Problem Statement

Breastfeeding is acknowledged as the optimal way to feed infants, and it provides health benefits to mothers and infants. Many national and international health organizations recommend exclusive breastfeeding for at least six months and continued breastfeeding for at least the first year of life or as long as desired by both mother and child (AAP, 2005; United Nations Children's Fund, 2006; WHO, 2003). The CDC's (2014) breastfeeding report card indicated that although the percentage of U.S. infants who begin breastfeeding is high at 77%, the continuation of exclusive breastfeeding for the recommended period is increasing gradually. The targeted Healthy People 2020 objectives of EBF rate at three months is 46.2% and at six months is 25.5%. The National Immunization Survey report by the CDC (2010) on breastfeeding among U.S. children born between 2001-2011 found that the EBF rate through three months (40.7%) and six months (18.8%) were below the targeted Healthy People 2020 objectives.

Low breastfeeding rates during the first six months imply that mothers are constantly faced with multiple barriers to continue breastfeeding. The early post-partum period is considered as the critical period for establishing and supporting breastfeeding (Vieira, Bachion, Mota, & Munari, 2013). Even though many researchers have studied the prevalence of breastfeeding in the United States, only a few studies are available to provide trends in breastfeeding practices among mothers during the early weeks of postpartum (Bai et al., 2011; Brand, Kothari, & Stark, 2011; Scott, Landers, Hughes, & Binns, 2001). This project examined the barriers to continuation of exclusive breastfeeding among mothers during the first four weeks postpartum.

Purpose Statement

The purpose of this project was to identify the barriers affecting exclusive breastfeeding among postpartum mothers during the first four weeks postpartum. The outcome variable of EBF was defined as "newborn receiving only breast milk and no other liquids or solids except for drops or syrups consisting of vitamins, minerals, or medication" (Joint Commission, 2010, Set-05a).The independent variables of barriers to EBF included maternal demographic domains such as maternal age, education, income, working status, ethnicity, marital status, mode of delivery, maternal parity, number of years living in the United States, and type of insurance.

Evidence shows that many factors such as maternal age, income, education, and culture, including support and guidance from family, friends, community, and healthcare professionals may have a significant impact on the starting and maintaining of EBF among postpartum women (Bevan & Brown, 2014; Brand et al., 2011). The promotion

of exclusive breastfeeding can be achieved through the development of appropriate interventions based on the identified barriers. This project helped to identify the barriers to exclusive breastfeeding among mothers during the first four weeks postpartum.

Research Questions

The following research questions guided the study:

1. What are the current feeding practices of mothers who attend the obstetric and gynecologic clinic during the first four weeks postpartum?
2. What are the main barriers for continuation of exclusive breastfeeding among mothers during the first four weeks postpartum?

Significance of the Problem

Exclusive breastfeeding has many health benefits such as nutritional, developmental, psychological, neurological, social, environmental, and immunological benefits for the infant, mother, and community (Wiener & Wiener, 2011). The ecological benefits of breastfeeding to society include decreased energy demands for the production of infant formula and less solid waste such as formula cans and bottles (Ball & Bennett, 2001). Motivation has long been considered as a key element to successful breastfeeding.

Evidence also indicated that women who intend to combine both breast and formula feeding actually breastfeed for shorter durations than those planning only to breastfeed. A research study by Gill (2009) reported that family members often encouraged mothers to use formula supplementation along with breast milk for babies who were not chubby, as chubby babies were perceived as healthy babies. This study

also noted that barriers to EBF included (a) lack of support from healthcare professionals, (b) uncertainty of milk supply, and (c) receipt of formula samples from hospitals. Mothers who received formula samples from hospitals in their gift bag had the perception that hospitals supported formula feeding. According to Li et al. (2008), mothers' concerns about lactation and nutrition issues were the most recurrently cited reasons for stopping breastfeeding during the first two months.

Breastfeeding education during the pregnancy (antenatal) period is an important low-technology health promotion tool that can be provided at low costs in most settings (Lumbiganon et al., 2012). Antenatal education is considered an important, low cost, low technology health promotion tool (Kronborg, Maimburg, & Vaeth, 2012). Adequate support in the early postpartum period is vital to increasing the duration of EBF among women who initiated breastfeeding (Cross-Barnet et al., 2012). The AAP (2005) recommended that mothers breastfeed exclusively for approximately the first six months after their child's birth and continue breastfeeding for at least the first year of their child's life. The U.S. Breast Feeding Committee (USBFC) report found that the Joint Commission's Perinatal Core measures on EBF serves as a national, standardized performance measurement system in improving quality evidence-based care and improved outcomes (USBFC, 2013). During the early postpartum period, mothers need consistent, sustained information and adequate support to develop and meet personal breastfeeding goals. Healthcare professionals should coordinate the EBF promoting activities within and across sites of care in order to achieve the targeted goal of Healthy People 2020 breastfeeding goals.

A cohort study of low-income pregnant women with no significant obstetrical problems provided evidence of a correlation between acculturation and immediate postpartum breastfeeding, where higher acculturation is associated with lower odds of exclusive breastfeeding (Gorman, Madlensky, Jackson, Ganiats, & Boies, 2007). Evidence from a series of studies conducted in industrialized countries concluded that children who are not breastfed for at least six months are 3.5 times more likely than those who are to be hospitalized for respiratory infections such as pneumonia or asthma, 2 times more likely to suffer from diarrhea, 1.6 times more likely to suffer from an ear infection, and 1.5 times more likely to become overweight during childhood (AAP, 2005). A self-reported study conducted to determine why women stop breastfeeding at various times within their infant's first year concluded that mothers' concerns about lactation and nutrition issues were the most frequently cited reasons for stopping breastfeeding during the first two months (Li et al., 2008). Identifying the barriers to exclusive breastfeeding at four weeks postpartum among postpartum women will help physicians, nurses, and other healthcare professionals develop targeted breastfeeding interventions on those prominent issues.

Implications for Positive Social Change

Exclusive breastfeeding is a cost-effective public health indicator that has a significant impact on infant morbidity and mortality (Nabulsi et al., 2014). Breastfeeding has been shown to reduce child mortality and morbidity related to infectious diseases. Healthcare costs associated with chronic diseases can be decreased as breastfeeding has been shown to reduce the development of obesity-related chronic health conditions to the

child and mother (Guo et al., 2013). Evidence shows that the provision of inadequate breastfeeding information in the health system is associated with a delay in the timing of initiation of breastfeeding (Horii, Guyon, & Quinn, 2011). By identifying the barriers of EBF, new strategies can be developed by healthcare professionals to promote EBF. Evidence indicates that regardless of the socioeconomic status, infant and young child-feeding practices may be associated with the long-term incidence of non-communicable diseases in both developing and developed countries (Guo et al., 2013). To promote maternal and infant health, it is vital to educate, support, and encourage women to continue with EBF during their early postpartum period.

Operational Definitions

The following terms and phrases are defined as used in this study:

Breastfeeding: Breast milk (including milk expressed or from a wet nurse).

Breastfeeding duration: Duration is the length of time for any breastfeeding, including breastfeeding through the initial stage of exclusive breastfeeding and any period of complementary feeding until weaning (WHO, 2001).

Breastfeeding initiation: The act of breastfeeding or feeding expressed breast milk to the newborn (WHO, 2001).

Exclusive breastfeeding is defined as the "newborn receiving only breast milk and no other liquids or solids except for drops or syrups consisting of vitamins, minerals, or medicines" (Joint Commission, 2010, Set-05a).

Maternal parity: The number of times a woman had given birth to a fetus with a gestational age of 24 weeks or more (WHO, 2003).

Postnatal period (or called postpartum, if in reference to the mother only) is defined by WHO as the period beginning one hour after the delivery of the placenta and continuing until six weeks (42 days) after delivery (WHO, 1998).

Solid or semi-solid foods: Any food or liquid including non-human milk and formula (WHO, 2001).

Assumptions

This research proceeded on the assumption that the subjects voluntarily participated in the study. The researcher developed a culturally appropriate questionnaire at a sixth grade reading level to assess mothers' barriers to exclusive breastfeeding during the first four weeks of postpartum. It was assumed that the subjects honestly responded to the questionnaire. The researcher was able to identify the barriers to EBF during the early postpartum weeks and recommend interventions to overcome identified barriers.

Limitations

The descriptive quantitative method of data collection only allowed identifying the barriers to exclusive breastfeeding during the early postpartum period. The use of a convenience sampling method with a small sample size for this project study may limit the generalization of the findings of this study. The subjects of this study only included all mothers who had had a vaginal or cesarean section delivery after 37 weeks of gestation within the last six months and whose healthy newborn had no significant medical complications during the first four weeks of postpartum. Although the population of this project included all postpartum mothers, most of the selected subjects were of Hispanic origin as are the majority of the population in the Rio Grande Valley

(RGV) are Hispanic ethnicities. The study findings cannot be interpreted as a causal relationship. Causal inferences and conclusions concerning temporal relationships cannot be made with the descriptive quantitative design research. The closed-ended questionnaire did not allow exploring any barriers that were not listed in the questionnaire, and this may have prevented identifying the exact reason for the cessation of exclusive breastfeeding during the first four weeks postpartum. There may be recall bias with data from a short-term retrospective survey questionnaire, and it may have affected the result of the study.

Summary

The World Health Organization (WHO, 2003) and the United Nations Children's Fund (2006) recommended breastfeeding initiation within one hour of birth and continued exclusive breastfeeding for six months followed with the continuation of breastfeeding for two years and beyond as desired by the mother. Evidence showed significantly a low infant mortality rate with the initiation of breastfeeding within one hour of birth (Xiaodong, Wardlaw, & Brown, 2012). Exclusive breastfeeding has multiple benefits to the mother, baby, community, and nation. The study helped the researcher to understand multiple barriers that may affect EBF during the early postpartum period and helped to propose interventions to overcome identified barriers to improve the duration of EBF during the early postpartum period.

Section 2: Review of Literature and Theoretical and Conceptual Framework

Literature Strategy

A review of the literature was performed in a systematic manner guided by the research questions following established search strategy methods. The literature review was primarily focused on the barriers to exclusive breastfeeding among postpartum women in the early postpartum period and the benefits of exclusive breastfeeding on the health of the infant and mother. A literature search was performed by using research databases from the subject areas of health science and nursing, behavioral studies and psychology, and multidisciplinary literature from electronic databases for the period of 1991 through 2014.

A review of the literature databases included MEDLINE, Pub Med, CINAHL, Cochrane Library, Academic Search Primer, and PROQUEST. Other search strategies included the reviewing of credible websites on the topics of breastfeeding, the theory of planned behavior (TPB), barriers, enablers, state and national breastfeeding supporting organizations, supporting programs, breastfeeding initiation, early breastfeeding discontinuation, breastfeeding knowledge, and healthcare professional guidance and education on breastfeeding.

It also included hand searching relevant journals and searching article reference lists on the prevention of infant mortality and morbidity. These terms were searched in combination using the Boolean operators AND and OR. The inclusion criteria for articles included all peer-reviewed research articles published in English, between 1991 and 2014, and primary study theses published at Walden. A literature review is

summarized under various headings on the topics of conceptual framework, benefits, and barriers to EBF among postpartum women in the early postpartum period.

General Literature

There is strong evidence that EBF has excellent health benefits to the mother, infant, community, and the nation (AAP, 2005; WHO, 2001). Although breastfeeding initiation rates in the United States have increased significantly and exceed the Healthy People 2010 goals of 75%, the breastfeeding rates at six months and 12 months are far below the Healthy People 2010 goals (Rojjanasrirat, & Sousa, 2010). The Healthy People 2020 goals for maternal and child health in the United States aim at 81.9% for breastfeeding initiation and 46.2% for the duration up to three months. In the United States, removing long-standing barriers to breastfeeding is critical given the importance of breastfeeding to the health and well-being of mothers and children (Lowe, 2011).

According to Textor, Tiedje, and Yawn (2013), women who have low incomes and low social support and belong to ethnic minorities are the least likely to breastfeed. Evidence-based literature reported that little is known about the factors that may affect initiation and continuation of exclusive breastfeeding and early formula supplementation among immigrant groups in the Unites States. According to the CDC (2013a), the breastfeeding rate is reduced among low-income mothers who are participants in the Special Supplemental Nutrition Program for Women, Infants, and Children [WIC]), compared to those with a higher income who were ineligible for WIC participation.

Evidence from a recent national cohort study showed that women who participated in a special supplemental program for women, infants, and children, a

nutrition program for low-income families, as compared to income level adequate to disqualify participation in the program (67.5%), were less likely to have ever breastfed (84.6%) their infants. Several studies have reported that women who have low incomes and low social support and belong to ethnic minorities are the least likely to breastfeed (Bai et al., 2009; Kitsantas, Gaffney, & Kornides, 2011; Gill, 2009). Continuation of EBF is positively associated with the value of advice and support that physicians and other healthcare providers give regarding the decision-making process for infant feeding (Textor et al., 2013).

The AAP recommended exclusive breastfeeding for at least six months and continued breastfeeding for at least the first year of life or as long as desired by both mother and child (Faraz, 2010). According to Jones, Kogan, Singh, Dee, & Grummer-Strawn, 2011), only 17% of Americans followed the recommendation of the AAP (2005) and WHO (2003) in the year 2007. Despite the proven benefits of breastfeeding to the mother and infant in the United States, exclusive breastfeeding rates are below the targeted Healthy People 2020 breastfeeding goals. To increase the duration of EBF and overcome the barriers to continue EBF during the early postpartum period, mothers should be provided with sustained education, support, and one-to-one counseling.

To promote exclusive breastfeeding, healthcare professionals supporting breastfeeding mothers should motivate and encourage mothers to begin and continue breastfeeding and be familiar with breastfeeding issues and the prevention, diagnosis, and treatment of breastfeeding problems when they occur (Bergmann et al., 2014). Evidence-based research has shown that encouragement and educational support from nurses,

lactation consultants, and other healthcare providers will enhance first-time mothers' ability to breastfeed successfully (Textor et al., 2013). A study conducted by Tender et al. (2009) revealed that infants of mothers who did not attend a prenatal breastfeeding class were five times more likely to receive formula supplementation in the hospital than infants of mothers who did attend the class.

Given the importance of breastfeeding for the health and well-being of mothers and children, there are many national and international organizations that support the promotion of EBF. Organizations such as La Leche League International (LLLI), International Lactation Consultant Association (ILCA), International Board of Lactation Consultant Examiners (IBLCE), and the Academy of Breastfeeding Medicine (ABM) are collaborating with the AAP (2005) and WHO (2011) to enhance exclusive breastfeeding for six months. Continuous support from healthcare professionals is needed to increase the continuation of EBF during the first six months among postpartum mothers along with the different professional organizations' breastfeeding promotion activities.

Specific Literature

Benefits of Exclusive Breastfeeding

Breastfeeding is considered as one of the major public health strategies for improving infant and child morbidity and mortality, improving maternal morbidity because of the wide range of benefits of exclusive breastfeeding to the mother and infant (AAP, 2005; Piñeiro-Albero et al., 2013; USBFC, 2014). The positive aspects of breastfeeding include advantages in nutrition, promotion of infant growth, and development and improvements to social, psychological, and educational interactions. A

wide range of health benefits of exclusive breastfeeding to the infant and mother have been well documented in various evidence-based research studies (AAP, 2005; WHO, 2003).

Infant benefits. Exclusive breastfeeding between six months and two years old has been associated with reducing the risk of allergic disease, obesity, type II diabetes, hypertension, and hypercholesterolemia in the later lives of children (Godfrey, & Lawrence, 2010). There is convincing evidence stating that the risk of occurrence of otitis media, gastroenteritis, respiratory illness, sudden infant death syndrome, necrotizing enterocolitis, obesity, and hypertension is decreased with exclusive breastfeeding (Al Binali, 2012). Evidence also shows that breastfed babies have improved cognitive development and increased bonding with the mother (Rempel & Moore, 2012). Exclusive breastfeeding has been shown to decrease the incidence or severity of bacterial meningitis, bacteremia, diarrhea, and urinary tract infection, late-onset sepsis in preterm babies, lymphoma, leukemia, Hodgkin's disease, and asthma (Kramer & Kakuma, 2012).

Maternal benefits. Exclusive breastfeeding decreases the chance of developing chronic illnesses related to obesity and the development of ovarian and breast cancer among women (Stevens et al., 2008). Breastfeeding reduces the incidences of postpartum bleeding, maternal obesity by an earlier return to pre-pregnancy weight, and developing breast and ovarian cancer (Godfrey & Lawrence, 2010). EBF provides additional emotional benefits to the mother. In addition, evidence shows that EBF

mothers are less likely to develop depressive symptoms (Stuebe, Grewen, & Meltzer-Brody, 2013).

Social benefits. There is strong evidence that breastfeeding has many health benefits other than maternal and infant and includes economic and social benefits to the family, the healthcare system, and the employer (Ma, Brewer-Asling, & Magnus, 2013). The healthcare costs associated with exclusive breastfeeding are reduced as breastfed infants mostly require fewer sick care visits, prescriptions, and hospitalization (Ku & Chow, 2010). Another notable social benefit of breastfeeding is the effect on the environment. According to Ball and Bennett's (2001) study findings, it was indicated that EBF will (a) decrease the demand of artificial teats, plastic bottles, and milk powder tins; (b) reduce the levels of pollutants released; and (c) decrease the depletion of natural resources used to produce them.

Barriers to Exclusive Breastfeeding

A research study conducted in the United States showed that the most significant self-reported factors for the discontinuation of exclusive breastfeeding in the first month were (a) the baby had trouble suckling and latching on (54%); nipples were sore, cracked, and bleeding (37%); breasts were painful (29%); and breasts were overfull or engorged (24%). Another self-reported factor was the perception of mothers that they did not have enough milk (Li et al., 2008). Maternal characteristics such as younger maternal age, low income, less maternal education, and unmarried status are associated with lower breastfeeding prevalence among women (Rojjanasrirat, & Sousa, 2010; Wiener & Wiener, 2011). Research shows that women who began prenatal care in the first

trimester were twice as likely to exclusively breastfeed during the early postpartum period than women who began prenatal care after the first trimester (Tenfelde, Finnegan, & Hill, 2011). Research studies conducted by Ahluwalia, Li, and Morrow (2012) indicated that women who had induced labor or cesarean deliveries were less likely to initiate and continue breastfeeding compared to women who had spontaneous vaginal deliveries.

The methodologies attempted to address the factors influencing the continuation of exclusive breastfeeding that will provide knowledge to improve counseling, education, and policy planning to the postpartum breastfeeding women who are facing challenges to continue exclusive breastfeeding for six months. A study conducted by using a secondary analysis of data from a longitudinal study of postpartum depression to examine factors related to very early discontinuation of breastfeeding at two weeks postpartum following hospital discharge showed that personal or professional support systems have an effect on both the initiation and duration of breastfeeding (Brand et al., 2011). The U.S. Surgeon General's Call to Action to Support Breastfeeding (as cited in DHHS, 2011) stated: "mothers who wish to breastfeed encounter challenges in moving through the healthcare system, because the barriers are so insurmountable at the time, many mothers stop breastfeeding" (p. v). Studies conducted by Li et al. (2008) and Brand et al. (2011) concluded that providing education on the benefits of breastfeeding, providing support with efficient techniques, and enhancing problem-solving skills are associated with an increase in the duration of breastfeeding among expectant and new mothers who are faced with multiple barriers to continue exclusive breastfeeding.

Review of Literature Summary

A review of the literature has shown that breastfeeding is highly beneficial to mothers and infants. Although many major health organizations have recommended EBF for six months, many women face significant challenges in continuing EBF for the recommended period.

Women during the early postpartum period need continuous support, guidance, and education from healthcare professionals to overcome multiple barriers associated with the continuation of EBF. This study identified and recommend evidence-based practice intervention aimed at overcoming the identified barriers to increase the EBF continuation rate among women during the early postpartum period.

Conceptual Framework

The Thoery of Planned Behavior (Figure 1) is one of the theoretical approaches that has been widely used by health psychologists to help understand health behaviors and to develop appropriate interventions (Ajzen, 1991). The principal determinant of behavior in TPB is intentions and that intentions are determined by three main constructs: (a) attitudes, (b) subjective norms, and (c) perceived behavioral control. An infant's feeding decisions are affected by a wide range of psychological, social, clinical, cultural, and individual characteristics: factors such as age, ethnicity, educational status, and personality variables (Bai et al., 2011; Sheehan, Schmied, & Barclay, 2010; Scott et al., 2001; Lawton, Ashley, Dawson, Waiblinger, & Conner, 2012).

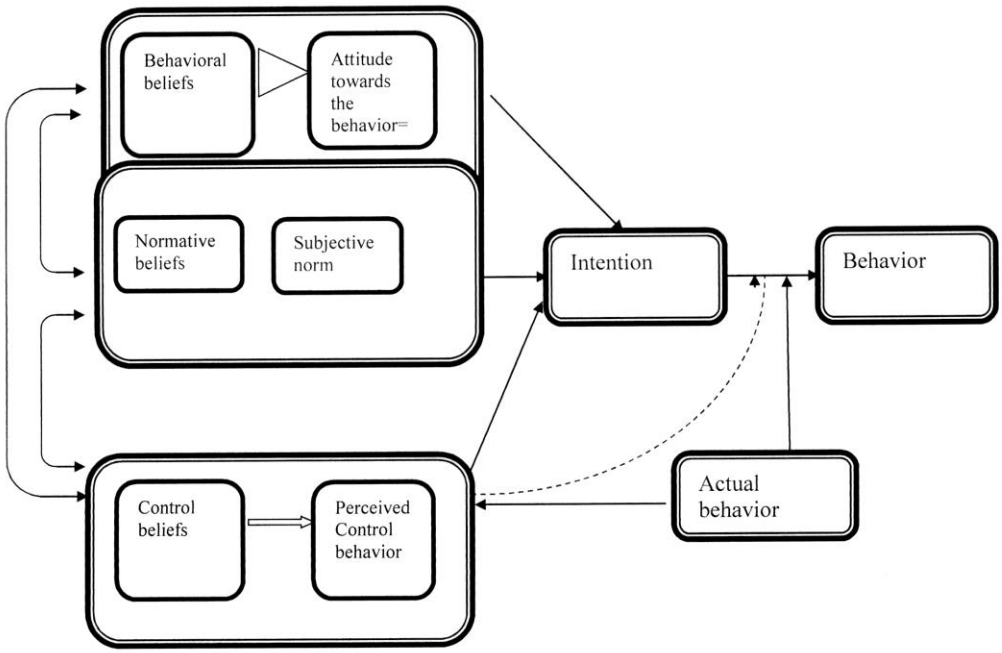

Figure 1. Theory of Planned Behavior.
Retrieved from http://www.people.umass.edu/aizen/tpb.diag.html
Note. Permission approval on website.

TPB is influenced by three focal categories of beliefs: (a) beliefs about the outcomes of a particular behavior, (b) beliefs about the expectations of others, and (c) beliefs about the presence of factors that might encourage or prevent a particular behavior (Giles, Connor, McClenahan, & Mallet, 2010). According to Ajzen (1991), attitude toward behavior is determined by the individual's beliefs about outcomes or attributes of performing the behavior (behavioral beliefs). Subjective norm is determined by normative beliefs, and normative belief is determined by the attitude of a society in valuing and appreciating a particular behavior of the subject. Perceived behavioral control (PBC) is influenced by specific situational factors and is based on the factors that determine a subject's ability to perform or not perform a particular behavior. Perceived behavioral control is affected by both intentions and behaviors. The intention to perform a desired behavior is based on varying perceptions of individuals in performing the desired behavior (Ajzen, 1991). Women who have the perception that breastfeeding is difficult to perform are less likely to breastfeed and may encourage the use of formula feeding among postpartum women.

Evidence shows that the culture and individual characteristics have an impact on the breastfeeding behaviors of women after delivery (Bai et al., 2011; Dyson, Green, Renfrew, McMillan, & Woolridge, 2010). The significant predictors of intention to breastfeed among the low income in the southern United States were self-efficacy, perceived social support (Mitra, Khoury, Carothers, & Foretich, 2003) attitudes, and previous breastfeeding experience (Kloeblen-Tarver, Thompson, & Miner, 2002). The theory of planned behavior will help in understanding the reasons why certain mothers

are not interested in breastfeeding, thus helping to develop appropriate promotion strategies to improve exclusive breastfeeding (Bai et al., 2011). The fundamental foundation of TPB is that the immediate antecedent of a behavior is the person's intention to perform the behavior. Behavioral beliefs explain that a behavior is likely to be performed if a person has positive attitudes toward the behavior. Evidence-based research conducted by Thome, Alder, and Alfons (2006) indicated that the attitude of breastfeeding women toward intention to breastfeeding can be measured through these beliefs.

Chapter Summary

TPB has been widely used in breastfeeding research, and it describes how behavior is preceded by a behavioral intention. A review of the literature reveals that the breastfeeding intention is a strong predictor of breastfeeding initiation and continuation. The fundamental foundation of TPB is that the immediate antecedent of a behavior is the person's intention to perform the behavior. Women's intentions to perform the behavior of breastfeeding are associated with their culture and individual characteristics. An application of TPB will help to understand the reasons that may affect continuation of exclusive breastfeeding among women during their early postpartum period and will help to develop strategies to change the attitude and behavior to improve exclusive feeding rate among postpartum women.

Section 3: Methodology

Introduction

The purpose of this quantitative descriptive project was to identify the barriers to exclusive breastfeeding among mothers during the first four weeks postpartum. The demographic variables of exclusive breastfeeding included maternal demographic domains such as maternal age, maternal education, maternal income, working status, maternal ethnicity, number of years living in the United States, marital status, mode of delivery, and maternal parity. This chapter describes the research design and method, setting and population, sampling, and data collection. The chapter concludes with the discussion of threats to validity, procedures used to ensure ethical protection of subjects including data retention plans, consent processes, subjects' withdrawal policy, and plans to disseminate the findings.

Research Design and Method

The study was a quantitative descriptive design. Descriptive research is a type of quantitative research that helps to discover new meanings, determine what exists, determine the frequency of events, and categorize the information. Descriptive study design can be used to develop a theory, identify problems with current practice, reason out current practice, and analyze what others are doing in similar situations. The descriptive research design helps to examine the overall relationships of variables (Burns & Grove, 2009).

This study used a quantitative descriptive research design to identify various barriers among mothers to exclusive breastfeeding during the first four weeks

postpartum. This study included the scientific method of formulating research objectives, questions, and methods of measurement, collection of data, analysis, and evaluation of results. The quantitative approach helps to identify the problems with the current practice of exclusive breastfeeding among postpartum women and to examine the relationships among variables to better document any significant statistical relationship between the variables. Despite the growing body of knowledge on breastfeeding, many women are at greater risk for early cessation as they encounter many barriers to exclusive breastfeeding (Brand et al., 2011).

Setting and Population

The population of this project was selected from three obstetric and gynecologic private practice physicians' offices in the RGV of South Texas. The population of this study included all adult mothers (a) who had a vaginal or cesarean section delivery after 37 weeks of gestation within the last six months and (b) who had a healthy newborn with no significant medical or obstetrical complications during the first four weeks of postpartum.

According to the U.S. Census Bureau (2012), almost 90% of the populations in the RGV belong to the Hispanic ethnicity. Hence, the survey questionnaire was administered to all postpartum women who met the criteria in English or Spanish according to their language preference.

The population of this study excluded adult mothers (a) whose last delivery was beyond six months of time, (b) who had obstetrical or medical complications, (c) who were less than 18 years, (d) who refused to give consent for the study, (e) who did not

know to write, read, or speak English or Spanish. Obstetrical or medical complications included preterm delivery, multiple gestations, pregnancy induced or chronic hypertension, diabetes, postpartum hemorrhage, heart diseases, and chronic renal diseases. The population was a particular type of individual or element who were the focus of the research. The target population was known as the entire group of persons or elements who met the sampling criteria.

Sampling

A convenience sampling method was used for this project. Sampling criteria included a list of characteristics important for eligibility in the target population. Sampling criteria included inclusion and exclusion sampling criteria. Seventy-five mothers who met the inclusion criteria were selected for this project. Sample size was calculated based on the power analysis. A power analysis was performed to determine whether the estimated sample size was sufficient to achieve adequate power in the study. Based on a *G*-Power analysis *t*-test, linear bivariate regression analysis, one group showed a sample size of 34 with an actual power of 0.9504455 and a critical *t* of 1.6938887.

Data Collection

Data collection is a precise, systematic, collection of information appropriate to the research purpose or specific objectives. The researcher delivered survey packages to the three selected obstetric and gynecologic private practice physicians' offices in the RGV of South Texas with the physicians' permission. The survey package consisted of a letter of invitation (Appendix A), an informed consent, survey questionnaires, and a self-

addressed pre-stamped envelope. The researcher posted flyers in the clinics' waiting rooms to make mothers aware of the researcher's study on exclusive breastfeeding, and she placed survey packages on a table at the clinics' waiting rooms. Mothers were instructed to pick up a survey package kept on a table in the clinics' waiting rooms if interested in participating in the study. If there were no packages out on the table, mothers could request a package from the front desk personnel. The subjects interested in the study completed the enclosed survey questionnaires in the package. Survey questionnaires collected data on demographic information (Appendix B), assessed current breastfeeding practice (Appendix C), and identified barriers to EBF among mothers during the first four weeks postpartum (Appendix D).

The population of this study included all adult mothers who had a vaginal or cesarean section delivery after 37 weeks of gestation within the last six months and had a healthy newborn with no significant medical or obstetrical complications during the first four weeks of postpartum. Mothers completed the survey questionnaires at their convenience at the clinic or at home. The completed survey questionnaires were placed in the self-addressed, pre-stamped envelope, and sealed. Mothers dropped the completed survey questionnaire in the sealed self-addressed, pre-stamped envelope in a locked box kept at the physicians' clinics' waiting areas or mailed the sealed envelope at their convenience.

Instrument

Survey Questionnaire

The survey questionnaire (Appendix D) identified barriers to exclusive breastfeeding variables and was piloted by the researcher among 15 mothers who meet the inclusion criteria to determine the validity of the instrument. After the pilot study, the questionnaire was revised to meet the needs of the population by taking expert guidance. Conducting a pilot study helped to yield the validity of the questionnaire and provide reliable information concerning the barriers to exclusive breastfeeding.

Demographic Questionnaire

The demographic questionnaire (Appendix B) included 15 items such as maternal age, education, employment status, marital status, income, ethnicity, parity, mode of delivery, intentions to breastfeed, breastfed or not as a baby, participation status at WIC, number of years living in the United States, rooming-in status at hospital, breastfeeding initiation time, and exclusive breastfeeding status until discharge. Demographic variables such as intention to breastfeed in pregnancy, family support, rooming in, breastfeeding education attendance at WIC, initiation of breast milk within 1 to 2 hours, and exclusive breastfeeding until hospital discharge was decoded 0 = *No* and 1 = *Yes* as a dichotomous variable. The current feeding practices questionnaire (Appendix C) helped to assess the exclusive breastfeeding rate among women during the first four weeks postpartum) and decoded as 0 =*No* and 1= *Yes* as a dichotomous categorical variable. Barriers to exclusive breastfeeding questionnaire (see Appendix D) consisted of 15 items and decoded as 0 = *No* and 1 = *Yes* as a dichotomous variable.

Validity and reliability. The validity of the questionnaire was piloted prior to data collection, and items on the questionnaire were revised as needed. Content reliability was established by making adequate changes by taking guidance from the language and clinical subject expertise. The questionnaire was written at a sixth grade level of reading.

Protection of Human Rights

Informed consent was provided to the subjects with information concerning the purpose of the study, implications of participation, potential risks, and benefits involved. Any information collected from the subjects was kept entirely confidential. Informed consent was obtained from the subjects by explaining that the researcher would not include subjects' names or any other information that could potentially identify any reports of the study. The researcher did not use the subjects' information for any purposes outside of this research project. The surveys did not contain any identifying information with the exception of a coded number. The voluntary nature of the study participation was explained prior to obtaining informed consent. The subjects' were informed that they could withdraw from the study at any time of the data collection period without any penalty. The study was submitted to the Walden Institutional Review Board (IRB) and data were stored in a password-protected personal computer with access only to the researcher.

Data Analysis

The researcher analyzed the collected data to identify the barriers to exclusive breastfeeding and to assess the relationship between or among variables on the initiation

and continuation of exclusive breastfeeding among mothers during the first four weeks postpartum. The distribution of each variable in the questionnaire was examined before data analysis. For categorical variables, the subject responses were checked to ensure all variables were analyzed. Data analysis based on the findings of the study on barriers to exclusive breastfeeding assisted the researcher in developing appropriate intervention strategies to overcome barriers and to promote exclusive breastfeeding among mothers during early a postpartum period. Descriptive and correlational statistical methods were used to analyze the data. A preliminary descriptive analysis was performed using frequencies and percentages of the demographic variables, barriers, and current feeding practices. The researcher performed a parametric statistical analysis of a *t*-test on the demographic variables to determine the relationship between demographic characteristics and outcome measures of exclusive breastfeeding among mothers during the first four weeks postpartum. A simple and bivariate correlation analysis helped to determine the relationship of variables on the demographics variables, barriers to EBF, and outcome measure of exclusive breastfeeding among mothers during the first four weeks postpartum.

Evaluation Plan

There are different types of evaluations: (a) formative evaluation, (b) summative evaluation, (c) process evaluation, (d) impact evaluation, and (e) outcome evaluation. *Formative evaluation* is used to gather information in order to improve a designed program. It can be performed during the planning or implementation time. Formative evaluation includes pilot testing and process evaluation activities, and it helps to identify

the source and solution of unexpected problems. *Summative evaluation* helps to determine whether the program achieved its expected goals rather than giving the information for program improvement (Hodges & Videto, 2011).

Process evaluation helps to provide support for the maintenance of the program and improve the effectiveness of the program by describing, monitoring, and documenting organizational and program-related factors. Process evaluation also helps to document the progress of the program and monitor the program goals and program objectives. It helps to measure the achievement of intermediate day-to-day objectives to identify problems with the program related to the staff and community members' satisfaction and perceptions of the program and staff performance. It also includes resource reviews such as budget review, staff training time, and the time provided to implement and conduct activities (Hodges & Videto, 2011).

Impact evaluation helps to measure to what extent the program has helped cause short-term changes in the target population. Impact evaluation helps to improve the factors that would help to achieve the selected short-term goals and objectives. *Outcome evaluation* helps to determine whether the long-term goals of the program were attained. The expected long-term effects of outcome evaluation of exclusive breastfeeding promoting program is that all the postpartum women who come to the researcher's selected clinic will exclusively breastfeed their babies for a minimum of six months.

The process evaluation identified the barriers to EBF and based on the findings, the researcher proposed recommendations to develop excellent interventional strategies

to overcome the identified barriers. These implemented strategies ideally promoted EBF among mothers during the early weeks of postpartum.

Summary

A descriptive quantitative research design was used for this study to identify the barriers to exclusive breastfeeding among mothers during the first four weeks of postpartum. A convenience sampling method was used to conduct this study and subjects were recruited from three obstetric/gynecologic physician-owned private practices. English and Spanish speaking mothers who met the inclusion criteria were selected and questionnaires were administered either in English or in Spanish. A descriptive statistics of frequency, a parametric statistical analysis of the *t*-test, and a simple and bivariate correlation analysis were used to determine the relationship of variables on the demographic variables and barriers to exclusive breastfeeding on the outcome measure of exclusive breastfeeding among mothers during the first four weeks postpartum.

Section 4: Findings, Discussion, and Implications

Introduction

This chapter presents the analysis of the data, the description of the sample, the findings of the study, and the discussion of the findings in the context of the literature and implications, project strengths and limitations, analysis of self, and conclusions. Descriptive statistics are presented to describe the subjects' demographic variables, current breastfeeding practices, and barriers to EBF. The purpose of this project was to identify the barriers affecting exclusive breastfeeding among postpartum mothers during the first four weeks postpartum. The independent variables of barriers to EBF included maternal demographic domains such as maternal age, education, income, working status, ethnicity, marital status, mode of delivery, maternal parity, number of years living in the United States, and type of insurance. The outcome variable of EBF was defined as a "newborn receiving only breast milk and no other liquids or solids except for drops or syrups consisting of vitamins, minerals, or medication" (Joint Commission, 2010, Set-05a).

The chapter is organized into the following sections: (a) the data collection technique, (b) the descriptive analysis, (c) a simple bivariate correlation analysis, and (d) a two-tailed independent *t*-test analysis. A descriptive statistics of frequency, a parametric statistical analysis of a *t*-test, and a simple and bivariate correlation analysis were used to determine the relationship of variables on the demographic and barriers to exclusive breastfeeding on the outcome measure of exclusive breastfeeding among mothers during the first four weeks postpartum.

Data Analysis

Demographic Variables

Of the 80 survey questionnaires distributed, 75 completed survey questionnaires were collected from the three selected OBGYN clinics and used for data analysis. Five of the collected questionnaires were discarded because they were incomplete. Almost half of the women completed the questionnaires in English (48%) or in Spanish (52%). The data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 21.

A preliminary descriptive analysis was performed using frequencies and percentages of the demographic variable. An independent two-tailed *t*-test was performed to determine if there was a relationship between the duration of exclusive breastfeeding and demographic variables such as was *I was a breastfed baby*, marital status, parity, mode of delivery, intention to breastfeed, family support during pregnancy, WIC, rooming, breastfeeding initiation at birth within two hours, and EBF continued until hospital discharge.

The demographic characteristics of women during the first four weeks postpartum are described in Table 1. Forty-five percent of the sample were between the ages of 18 to 25 years and 40% were between the ages of 26 to 35. The average age of the mothers who participated in this study was 28 years. Approximately half of women (44%) had a high school education and only 5.3% had a university education. Almost half of the women in the group were unemployed as compared to 20% who were employed full-

time. The majority of the women had an income below $20,000 and the average income was $17,333.

Table 1

Frequencies and Percentages of Demographic Variables

	n	%
Age group		
18-25	34	45.3
26-35	30	40.0
36-45	11	14.7
Education		
Elementary	7	9.3
Middle school	8	10.7
High school	33	44.0
Certificate/Diploma	33	30.7
University	4	5.3
Income		
Less than $20,000	59	78.7
$20,000-$50,000	10	13.3
Above $50,000	6	8.0
Working status		
Employed fulltime	15	20.0
Employed part-time	23	30.7
Unemployed	37	49.3
Ethnicity		
White	2	2.7
Hispanic	73	97.3
Number of years in the United States		
1-5	7	9.3
5-10	10	13.3
10-15	16	21.3
More than 15 years	42	56.0
Marital Status		
Married	51	68.0
Single	24	32.0

Table 1 (continued)

	n	%
I was a breastfed baby		
Yes	51	68.0
No	24	32.0
Parity (Number of deliveries)		
Primiparous	24	32.0
Multiparous	51	68.0
Mode of delivery		
Vaginal	47	62.7
Cesarean	28	37.3
Intention to breastfeed during pregnancy		
Yes	59	78.7
No	16	21.3
Family support during pregnancy		
Yes	4	5.3
No	71	94.7
Participation at WIC		
Yes	57	76.0
No	18	24.0
Rooming-in		
Yes	51	68.0
No	24	32.0
Breastfeed initiation at birth within 2 hours		
Yes	41	54.7
No	34	45.3
EBF until hospital discharge		
Yes	41	54.7
No	34	45.3
Lack of hospital support		
Yes	14	18.7
No	61	81.3

Women of Hispanic Mexican origin comprised 97.3% of the subjects and 2.7% classified themselves as White. More than half of the women (56%) were living in the United States for more than 15 years and 68% were married. More than half of the women (68%) were breastfed as a baby. The majority of the women were multiparous (68%), delivered vaginally (62.7%), intended to breastfeed (78.7%), and had family support during pregnancy (94.3%). Seventy-six percent had WIC participation and 68% practiced rooming-in. Approximately half of the women (54.7%) initiated breastfeeding within two hours after delivery and continued EBF until hospital discharge (54.7%).

The first research question was: What are the current feeding practices of mothers who attended the obstetric and gynecologic clinics during the first four weeks postpartum? Descriptive statistics of frequency and percentage were performed for all the variables on the feeding practice questionnaire. A two-tailed independent *t*-test and a series of one-way ANOVA tests were performed to determine whether there was a relationship between the duration of exclusive breastfeeding and selected demographic variables. An alpha level of .05 was determined a priori.

See Figure 2 for the current breastfeeding practices of women who attended the OBGYN clinics during the first four weeks after delivery. The majority of the women (61.33%) continued breastfeeding and formula feeding, whereas only a few women (9.33%) continued exclusive breastfeeding during the first four weeks postpartum.

The majority of women (44%) continued EBF less than one week compared to 10.6% who continued EBF for four weeks (see Figure 3).

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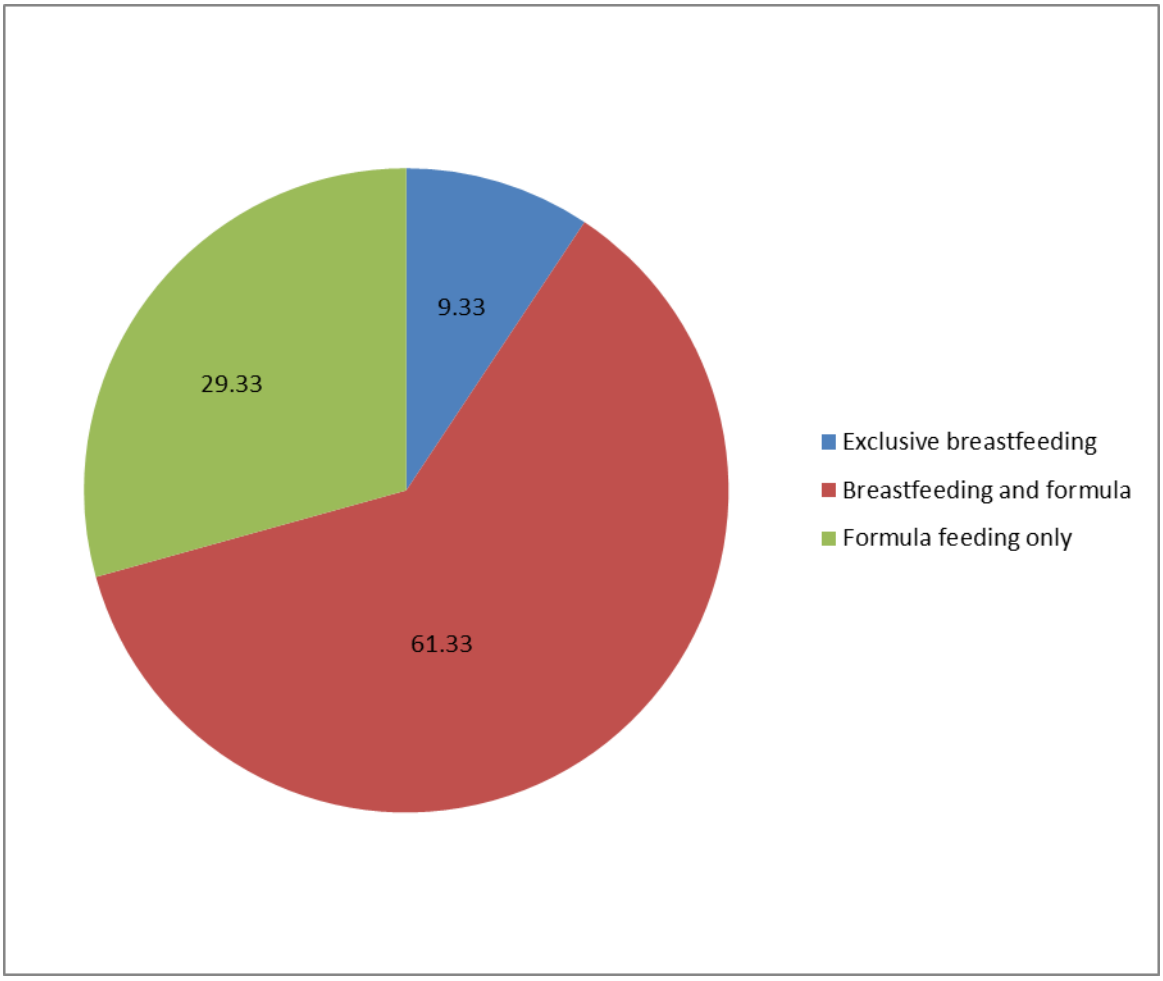

Figure 2. Percentage of breastfeeding practices of women during the first four weeks postpartum.

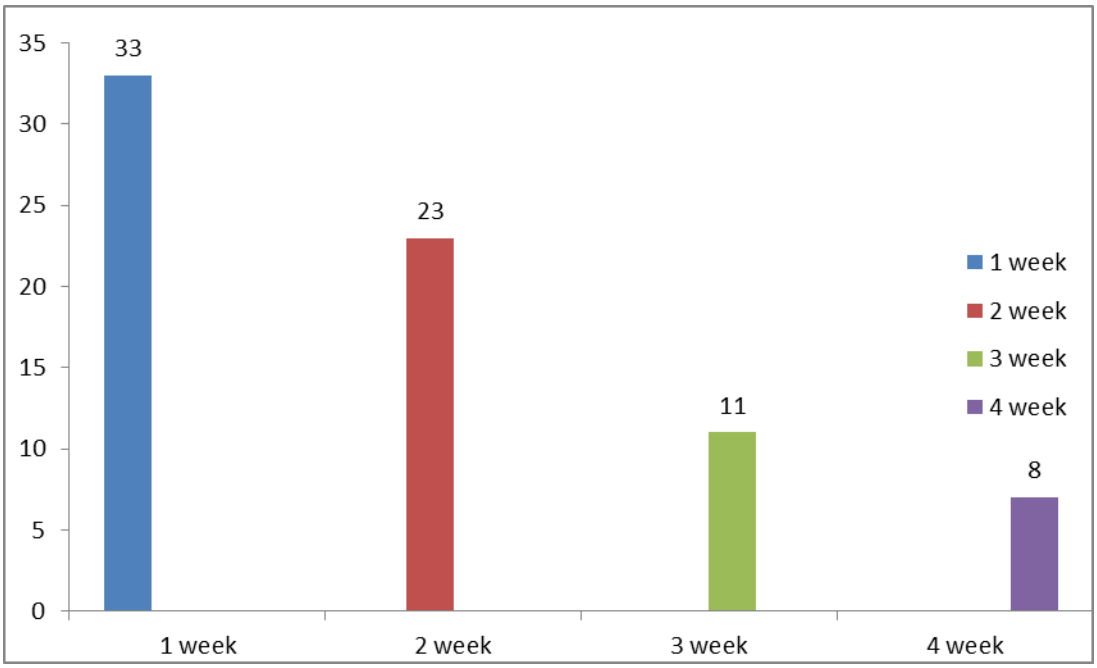

Figure 3. Percentage of duration of exclusive breastfeeding at one week, two weeks, three weeks, and four weeks.

A one-way ANOVA was conducted on the demographic variables classified under more than two categories such as age, income, education, and number of years living in the United States, to determine whether these variables were significantly related to the duration of EBF. For all analyses, alpha levels were set at .05. There was a significant relationship between the education of women and duration of EBF ($p < .050$). None of the other independent variables were significantly related to the duration of EBF (see Table 2).

Table 2

ANOVA Test for Relation of EBF and Age, Income, Education, Employment, and Years Lived in the United States

	Sum of Squares	df	Mean Square	F	Sig.
Age					
Between Groups	4.122	2	2.061	1.939	.151
Within Groups	76.544	72	1.063		
Total	80.667	74			
Income					
Between Groups	3.564	2	1.782	1.664	.197
Within Groups	77.103	72	1.071		
Total	80.667	74			
Education					
Between Groups	10.085	4	2.521	2.501	.050
Within Groups	70.582	70	1.008		
Total	80.667	74			
Employment					
Between Groups	.757	2	.379	.341	.712
Within Groups	79.91	72	1.110		
Total	80.667	74			
Years living in the United States					
Between groups	1.195	3	.398	.356	.785
Within Groups	79.471	71	1.119		
Total	80.667	74			

As shown in Table 3, a two-tailed independent *t*-test was performed on the independent demographic variables (whereas an ANOVA test was performed on the demographic variables classified under more than two categories) to determine if there

was a relationship between the duration of exclusive breastfeeding and demographic variables, such as *I was a breastfed baby*, marital status, parity, mode of delivery, intention to breastfeed, family support during pregnancy, WIC, rooming, breastfeeding initiation at birth within two hours, and EBF until hospital discharge. The duration of exclusive breastfeeding was significantly related to breastfeeding initiation within two hours after delivery ($p < .030$) and EBF until hospital discharge ($p < .016$) but not to the other demographic variables.

Table 3

Relationship Between Demographic Variables and Exclusive Breastfeeding Using t-test Analysis

	t-test	*df*	*p*-value
I was a breastfed baby	.094	73	.925
Marital status	.566	73	.573
Parity	.377	73	.707
Mode of delivery	1.970	73	.844
Intention to breastfeed	1.339	73	.844
Family support during pregnancy	.519	73	.605
WIC	-.309	73	.185
Rooming-in	1.286	73	.185
Breastfeeding initiation within two hours after delivery	2.219	73	.030
EBF until hospital discharge	2.465	73	.016

The second research question was "What are the main barriers for continuation of exclusive breastfeeding among mothers during the first four weeks postpartum?" Descriptive statistics of frequency and percentages was performed to analyze the barriers to EBF among mothers during the first four weeks postpartum. A simple and bivariate correlation analyses were used to determine the relationship of demographic variables and barriers to EBF on the outcome measure of exclusive breastfeeding among mothers during the first four weeks postpartum.

Barriers to EBF

Maternal problems. Table 4 shows that approximately half of the women (44%) cited inadequate milk supply and sore or painful nipples (42.7%) as barriers to continue EBF. Slightly more than one-third of the sample (34.7%) indicated that breastfeeding was very stressful and time-consuming. The majority of women (78.7%) noted embarrassment was not a barrier to continue EBF. In addition, 66.7% stated that return to work and return to school (73.3%) were not barriers to continue EBF.

Support system. The majority of women (82.3%) stated they had support from hospital staff when asked for help with breastfeeding, and 92% stated they had received information from the practitioners at the clinics concerning the benefits of EBF. Almost all of the sample (94.7%) reported they had support from their partner or family members when faced with challenges related to breastfeeding, and 92% reported they had contact information for help when faced with challenges to continue EBF (see Table 4).

Table 4

Frequencies and Percentages of Barriers to EBF

	n	%
Not enough breast milk production		
Yes	42	56.0
No	33	44.0
Concern that baby will not receive adequate nutrition		
Yes	29	38.7
No	46	61.3
Concern that certain food mothers eats will make the baby sick		
Yes	25	33.3
No	50	66.7
Stressful		
Yes	26	34.7
No	49	65.3
Time-consuming		
Yes	26	34.7
No	49	65.3
Concern that breastfed babies are smaller compared to formula-fed babies		
Yes	19	25.3
No	56	74.7
Returned to work		
Yes	25	33.3
No	50	66.7
Returned to school		
Yes	20	26.7
No	55	73.3

Table 4 (continued)

	n	%
Embarrassment		
Yes	16	21.3
No	59	78.7
Sore or painful nipples		
Yes	32	42.7
No	43	57.3
Poor latching on		
Yes	26	34.7
No	49	65.3
Use of medications harmful to the baby by the mother		
Yes	12	16.0
No	63	84.0
Failure in a previous breastfeeding experience		
Yes	14	18.7
No	61	81.3
Lack of support from hospital staff when asked for help with breastfeeding		
Yes	14	18.7
No	61	81.3
Lack of information from the practitioners at the clinic about the benefits of exclusive breastfeeding		
Yes	6	8.0
No	69	92.0
Lack of support from the partner or family members		
Yes	4	5.3
No	71	94.7

Table 4 (continued)

	n	%
Lack of contact information for help when faced with challenges with breastfeeding		
Yes	6	8.0
No	69	92.0
Lack of information that exclusive breastfed babies have less chances of developing skin allergies, asthma, diarrhea, and ear infections compared to formula feeding		
Yes	9	12.0
No	66	88.0
Lack of information that breastfed babies have less chances of developing obesity, diabetes, high blood pressure, and cholesterol later in life		
Yes	8	10.7
No	67	89.3
Lack of information that breastfeeding mothers have fewer chances of developing bleeding after delivery and postpartum depression. Also, lack of information that there is a reduced occurrence of obesity-related illness like high blood pressure and diabetes.		
Yes	8	10.7
No	67	89.3
Lack of information that breastfeeding mothers have less risk of developing ovarian and breast cancer and fractures related to thinning of bone.		
Yes	8	10.7
No	67	89.3
Others (had no intention to breastfeed)		
Yes	2	2.7
No	73	97.0

Misconceptions. More than half of the women (61.3%) stated no concern that the baby would not receive adequate nutrition when exclusively breastfed as a barrier to continue EBF. More than half (66.7%) noted that certain foods eaten by the mother may not make the baby sick, and 16% had concerns that the use of medications by the mother may harm the baby as a barrier to continue EBF. Previous breastfeeding failure experience was found to be a barrier to continue to EBF in 18.7% of the sample (see Table 4).

Benefits. The majority of women (88%) stated adequate knowledge on the benefits of EBF on infant and maternal health (89.3%). Only two women (2.7%) stated that they simply did not want to breastfeed even though they did not have any barriers to continue EBF (see Table 4).

A simple bivariate correlation analysis was used to measure the strength of the relationship between the two variables. To continue EBF, there was a significant relationship between the duration of EBF and the concern of the mother that breastfed babies are smaller compared to formula-fed babies ($p < .027$). There was also a significant relationship between the duration of EBF and embarrassment as reported by the mother to continue EBF ($p <. 013$). None of the other identified barriers and duration of EBF were not significantly related to the duration of EBF (See Table 5).

Table 5

Bivariate Correlation Analysis of Relationship Between Duration of EBF and Barriers to EBF

Barriers	*r*	*p*-value
Not enough breast milk production	.182	.117
Concern that baby will not receive adequate nutrition	.118	.311
Concern that certain food mothers eat will make the baby sick	.140	.229
Stressful	-.030	.796
Time-consuming	.096	.410
Concern that breastfed babies are smaller compared to formula-fed babies	.225	.027
Returned to school	.153	.190
Embarrassment	.287	.013
Sore or painful nipples	.172	.139
Poor latching on	.011	.925
Use of medications by the mother that are harmful to the baby	.123	.925
Failure in a previous breastfeeding experience	.123	.291
Lack of support from hospital staff when asked for help with breastfeeding	.077	.509
Lack of information from the practitioners at the clinic about the benefits of exclusive breastfeeding	.169	.147

Table 5 (continued)

Barriers	*r*	*p*-value
Lack of support from the partner or family members	.163	.161
Lack of contact information for help when faced with challenges with breastfeeding	.118	.312
Lack of information that exclusive breastfed babies have fewer chances of developing skin allergies, asthma, diarrhea, and ear infections compared to formula feeding	.002	.966
Lack of information that breastfed babies have fewer chances of developing obesity, diabetes, high blood pressure, and cholesterol later in life	.032	.786
Lack of information that breastfeeding mothers have fewer chances of developing bleeding after delivery and postpartum depression. Also, reduce the occurrence of obesity-related illnesses like high blood pressure and diabetes	.013	.914
Lack of information that breastfeeding mothers have less risk of developing ovarian and breast cancer and fractures related to thinning of bone.	.127	.276
Others (personal decision, did not desire to breastfeed)	.171	.143

Discussion of Findings

The purpose of this project was to identify the barriers affecting exclusive breastfeeding among postpartum mothers during the first four weeks postpartum. The first research question was, "What are the current feeding practices of mothers who attend the obstetric and gynecologic clinics during the first four weeks postpartum?"

Infant Feeding Practices

The TPB was the selected conceptual framework for this study and TPB has been successfully applied to the prediction of a wide range of health behaviors. This study indicated that although the majority of women (78.7%) during pregnancy had the intention to breastfeed, only a few women (9.33%) practiced EBF during the first four weeks postpartum. This study also revealed that although the majority of women knew about the advantages of EBF and received good support from the hospital staff, only half of the women initiated and continued EBF until hospital discharge. These findings are consistent with the findings of other studies that it is not only maternal intention and attitude, but many other maternal demographic and individual variables associated with predicted breastfeeding duration (Bai et al., 2011; Sheehan et al., 2010; Scott et al., 2001; Lawton et al., 2012).

Findings of this study showed that although the majority of women continued EBF during the first week postpartum (44%), the number of women who continued EBF during the second week (30.6%), third week (14.6%), and fourth week (10.6%) were gradually decreasing. The average duration of EBF during the first four weeks postpartum was two weeks. These findings indicate that more support is needed to meet

the challenging needs of women to continue the EBF during the early postpartum period. Based on TPB, women who have had higher perceptions of control and support are more likely to continue EBF. The TPB will help to identify the factors that may promote EBF and help to develop successful breastfeeding promotion strategies to increase the initiation and continuation rate among women during the early postpartum period. Research shows that systematic assessment for these problems during the early postpartum period might lead to effective intervention that could avert early weaning for many women (Giles et al., 2014).

The project findings indicate that although more than half of the women (54.7%) initiated breastfeeding within two hours after delivery, only a few women (9.3%) continued EBF during the first four weeks postpartum. These findings support the CDC's (2014) breastfeeding report card statement that though breastfeeding rates continue to rise in the United States, breastfeeding does not continue for as long as recommended. The findings also support the report by the DHHS (2011) that although there are many evidence-based documented breastfeeding promotional activities, EBF rates are still far below the stated Healthy People 2020 goals. Research indicates that for women who plan to breastfeed, experiences and support during the first hours and days after birth influence their later ability to continue breastfeeding (CDC, 2010). To improve exclusive breastfeeding success and duration rates, hospital policies and practices to support breastfeeding are critical. Research suggests that mothers who room-in with their babies during the entire hospital stay, breastfeed longer and are more likely

to breastfeed exclusively compared with mothers who have limited contact with their babies or whose babies are in the nursery (Crenshaw, 2014; Shannon et al., 2007).

Research shows that certain routine hospital practices may interfere with breastfeeding, such as delay of skin-to-skin contact, separation of mothers and newborns, and supplementation of breast milk with infant formula (Declercq, Labbok, Sakala, & O'Hara, 2009). These routine practices probably interfere with development of breastfeeding self-efficacy and may lead to lower breastfeeding self-efficacy through a mother's perception of poor performance accomplishment. Continued professional development fosters confidence to achieve the advocacy-based work of building self-efficacy skills within women (Thrower & Peoples, 2015). However, this study showed no significant relationship between rooming-in and duration of EBF during the early postpartum period (p <.185), although the majority of women (68%) practiced rooming-in.

This study showed that the duration of EBF was significantly related to breastfeeding initiation within two hours after delivery (54.7%, p < .030) and EBF until hospital discharge (54.7%, p <.016), but not to other demographic variables. The findings of this study are supported by Bozzette and Posner (2012), who reported that the influence of healthcare providers is crucial to a mother's feeding choices as the first six weeks postpartum can be challenging for breastfeeding mothers. Mothers need constant support and encouragement in the immediate postpartum period, and hospital practices need to be reformed to assist the women to increase the duration of EBF significantly. The project's findings also indicate that postpartum healthcare providers must increase

their efforts to establish and maintain a breastfeeding culture that promotes hospital practices supportive of breastfeeding within their institutions to increase breastfeeding duration.

Demographic Variables

The majority of the mothers in this study were Hispanic between the ages of 26 to 35 years, had an income of less than $20,000 annually, and an education less than a certificate or high school. Findings of this study indicated that only a few women initiated and continued EBF during the initial four weeks postpartum, and there was no significant relationship between maternal age, ethnicity, income, education, and duration of EBF during the early postpartum period. The findings were supported by the Textor et al. (2013) study that reported that women who have low incomes and low social support and belong to ethnic minorities are least likely to breastfeed. In a national study of Canadian mothers, Chalmers et al. (2009) found that women who were educated, were older, had a high level of income, and had vaginal births were most likely to breastfeed. The majority of women (97.3%) in this study were Hispanic and only a few women (9.3%) continued EBF until four weeks postpartum. The findings did not support the 2008 CDC National Immunization Survey report that Hispanic women have the highest national rate of initiating breastfeeding and retaining the highest breastfeeding duration rate through the recommended 12-month period (CDC, 2013c). The disparity in the findings of this study compared to CDC (2013a) National Immunization Survey report may be due to a small sample obtained from one area of the country and also the sample

was only representative of the mothers who continued EBF during the first four weeks postpartum rather than one year.

Although two thirds of the women in the study participated in the WIC program, the study did not show any correlation among women who had WIC program participation and initiation and continuation of EBF during the first four weeks postpartum period. The findings supported the research that women who participate in the WIC program are almost 12% less likely to initiate breastfeeding than the general population and less likely to continue for a year (CDC, 2013b; Hedberg, 2013).

Although more than half of the women in this study were living in the United States for more than 15 years, there was no significant association between acculturation and duration of EBF. Similar findings were noted in a study conducted by Chapman and Pérez-Escamilla (2013) to assess the relationship between acculturative type and breastfeeding outcomes among low-income Latinas, utilizing a multidimensional assessment of acculturation.

Almost half of the women in the group were unemployed and findings of the study indicated no significant differences between employment status of the mother and duration of EBF. This finding was not inconsistent with the findings of many other research studies that stated maternal employment was a barrier to continue EBF (Atabay et al., 2015; Balkam, Cadwell, & Fein, 2011; Daly, Pollard, Phillips, & Binns, 2014; Langellier, Pia Chaparro, & Whaley, 2012). The findings supported the TPB constructs and research that indicates that strong self-determination and a positive attitude toward breastfeeding were expressed among women as the most important elements for the

continuation of breastfeeding after returning to work. Individual education and counseling are an important strategy to overcome challenges and meet the particular needs of low-income working women and to identify specific needs, establish rapport through active listening, acknowledge specific concerns or myths, reassure women with positive feedback, and reinforce consistent and accurate information (Rojjanasrirat & Sousa, 2010).

The second research question was, "What are the main barriers for continuation of exclusive breastfeeding among mothers during the first four weeks postpartum?"

Barriers to EBF

Maternal problems. The key identified maternal problems for discontinuing the EBF in this study were not enough breast milk, followed by sore or painful nipples, returning to work or school, and poor latching of the baby at the breast. The findings were consistent with the findings noted by other researchers in their studies (Daly et al., 2014; Kent et al., 2015; Silfverdal, 2011; Whelan, McEvoy, Eldin, & Kearney, 2011). Findings of the current study suggest that the mother needs to be advised on the best feeding positions to help and eliminate her painful symptoms. Research indicates that the correction of positioning and attachment is the most common experience-based recommendation for treatment of nipple pain; and when performed within the first week of birth, it has been associated with a longer duration of breastfeeding and fewer breastfeeding problems (Kent et al., 2015). This finding also emphasizes the importance of early breastfeeding interventions within the first week of postpartum to prevent

discontinuation of breastfeeding because of difficulties with breastfeeding technique as indicated in another study (Brown et al., 2011).

Employment and other factors. Only a few women in the study noted that return to work and return to school were barriers that prevented exclusive breastfeeding; however, there was not a significant relationship between return to work or school and duration of exclusive breastfeeding. These findings were in contrast with the findings of a research study conducted by Ryan, Zhou, and Arensberg (2006) that indicated mothers who returned to work fulltime were less likely to continue breastfeeding than those who worked part-time or not at all. Research indicates that working fulltime had a negative effect on duration of EBF (Rojjanasrirat, & Sousa, 2010). The findings suggested that healthcare providers should help women gain confidence and minimize their fears through making follow-up phone calls, offering support, and answering their common breastfeeding questions to continue EBF successfully.

One of the significant maternal barriers to continuing EBF during the early postpartum period was embarrassment to feed the baby in public. There was a significant relationship between embarrassment and EBF ($p < 013$), consistent with the central premise of TPB, that attitude is determined by behavioral beliefs and that a more favorable attitude will lead to positive outcomes. This finding was also supported by a study conducted by Stewart-Knox, Gardiner, and Wright (2003) indicating that embarrassment poses a major barrier to breastfeeding, not only experienced by the mothers themselves to feed in public but also perceived in others, including close family

and friends. Adequate facilities for privacy should be arranged for the women to encourage breastfeeding in public and the workplace.

Misconceptions. Some of the concerns expressed by the women in the study were that the baby will not receive adequate nutrition, certain foods the mother may eat will make the baby sick, breastfeeding is time-consuming and stressful, breastfed babies are smaller compared to formula-fed babies, and the use of medications while breastfeeding may be harmful to the baby. Findings showed a positive correlation ($p < .027$) between maternal concerns that breastfed babies are smaller compared to bottle-fed babies and duration of breastfeeding. This finding is consistent with a study conducted by Simmie (2006) that concluded that fundamental changes in the attitudes of mothers toward breastfeeding are vital to increase the rate of exclusively breastfed mothers for the first six months. It is important that the factors influencing mother's attitudes to continue EBF are identified and educational interventions are provided to promote positive attitudes toward EBF.

According to Ajzen (1991), attitudes toward behavior are determined by the individual's beliefs concerning outcomes or attributes of performing the behavior (behavioral beliefs). The central principle of the TPB is that the immediate antecedent of a behavior is the person's intention to perform the behavior (Bai et al., 2011). Findings of this study indicate that women's attitudes and perceptions related to the continuation of EBF can be influenced by maternal knowledge concerning the benefits of EBF to the mother and infant and use of educational strategies aimed at the promotion of EBF during the early postpartum period.

Perceived insufficient milk supply is a worldwide issue that women report for early discontinuation of EBF, and it is one of the leading reasons for cessation in the first four weeks postpartum (Brand et al., 2011). Supply concerns have been consistently reported as a key contributor to early breastfeeding cessation in several previous studies (Brand et al., 2011; Brown et al., 2011; Ware, Webb, & Levy, 2014). Similar findings were noted in the study and insufficient milk supply was ranked first compared to other identified misconceptions. The results of the study suggest that educational intervention is needed during the early postpartum period when the majority of women who intended to exclusively breastfeed for six months change their method. These findings are supported by the findings of a study conducted by Simmie (2006) who noted that many of the reasons given for discontinuation of breastfeeding in the early postpartum period could be avoided with better information and emotional support.

Support system. Successful breastfeeding is dependent on an array of factors related to the mother, infant, and supportive environment. Although the majority of the women in the study cited support from the hospital staff and partner or family members, there was no significant relationship between an adequate support system and duration of EBF. These findings were not in keeping with a study conducted by Brand et al. (2011) who found that the presence of a support system, whether it is personal or professional, has a positive influence on the duration of exclusive breastfeeding. Research has shown that peers, partners, and families play a major role in helping and supporting mothers to continue EBF for six months, thereby significantly decreasing the risk of early discontinuation of EBF before six months (Bevan & Brown 2014; Demirtas, 2012). The

intention to perform a desired behavior is based on various perceptions of individuals in performing the desired behavior, self-efficacy, previous breastfeeding experience, and perceived social support (Ajzen, 1991; Kloeblen-Tarver et al., 2002; Mitra et al., 2003). Women who have the perception that breastfeeding is difficult to perform are less likely to breastfeed exclusively and may discontinue EBF during the early period of postpartum.

Benefits. The majority of women in the study were well aware of the benefits of exclusive breastfeeding for the mother and infant; however, only a few women continued exclusive breastfeeding for four weeks postpartum. There was no correlation found between knowledge level of the mother and continuation of EBF. Findings of the study suggest that adequate knowledge on the benefits of EBF alone is not a determinant factor among women to continue EBF. The Theory of Planned Behavior and other research indicate that factors such as a strong self-determination and a positive attitude toward breastfeeding among the women were the most important elements for a woman to choose breastfeeding (Ajzen, 1991; Brown et al., 2011). Evidence-based articles report that there are many factors involved in the continuation of EBF among mothers during the early postpartum period (Brand et al., 2011; Brodribb, 2011; Daly et al., 2014). Findings in the current study suggest that healthcare professionals, including prenatal educators, nurses, and other practitioners, provide adequate education to the women regarding breastfeeding benefits and management of common maternal problems that may hinder continuation of EBF in the early postpartum period. This education will

provide the support mothers need to become confident and committed to breastfeeding continuation.

Implications for Nursing Practice

The findings of this study contribute to the body of knowledge underlying the barriers associated with the continuation of EBF among postpartum women during the early postpartum period. This study identified many barriers that caused cessation of EBF among mothers during the first four weeks postpartum. These identified barriers will help the physicians, nurses, prenatal educators and other healthcare professionals identify at-risk women and intervene with appropriate and individualized interventions to promote EBF. These early interventions during the immediate postpartum period to a mother who is faced with difficulties may help her prevent early breastfeeding discontinuation and may contribute significantly to positive social change in the promotion of EBF among women during the early postpartum period. Educating women about the benefits of EBF to the mother and infant will help all mothers achieve the breastfeeding intention and develop a positive attitude toward EBF.

The study findings also suggest that healthcare providers have an important role in identifying potential barriers and maternal concerns, and providing the support to overcome the challenges faced with EBF. Additionally, hospitals and birthing centers can strongly influence the outcomes of EBF for mothers who choose to exclusively breastfeed by developing policies that promote EBF at clinical practice and establishing effective breastfeeding behaviors such as rooming-in, uninterrupted immediate skin-to-

skin contact, and initiating breastfeeding within the first hour for normal vaginal delivery and within two hours for a cesarean section (WHO, 2011).

Research indicates that the exclusive breastfeeding intention among women living in an economic hardship condition is affected by their attitude, subjective norm, and perceived behavioral control for EBF (Bai et al., 2011; McMillan et al., 2008). Findings of this study also recommend the use of the TPB model to develop educational interventions focusing on making mothers confident and committed to breastfeeding continuation. This study recommends that during the early postpartum period, mothers need consistent, sustained information and adequate support to develop and meet personal breastfeeding goals. Adequate support in the early postpartum period is vital to increasing the duration of EBF among women who initiated breastfeeding immediately after birth and until their hospital discharge (Cross-Barnet et al., 2012).

Project Strengths and Limitations

The strength of the study includes the minimization of recall bias, as women were asked about their reasons for stopping breastfeeding shortly after its cessation. A second strength is that it will benefit physicians, nurses, and other healthcare professionals at the clinics to develop appropriate interventions focusing on how to overcome the barriers reported by mothers to continue EBF.

The number of participants in the study is small and may limit the generalization of the findings of this study, as the sample may not be representative of the mothers who experienced barriers during the first four weeks postpartum. A further limitation of the study is that since almost 97.3% of the subjects in this study were of Hispanic-Mexican

origin, there may be cultural influences on the cited barriers to EBF. The race of the mother is an important variable in breastfeeding research, and the study lacks information from other races and ethnicities to compare the factors that may affect continuation of EBF. The study findings cannot be interpreted as a causal relationship. Causal inferences and conclusions concerning temporal relationships cannot be made with the descriptive quantitative design research. Lastly, the data were collected by self-report in a given questionnaire, so accuracy might be affected.

Practice Recommendations

Many of the findings expressed in this research have implications for practice and policy development. Healthcare professionals and childbirth educators need to identify and promote strategies to increase exclusive breastfeeding initiation and continuation rates. Research indicates that inadequate maternal health education is a leading reason that breastfeeding is not initiated or continued (Thrower & Peoples, 2015). Evidence based educational strategies and individual support will help women gain confidence in breastfeeding by minimizing their uncertainties and fears. For women returning to work or school, employers need to be encouraged to establish policies that allow flexible schedules and appropriate places to breastfeed or express milk. Another key strategy for improving the rate of EBF among low-income mothers is to build partnerships among healthcare professionals, legislators, employers and the community by working together to support breastfeeding. Maternity hospitals should continue to reform maternity care practices that promote continuation of EBF for the recommended period of six months.

Analysis of Self

Integration of evidence-based research knowledge with clinical expertise to improve healthcare and clinical outcomes is distinct to nursing practice. In the course of the project, the researcher has developed and gained skills to guide and support mentors and others to choose interventions that positively influence quality outcomes for mothers and infants via exclusive breastfeeding. The researcher has also gained knowledge concerning the use of TPB constructs to increase maternal intention and to achieve promotion of exclusive breastfeeding success. The researcher was able to comprehend various factors that may affect initiation and continuation of EBF among mothers during the early postpartum period. The project has expanded the researcher's transformational leadership skills. The researcher's role as a DNP leader is to mentor and model translation of research and evidence into bedside practice. The researcher was able to understand that women during the early postpartum period need continuous support and guidance to increase the duration of EBF. Identifying mothers at risk of discontinuing EBF and educating them to overcome multiple barriers during the early postpartum period are the primary responsibilities of nurses, physicians, and other healthcare professionals.

Analysis as a Practitioner

The review of literature has helped the researcher to explore the application of TPB in the promotion of EBF, to identify barriers, and to understand multilevel educational strategies to improve the continuation of EBF during the early postpartum period. The review reflects that even though there are some differences in the factors

associated with discontinuation of EBF during the early postpartum period among women from different cultures and ethnicities, the principal barriers remain the same across the world. The review has made the researcher understand that although many mothers encounter various challenges to continue EBF during the early postpartum period, early intervention strategies tailored to their culture and individual needs to face their challenges will benefit mothers to continue EBF during the first six months of the postpartum period.

Analysis as a Project Developer

For future professional growth, the researcher will incorporate the American Association of Colleges of Nursing (AACN) approved Eight Essentials of Doctoral Education for Advanced Nursing Practice (AACN, 2006) to promote breastfeeding research, maternal and infant health, and leadership for evidence-based practice (Ferguson & Forest, 2011). Throughout the course of the Doctor of Nursing Practice (DNP) curriculum, these eight essentials have assisted the researcher to gain a solid base of knowledge and expertise that will enable the researcher to prepare future competent clinicians to increase EBF continuation practices in order to improve maternal and infant health.

Summary

Despite current World Health Organization recommendations, the majority of mothers during the early postpartum period do not exclusively breastfeed their infants. Since this study found that almost half of the women stopped breastfeeding by the end of two weeks, early postpartum interventions are likely to be an important factor in

improving early breastfeeding cessation. Based on the TPB, it is important to note that intention has been shown to be directly correlated with behavior, and determining the predictors of intention is an important step in designing breastfeeding promotion (Bai et al., 2011). Studies have shown that breastfeeding education and the support of healthcare providers increase the duration and the rate of breastfeeding (Sencan, Tekin, & Tatli, 2013). The study highlights the most common problems faced by mothers who discontinued EBF during the early postpartum period. In the future, research studies that focus on exploring ethnic factors that may affect EBF can provide valuable insights regarding interventions that can improve continuation of EBF during the early postpartum period.

Section 5: Scholarly Project

Executive Summary

For the dissemination of the study's findings, identifying the barriers to exclusive breastfeeding among mothers during the first four weeks postpartum, the researcher utilized a PowerPoint presentation.

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Appendix A: Letter of Invitation to Participate

You are invited to participate in a study to identify barriers to exclusive breast feeding (only breast milk with no other liquids, or solids) among mothers during the first four weeks after delivery. My name is Jessy Thomas and I am a doctoral student at the Walden University, USA. I am conducting this study as part of my dissertation research project. If you decide to participate in this research project, you will be asked to complete a survey questionnaire on a paper written in English or Spanish using a pencil at your own convenience. You may drop the completed survey questionnaire in a locked box kept at the clinic waiting room or return it by using a self-addressed, pre-stamped envelope included in your package. The survey is expected to take 15-20 minutes. If interested, please read the attached consent form in the survey package for the details of the study.

Carta de Invitacion a Participar

Estan invitadas a participar en un estudio entre madres durante las primeras cuatro semanas despues del parto, por las cual identificaremos exclusivamente las barreras del amamantamiento (unicamente leche materna, sin ninguna otra forma de liquidos o solidos) .Mi nombre es Jessy Thomas y soy estudiante optando por un doctorado en la Universidad Walden USA. Estoy conduciendo un proyecto como parte de una investigacion para mi disertacion.

Si Ud decide participar en este proyecto sobre dicha investigacion, se le pedira que llene un cuestionario sobre el estudio, con lapiz y en ingles o espanol a su conveniencia en la clinica o en su casa. Puede depositar el cuestonario completo en un caja segura en la sala de espera en la clinica o regresar usando un sobre sellado y con direccion del remitente incluyido en su paquete. El cuestionario toma solamente aproximadamente quince minutes. Si le intersa participar, favor de leer la forma de consentimiento para obtener los detalles de la investigacion.

Appendix B: Demographic Information Questionnaire

Please fill up the questionnaire if you had your delivery within the last six months only.

Circle the appropriate information in each box.

Variables
Age group 18-25 years 26-35 years 36-45 years 46-50 years 51-55 years 56-60 years 61-65 years > 65 years
Highest level of education Elementary Middle school High school Certificate/Diploma University
Income Less than$ 20,000

$20,000-50,000 Above $50,000
Employment status Employed full time Employed part time Unemployed
Are you of Hispanic, Latino or Spanish origin? Yes No If yes, please circle your origin Mexican Puerto Rican Cuban South or Central American Other Spanish culture or origin(Please Specify) Race White Black or African American American Indian or Alaska Native Asian Native Hawaiian or other Pacific Islander (Please Specify)

Some Other Race (Please Specify)
Number of years living in US 1-5 years 5-10 years 10-15 years More than 15 years
I was a breastfed baby Yes No
Marital status Married Single Divorced
Number of deliveries (Parity) Primiparaous (first baby) Multiparous (2 or more)
Mode of delivery

Vaginal Cesarean
Intention to breastfeed during pregnancy Yes No
Family support with breastfeeding Yes No
Participation at WIC Yes No
Your baby stayed with you in the same room during your hospital stay (Rooming-in) Yes No
Breastfeeding initiation at birth within 2 hours Yes No
Exclusive breastfeeding until hospital discharge Yes No

Questionario de Informacion Demograficas

Favor llene este cuestionario si Ud. dio a luz solamente en los ultimos seis meses.

Circule la informacion apropiada a cada pregunta.

Variables
Grupo de edad 18-25 anos 26-35 anos 36-45 anos 46-50 anos 51-55 anos 56-60 anos 61-65 anos > 65 anos
Nivel educativo: Escuela elemental Escuela Secundaria Escuela Preparatoria Diploma Universidad
Ingresos: Menos de $20,000

$20,000 – $50,000 Por encima de $50,000
Estatus de empleo: Empleado a tiempo completo. Empleado de medio tiempo. Desempleado.
? Es usted de origen Hispano, Latino o Español? sí no En caso afirmativo, por favor marque su origen Mexicano Puerto Rico Cubano Sudamérica o Centroamérica Otra cultura u origen español (Especificar) Raza blanco Negro o afroamericano Indio o nativo de Alaska asiático Nativo de Hawai u otras islas del Pacífico (Especificar)

Alguna otra raza (Especificar)
Numero de anos de vivir en USA: 1-5 anos 5-10 anos 10-15 anos Mas de 15 anos
Me alimentaron con leche materna. Si No
<u>Estatus marital:</u> Casada Soltera Divorciada
<u>Numero de Partos(Parida)</u> Primipara (Primer nino) Multipara (Dos ninos o mas)
<u>Tipo de parto:</u> Vaginal Cesarea

Durante su embarazo a conciderado amamantar: Si No
Apoyo familiar durante el amamantamiento: Si No
Participante del programa WIC: Si No
Su bebé se quedó con usted en la misma habitación durante su estadía en el hospital (Alojamiento Conjunto) Si No
Iniciacion del amamamiento durante l as primeras 2horas de dar a luz: Si No
Amamanto exclusivamente hasta que fue dada de alta en el hospital: Si No

Appendix C: Breastfeeding Practice Questionnaire

Current feeding practices among mothers during the first four weeks after delivery

Please circle the appropriate answer to each question

1. How old is your baby?

   A. Less than 1 month

   B. 2-4 months

   C. 4-6 months

2. What is your current feeding practice

   A. Exclusive breastfeeding (Only breast milk)

   B. Breast milk and formula

   C. Formula feeding only

3. If you have ever breastfed how long did you exclusively breastfeed?

   A. Less than1 week

   B. 2 weeks

   C. 3weeks

   D. 4 weeks

   E. Others --------

Practica Sobre Questionario de Amamamiento:

Practicas de Amamantamiento entre Madres Durante las Primeras

Cuatro Semanas del Patro

1. Favor marque la respuesta apropiada:

    A: Menos de ! mes

    B: 2-4 meses

    C: 4-6 meses

2. Cual es tu practica actual para amamantar a tu bebe:

    A.Amamantamiento exclusivamente (pecho solamente)

    B. Leche del pecho y formula

    C.Solamente formula

3. Si alguna vez amamantastes, por cuanto tiempo lo hiciste de manera exclusive:

    A: Menos de 1 semana

    B: 2 semanas

    C:3 semanas

    D: 4 semanas

    E: Otro

Appendix D: Barriers to Exclusive Breastfeeding Among Mothers

During the First Four Weeks After Delivery

If you breastfed your infant for any length of time during the first four weeks after delivery, what were the barriers prevented you in continuing exclusive breast feeding? Check all that apply

Variables	Yes	No
Not enough breast milk production		
Concern that baby will not receive adequate nutrition		
Concern that certain food mother eat will make the baby sick		
Stressful		
Time consuming		
Concern that breastfed babies are smaller compared to formula fed babies		
Returned to work		
Returned to school		
Embarrassment		
Sore or painful nipples		
Poor latching on		
Use of medications harmful to the baby by the		

mother		
Failure in the Previous breastfeeding experience		
Lack of support from hospital staff when asked help with breastfeeding		
Lack of information from the practitioners at the clinic about the benefits of exclusive breastfeeding		
Lack of support from the partner or family members		
Lack of information about whom to contact for help when faced with challenges with breastfeeding		
Lack of information that exclusive breastfed babies have less chances of developing skin allergies, asthma, diarrhea, and ear infections compared to formula feeding		
Lack of information that breastfed babies have less chances of developing obesity, diabetes, high blood pressure and cholesterol later in life		
Lack of information that breastfeeding mothers have less chances of developing bleeding after delivery, postpartum depression, and reduce the occurrence of obesity related illness like high blood pressure and diabetes.		

Lack of information that breastfeeding mothers have less risk of developing ovarian and breast cancer, fractures related to thinning of bone.		
Others(Please Specify)		

Barreras Para Madres, Entre Madres que Enclusivamente Amamantaron Durante las Primeras Cuatro Semanas del Patro

Si amamantó a su bebé durante cualquier periodo de tiempo durante las primeras cuatro semanas después del parto, lo que fueron los obstáculos que impidió en continuar la lactancia materna exclusiva? Seleccione todo lo que appliqué

Variables	Si	No
No abia suficiente produccion de leche maternal:		
Preocupacion que el bebe no recibia la nutricion adecuada:		
Preocupacion de ciertos alimentos que la madre		
Estesante:		
Perdidad de tiempo:		
Falta de informacion comparando los bebes que toman formula son mas grandes, y los bebes que son amamantados son mas chicos:		
Regreso al trabajo:		
Regreso a la escuela		
Abergoenzamiento:		
Pezones dolorosos ó adoloridos:		
Dificultad para sujetarce:		
Uso de medicamentos dañinos para el bebe por parte		

de loa medre		
Carencia de apoyo de los empleados del hospital al solicitar ayuda en el amamantamientamient		
Carencia de informacion por parte de los facultativos de la clinica aserca de beneficios del amamantamiento:		
Falta de apoyo por parte de la pareja y miembros famileares:		
Falta de informacion sobre a quien llamar cuando nos enfrentamos a un reto sobre la amamantacion		
Falta de informacion sobre los bebes que son amamantados exclusivamente,tienen menos riesgos de desarollar alergias a la piel, asma, diarrea, y infecciones de los oidos comparado con los niños solo alimentados con formula		
Falta de informacion sobre los niños que son amamantados tienen menos opurtunidades de desarollar obesidad, diabetes, Hipertensión, y colesterol mas tarde en sus vidas		
Falta de informacion sabre las mamas que amamantaron tienen menos riesgos de desarollar una hemorragia despues del parto, deprecion de		

posparto, reduce riesgos de obesidad relacionada con hypertension y diabtes		
Falta de informacion sobre las madres que amamantaron corren menos riesgode desarollar cancer de los senos y ovaries, fracturas relacionadas con huesos fragile:		
Falta de apoyo por los profesionales del cuidado de salud en el hospital cuando piden ayuda para amamantar.		
Otros: (por favor especifique)		