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Examining the Factors that Lead to Latinas Stopping Breastfeeding Across the United States

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Abstract

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Across the United States

by

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Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Public Health

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Abstract

Breastfeeding is the optimal nutrition for an infant, yet only 25.4% of women in the United States decide to breastfeed. A Latina's choice for infant feeding must be made with accurate information as breastfeeding may reduce infant mortality and decrease chronic conditions such as obesity, depression, and diabetes. The study's purpose was to examine if Latinas are influenced by suggestions to not breastfeed by family members and health care providers or by events that may have happened at the hospital. Grounded in the theory of planned behavior, this study reviewed if social influences, marital status, and maternal education link to the beliefs that determine whether the Latina stops breastfeeding. The research questions examined the Pregnancy Risk Assessment Monitoring System's responses in 18 states in the United States, plus New York City. This cross-sectional quantitative analysis used multiple logistic regression between proposed predictor variables and the outcome variable at the bivariate level for responses from 10,357 Latinas. The results confirmed that 33.4% had difficulty latching and 18.8% found breastfeeding too hard or painful or time-consuming. There were no associations between marital status and maternal education and breastfeeding decisions. There was an association indicating that family affects breastfeeding termination and an association with events at the hospital. The findings suggest that social norms are a standard affecting Latinas' perceived behavioral control and attitudes towards breastfeeding. The findings may be used for social change by infant nutrition advocates, health care providers, and public health organizations that advocate for prolonging breastfeeding.

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Dedication

This research is dedicated to all the Latina women in our country and abroad, breastfeeding or not.

Table of Contents

List of Tables

Section 1: Foundation of the Study and Literature Review

Introduction

Previous research conducted on data from the Pregnancy Risk Assessment and Monitoring System (PRAMS), [a system that was designed by the Centers for Disease Control and Prevention (CDC) along with state health departments to achieve maternal infant health surveillance], has reviewed racial and ethnic minorities but not specifically Latina women (Danawi, Estrada, Hasbini, & Wilson, 2016). The differences between breastfeeding rates among Latina mothers to that of Black and White mothers are significant. Danawi et al.'s (2016) research emphasized the need to consider social and cultural factors to address the needs of communities to aid the increase in breastfeeding rates for minorities.

Morrell (2017) reviewed the critical aspect of mothers learning about breastfeeding among minority groups in the United States and why breastfeeding is less common among those groups than in the White population. The lack of research on obstacles and barriers to breastfeeding acceptance plays a role in social injustices that may drive women of color, such as Latinas, to stop or not engage in breastfeeding. Because the social determinants of health play a foundational role in the availability of resources for families, they may affect breastfeeding (Danawi et al., 2016). Some of the social determinants of health include race and the socio-economic status of women ((Danawi et al., 2016). Research is needed to develop an intentional approach that can

support women with breastfeeding no matter the factors associated with decisions to breastfeed.

Latina women breastfeed and have the highest rates of starting breastfeeding when compared to other ethnicities (Sloand et al., 2016). However, there is a lack of existing data explaining why Latina women terminate breastfeeding. Social change can occur through infant nutrition advocates and health care providers who care for Latina women and advocate for the continuation of breastfeeding. Instead of imposing an all or nothing breastfeeding directive, a more complete understanding of why Latinas stop breastfeeding may create opportunities for prolonging breastfeeding.

Problem Statement

Breastfeeding is the optimal nutrition for an infant, yet only 25.4% of women decide to breastfeed (Centers for Disease Control and Prevention [CDC], 2019). Breastfeeding promotes the health of both mother and infant by influencing the reduced risk of chronic diseases like obesity, depression, and diabetes (Tran, 2017). The focus of this research was the Latino population (the terms Latino and Hispanic are used interchangeably). The primary goal was to determine barriers to breastfeeding initiation and continuation among Latina mothers to understand why many Latinas are stopping breastfeeding before the recommended 6 months (Besore, 2015; Whaley, Koleilat, Leonard, & Whaley, 2017) despite evidence that has determined that breast milk aids in reducing the risk of sudden unexpected infant death as well as some respiratory illnesses (Adams, 2017).

What is missing from the literature is an understanding of why Latinas terminate breastfeeding, and yet Hispanic populations have the highest initiation and duration rate of breastfeeding among racial groupings when surveyed via the PRAMS in 2012 (Danawi et al., 2016). PRAMS data are not currently available in an aggregate breastfeeding percentage for Hispanic women within individual states. There is the need to have data compiled. However, the CDC (2019b) breastfeeding report card reveals that Hispanics had an 82.9% rate of ever breastfeeding.

In addition, the CDC reported that disparities among breastfeeding mothers. CDC (2019a) data revealed the different percentages of infants being breastfeed depending on their race. When comparing Hispanic, non-Hispanic Black, and non-Hispanic White infants, there were fewer non-Hispanic Black infants that were ever breastfeed (74%) than for the other two groups (CDC, 2019b). Hispanic women in the United States who are not born in the U.S. are acculturated are twice as likely to proceed to bottle feed instead of breastfeeding when compared to women born in the United States (McKinney et al., 2016). The rate of breastfeeding for Hispanic women at the three-month age of the infant is 30.9% and less than half of that at the 6-month age of the infant (Linares et al., 2015).

Influences such as socialization, peer pressure, and obedience to conform to social norms influence the postpartum emotions and behavior of the mother, which, in turn, affects her breastfeeding behavior. Social influences determine behavioral intentions and perceived social norms. A social influence on behavior is abstaining from breastfeeding

in public (Casal et al., 2017). Social norms include parental admonishments and cultural perceptions. Investigating the reasons for stopping breastfeeding among this population can increase awareness and promote the availability and funding of programs to encourage breastfeeding because there is currently little to no research to support evidence-based practices.

There is a gap in the literature regarding the reasons why Latina women in the United States who use PRAMS stop breastfeeding. PRAMS is a self-reported survey that can be considered an outlet to share information. Current research on breastfeeding has small, often qualitative samples that do not address the Latina population. The extensive literature review in this section shows that factors affecting Latina women to terminate breastfeeding is not currently being addressed. Research has addressed the breastfeeding practices of Black women more than of Latinas (McKinney et al., 2016). Negative aspects of breastfeeding have been discussed with little to no data on the reasoning associated with Latinas to terminating breastfeeding. Discussions of emotion-based evidence in qualitative studies for women of color exists, but they are not generalizable for the Latina population in the United States.

Furthermore, how breastfeeding is portrayed amongst society in the United States can be overlooked in research. Breastfeeding can be misunderstood as it may not be perceived as adequate nutrition or even suboptimal for infants. Instead, society's assumptions on the decision of what form of feeding are taken by the woman impact the health outcomes of food choices she makes for her infant. Health outcomes for both

mother and infant-like protection of cancers like breast and ovarian and improved childhood infections (Susiloretni et al., 2018). No research has specifically reviewed how low- and middle-income countries are associated with the duration of breastfeeding behaviors compared to high-income countries (Susiloretni et al., 2018). This type of breastfeeding research is needed to review mortality rates and how breastfeeding rate of initiation or duration contributes to the breastfeeding decision (both starting and stopping).

In turn, it may seem dismissive and or be taken as if mothers are getting their breastfeeding or feeding infant information from non-credible sources like friends and family. The locus of control is not clear regarding the decision as to whether to breastfeed. Factors such as the clinicians' educational system, formula companies, communities at large, or society may exert significant influence. Hohl et al. (2016) found that cultural and familial expectations among Hispanic women drove the decision to breastfeed. The association in the United States of choosing to breastfeed or not with privilege and impressions of breastfeeding as shameful or not the norm play a role in the decision of breastfeeding. However, Hohl et al.'s (2016) research used a cohort of only 20 women in Washington State. This was neither a representative sample of Latinas in Washington State nor of Latinas in the United States.

The lack of data on Latina motivations regarding breastfeeding may lead to misrepresentations of Latina women's choices to breastfeed and terminate breastfeeding. Learning of the gap, including dismissive information, on feeding options informational

materials on breastfeeding and formula for Latina's and their infant is essential. Accurate and transparent infant feeding information must be made available to advise Latinas properly. By providing all infant feeding options and not idealizing one over the other (breastfeeding and formula), experts and authorities can continue to create a cultural norm on what is most appropriate for the mother at the time (McKinney et al., 2016).

Adequate information on infant feeding options including breastfeeding, is needed for women to make an informed choice. Latinas must have credible information free of racial bias and the influence of discrimination in the communities where they live to make the choice to stop or continue breastfeeding (Kim et al., 2017; McKinney et al., 2016). Research has shown that breastfeeding initiation rates are high among Latina mothers (Danawi et al., 2016). But the issues around stopping breastfeeding have not been researched.

The act of breastfeeding is natural, but it is the experience of successful breastfeeding that lacks documentation in research (Kim et al., 2017). Kim et al. (2017) interviewed fifteen African American women in Illinois via a survey that identified how the experience, positive or negative, of the breastfeeding mother is imperative to the act of breastfeeding. The mother's experience with breastfeeding may include physical challenges, cultural norms, and it socially acceptable may lead her to initiation and or the prolonged duration. Mothers normally perceive that they control their behavior of providing nutritional food to their infant, which is when breastfeeding may or may not occur.

Purpose of the Study

The aim of this study was to investigate breastfeeding termination factors in Latina women in the United States from 2015-2017. The research questions are designed to answer why Latina women decide to terminate breastfeeding. Assessing the self-reported cessation factors may provide insight into future health status and health expenditures for both mother and infant.

Research Questions and Hypotheses

RQ1: To what extent is there an association between educational level and marital status with the reasons to terminate breastfeeding among Latina women in the United States between 2015-2017?

$H_0$1: There is no association between educational level and marital status with the reasons to terminate breastfeeding in the United States between 2015-2017.

H_a1: There is an association between educational level and marital status with the reasons to terminate breastfeeding in the United States between 2015-2017.

RQ2: What is the relationship between the factors (e.g., sick or on medicine; other children to take care of; too many household duties; didn't like breastfeeding; tried but it was too hard didn't want to breastfeed; went back to work; went back to school; baby had difficulty latching or nursing; breast milk alone did not satisfy the baby; thought baby was not gaining enough weight; nipples were score,

cracked, or bleeding or it was too painful; believed was not producing enough milk or milk dried up; felt it was the right time to stop breastfeeding; got sick or had to stop for other medical reasons; husband or partner did not support breastfeeding; baby was jaundiced) associated with Latina women deciding to terminate breastfeeding to breastfeeding events that happened at the hospital where the baby was born?

$H_0$2: There is no relationship between the factors associated with Latina women deciding to terminate breastfeeding to breastfeeding events that happened at the hospital where the baby was.

H_a2: There is a relationship between the factors associated with Latina women deciding to terminate breastfeeding to breastfeeding events that happened at the hospital where the baby was born.

RQ3: What is the relationship between the suggestions to not breastfeed the baby by a family member or health care provider with Latina women deciding to terminate breastfeeding?

$H_0$3: There is no relationship between the suggestions to not breastfeed the baby by a family member or health care provider with Latina women deciding to terminate breastfeeding.

H_a3: There is a relationship between the suggestions to not breastfeed the baby by a family member or health care provider with Latina women deciding to terminate breastfeeding.

Theoretical Foundation

The theory of planned behavior (TPB) from Ajzen (1991) is a framework that is widely utilized in breastfeeding research. This theoretical lens provides the perspective to understand how attitudes and perceptions about the particular behavior influence the intention to act, which affect judgment and the end behavior (Ajzen, 1991). The theory links the beliefs of the breastfeeding mother and the actual breastfeeding behavior (Guo et al., 2015). The action of breastfeeding (input) directly affects the outcome (feeding baby via breast). The questions of interest focus on how, if, and when the mother breastfeeds.

The research questions were developed from the TPB because the theory may help provide predictors of the duration of breastfeeding (Lau et al., 2018). The intent was to see if the relationship of these predictors—attitudes, subjective norms, perceived behavior control—helps to determine breastfeeding duration so that the decision to stop breastfeeding can be better understood.

The mother's self-efficacy, a perceived behavioral control construct, links maternal attitudes with the intention to breastfeed or cease breastfeeding (Lau et al., 2018). When a mother decides to breastfeed and or terminate breastfeeding, she may be influenced by someone or something (Ghaffari, Rakhshanderou, Harooni, Mehrabi, & Ebrahimi, 2019). The influences may come from culture, socioeconomic status, social support, or perinatal education (Bigman et al., 2018). It is not a matter of exclusive breastfeeding; now, it is a matter of breastfeeding in general. While exclusive

breastfeeding is valuable and preferred, communities in the United States are changing, like how Latina women are being exposed to other non-breastfeeding infant feeding methods (i.e., formula) (Bigman et al., 2018). PRAMS is a structured and validated survey standardized across the United States that provided the appropriate questions to determine maternal breastfeeding motivations.

Nature of the Study

A quantitative cross-sectional approach was used to investigate why Latina women were stopping breastfeeding. The date range of the query was 2015 to 2017. There is a need to understand why Latina women are stopping breastfeeding so that the public health community, including health care professionals, can address the concerns in the prenatal and postnatal communications and thereby encourage and empower continuous breastfeeding. Breastfeeding interventions at 6 weeks can impact maternal beliefs, attitudes, and knowledge. Understanding the factors behind breastfeeding termination can facilitate the intervention during this time (Zhu et al., 2017).

Latina women have demonstrated that they have higher breastfeeding rates when compared to other races and ethnicities (CDC, 2018; Fryer, Santos, Pedersen, & Stuebe, 2018). However, Latinas may differ in the provision of social support, and there may be other salient factors affecting Latina mothers. These other factors, such as attitudes, beliefs, intention, acculturation, and culture have yet to be determined (Fryer et al., 2018; Joshi Amadi, Meza, Aguirre, & Wilhelm, 2015). Furthermore, the effects of education level, economic status, and marital status on Latina breastfeeding are also little

understood. Additionally, the Morbidity and Mortality Reports on differences in breastfeeding indicators among racial groups. The only racial groups reported on are Black and White women. There is a lack of focus on Latinas or Hispanics further expanding on the disparities that exist (Anstey, Chen, Elam-Evans, & Perrine, 2017).

The independent variables for this study were educational level, marital status, and experiential events in the hospital. What happened at the hospital had twelve variables that were (a) information on breastfeeding, (b) baby in the same room as the mother, (c) baby breastfed in the hospital, (d) hospital staff helped mother learn to breastfeed, (e) breastfeeding within the first hour of baby being born, (f) baby placed in skin-to-skin contact with the mother within the first hour of life, (g) baby fed only breast milk at the hospital, (h) hospital staff told mother to breastfeed whenever the baby wanted, (i) hospital gave mother a breast pump to use, (j) hospital gave mother a gift pack with formula, (k) hospital gave mother a telephone number to call for help with breastfeeding, and (l) hospital staff gave baby a pacifier. The dependent variables were breastfeeding cessation and breastfeeding termination as these are utilized interchangeably throughout the manuscript.

Literature Search Strategy

The research strategy involved gaining access to practical social change aspects to breastfeeding and infant feeding practices among Hispanic women living in the United States. The social change aspect of understanding how breastfeeding impacts Latina women to provide some type (nutritional) food for their infants drove part of the keyword

searches. Keywords in searching the PubMed and Walden Library databases with limiters to full-text search options, peer-reviewed, and publication dates from 2014 to the present were used. The terms used were *breastfeeding Latina, breastfeeding, breast feeding Mexican, breastfeeding Latinx, WIC, PRAMS, predictors of complementary feeds, diverse Latina community, high breastfeeding rates, barriers to breastfeeding, theory of planned behavior and breastfeeding, breastfeeding predictors and theory of planned behavior, breast feeding, racial and ethnic differences in breastfeeding, breastfeeding natural but not the norm, cultural norms in breastfeeding, breastfeeding promotion, Latina community and breastfeeding rates, social determinants of health and breastfeeding, social determinants of health and breastfeeding,* and *Latinas.*

With Google Scholar, the terms used were *breast-feeding or breastfeed or breastfeeding or breast mil) AND terminate* or stop* or cease or cessation AND women or female AND TX minority or race or ethnicity or diversity or Black or African American or Native American or Mexican or Hispanic.*

The following search engines and databases were used: Grand Canyon University Purple File academic search, Gale Academic OneFile, Complementary Index, CINAHL Complete, Gale OneFile: Health and Medicine, Directory of Open Access Journal, Social Sciences Citation Index, ScienceDirect, Supplemental Index, Health Source: Nursing/Academic Edition, Gale Health and Wellness, SciELO, SPORTDiscus with Full tText, OmniFile Full Text Select, Education Research Complete, GreenFILE, Gale OneFile: Informe Academico, Gale in Context: Opposing Viewpoints, Business Source

Complete, Applied Science & Technology Source, Gale in Context: Science, Digital Access to Scholarship at Harvard (DASH), JSTOR Journals, ERIC, PsycARTICLES, Religion and Philosophy Collection, Gale in Context: World History, SAGE Research Methods, MAS Ultra-School Edition, and BioOne Complete. The terms used were *breastfeeding termination/stopping/cessation among women (women of color, Hispanic, white, Latina), the factors associated with breastfeeding termination/cessation, breastfeeding (humans), breast feeding, breastfeeding, mothers, infants, and pregnancy.* The Boolean/phrase was *breastfeed* or *breast feed* and *stop* or *end* or *terminate*.

Literature Review

To further understand the rates of breastfeeding in the United States, Taylor and Bell (2017) researched how the health care field, specifically the medical field, lacks education on breastfeeding. These academic institutions and medical practices need breastfeeding health education and health promotion information. When women seek medical support and guidance on breastfeeding, a physician and clinician's knowledge base may be limited. If the healthcare professional does not have current knowledge of breastfeeding best practices and how to convey them, it creates a barrier for the mother to proceed with breastfeeding. Taylor and Bell (2017) found that the training and education gap on breastfeeding in the healthcare setting is directly reflected in the breastfeeding rates in the United States.

Further research is needed to learn how to translate existing research of the benefits breast milk and breastfeeding have on a mother and infant into evidence-based

practices (Belfort, 2017). The time of engagement the mother spends with the infant directly impacts the brain development of the infant. Belfort (2017) found that the length of time a mother breastfeeds her infant the better outcomes in the overall development of the infant. However, some mothers are stopping breastfeeding before the recommended 6-month period that is deemed most beneficial by the American Academy of Pediatrics and the World Health Organization (WHO, 2020). Although research demonstrates the benefits of breastfeeding and the links to lifelong wellness benchmarks, challenges still exist in encouraging breastfeeding initiation and continuation, particularly for women of color, such as Latinas.

Bascom and Napolitano (2016) researched the reasons why women who had postpartum depression symptoms (PDS) decided to terminate breastfeeding. The data used for this secondary analysis was a national survey that was part of the Infant Feeding Practices Study II. These researchers found that breastfeeding behavior is directly correlated to PDS, and there is an general lack of support for women with these symptoms (Bascom & Napolitano, 2016). In addition, preventative care for PDS may affect the initiation or cessation of breastfeeding (Bascom & Napolitano, 2016). Also, poor breastfeeding behaviors, an element not widely discussed among the breastfeeding community, is a barrier to successful breastfeeding (Bascom & Napolitano, 2016). Research has addressed poor or inadequate breastfeeding behaviors by assessing the social determinants of health, such as socioeconomic status, environment, and education (Bascom & Napolitano, 2016). The sample size of Hispanics in this survey was larger

than any other minority but less when compared to Whites, hence the need for more research with the Hispanic communities.

The psychometric analysis utilized by breastfeeding practitioners and clinicians provides a knowledge base to comprehend barriers to breastfeeding, including reasons why termination of breastfeeding occurs. However, there are inconsistent instruments that address and measure why breastfeeding behaviors occur (Casal et al., 2017). The research by Casal et al. (2017) reviewed sixteen instruments, of which two addressed Hispanic women's needs. The first tool was authored in 2002, and it was used to review 57 monolingual Spanish-speaking women in the Midwest (Casal et al., 2017). The second tool was published in 2014, with which factors on breastfeeding influence among Hispanic women in rural Nebraska were reviewed (Casal et al., 2017). Hence, there is a gap in evidence-based practice regarding use of a readily available instrument that is adaptable for Latinas across the United States.

McKinney et al. (2016) analyzed secondary data from a survey of 1,636 women. The data depicted the differences that exist in monolingual Spanish-speaking and English-speaking Hispanic women, Blacks, and Whites (McKinney et al., 2016). However, the disparities among Hispanic women were so much that McKinney et al. (2016) suggested the need for future research to fully describe the differences in duration of breastfeeding between these races. The disparities described were race, the mother’s knowledge of breastfeeding and infant feeding, and the effectiveness of her ability to feed her infant.

Infant feeding is an informed decision that has to be made by the mother and not the hospital. What occurs in the hospital, however, is critical for the decision to breastfeed. Patterson Keuler, and Olson (2017) reviewed how breastfeeding in hospitals across the United States may be affected by the Baby-Friendly Hospital Initiative. This initiative is supported through the WHO; its goal is to implement 10 steps for the practice of successful breastfeeding. However, it is optional; it is best practice to have better-informed clinicians, staff, and potential mothers (WHO, 2020). The 10 steps include a critical management procedure and clinical practices to discuss, facilitate, support, enable, counsel, and coordinate breastfeeding with specific time frames that evidence has demonstrated will improve breastfeeding and adherence to breastfeeding (WHO, 2020). Not all hospitals in the United States have adopted and implemented this initiative, creating a disparity between hospitals of breastfeeding rates (Patterson et al., 2017). Hospitals that are designated as baby-friendly have higher breastfeeding rates.

Moreover, Wouk et al. (2016) analyzed different interventions targeting Latinas to promote and initiate breastfeeding. The limitations they identified included insufficient research for this population in addition to few inconsistently applied clinical interventions. Wouk et al. (2016) found 14 interventions that were or are being used nationwide. Clinical interventions for Latina women planning or initiating breastfeeding were found to have different influences that affected the outcome of breastfeeding; in most cases, the intervention still ended in premature termination of breastfeeding.

Wouk et al. (2016) recommend that an analysis of Latina or other racial and ethnic subgroups should be conducted to improve the methodology for interventions because of the confounding factors affecting this sector of the population. Confounding factors found were acculturation, immigration status, language, culture, and medical access. There is limited data that address these factors, which may have reduced the effectiveness of breastfeeding promotion (Joshi et al., 2015). When clinicians or other healthcare professionals have incomplete, dated, or inaccurate information on breastfeeding and the importance of interventions to support breastfeeding, breastfeeding rates will not increase.

Dagher, McGovern, Schold, & Randall (2016) researched differences in working mothers breastfeeding experiences via a student cohort of 817 in Minnesota. However, race was delineated as either White or non-White, and no ethnicity was included. Out of the 817, 136 non-White women participated, indicating that this was not a sufficiently representative sample of women of color to provide useful information on that score (Dagher et al., 2016). This research confirms the need for further investigations to be conducted on other racial and ethnic groups like Latinas.

In the literature review there were a variety of breastfeeding research articles that focused on White women across European countries. Extensive research has also been conducted in Turkey, the United Kingdom, and Spain. As well as in African countries such as Ethiopia and in China and Australia.

Keevash, Norman, Forrest, and Mortimer (2018) took a thematic approach on interviewing women in the United Kingdom and how sociocultural pressures around perceptions of motherhood influenced the motivation for breastfeeding. Only 41 women from a narrow age range (18-24) were interviewed for this study (Keevash et al., 2018). This qualitative study of a limited population led Keevash et al. (2018) to recommend that a more extensive population representative of United Kingdom women be studied.

Key Variables and Concepts

PRAMS has been utilized to analyze postpartum mental health and breastfeeding practices for women ages 19-44 (Wouk et al., 2017). However, there has not been a rationale for not targeting Latina women in a study. What remained to be studied are factors associated with the cessation of breastfeeding.

The literature review has demonstrated mixed findings from researchers doing a meta-analysis, extensive reviews, and studying small samples of rural or urban women via hospital or clinical settings, but the weakness if these approaches has been the lack of generalization for Latina women. Moreover, the assumptions of researchers that factors, strong beliefs, perceived control of breastfeeding cessation is known, understood, and comprehended. The value of the utilization of PRAMS data in this study is the standardization of data collection methodology, the self-reporting of the mother via a mailed questionnaire or phone survey.

Definitions

Table 1

Definitions

Variable	Definition	Coding
Marital status	Married or not	0=not married 1=married
Breastfeeding events at the hospital	Hospital staff gave me information about breastfeeding	BFH6BFED_RAW
	My baby stayed in the same room with me at the hospital	BFH6FONE_RAW
	Hospital staff helped me learn how to breastfeed	BFH6GIFT_RAW
	I breastfed in the first hour after my baby was born	BFH6HELP_RAW
	I breastfed my baby in the hospital	BFH6HOUR_RAW
	My baby was fed only breast milk at the hospital	BFH6INFO_RAW
	Hospital staff told me to breastfeed whenever my baby wanted	BFH6ONLY_RAW
	The hospital gave me a breast pump to use	BFH6PUMP_RAW
	The hospital gave me a gift pack with formula	BFH6ROOM_RAW
	The hospital gave me a telephone number to call for help with breastfeeding	BFH6WHEN_RAW
	Hospital staff gave my baby a pacifier	BFH7PACI_RAW
	My baby was placed in skin-to-skin contact within the first hour of life	BFH8SDTD_RAW BFH8SKIN_RAW

(table continues)

Variable	Definition	Coding
Family member	Husband, partner, mother, father or in-laws, relative, friend	BFINF_FAM_RAW=1 Converted into two variables 0=doctor, nurse, specialist 1= husband, partner, mother, father or in-laws, relative, friend
Reasons for stopping breastfeeding	My baby had difficulty latching or nursing	BFC5DIFF_RAW_Recode
	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	BFC5SAT_RAW_Recode
	My nipples were sore, cracked, or bleeding, or it was too painful	BFC5SORE_RAW_Recode
	I thought I was not producing enough milk, or my milk dried up	BFC5MILK_RAW_Recode
	I had too many other household duties	BFC5HOME_RAW_Recode
	I felt it was the right time to stop breastfeeding	BFC5STOP_RAW_Recode
	I got sick or I had to stop for medical reasons	BFC5ILLM_RAW_Recode
	I went back to work	BFC8WORK_Raw_Recode
	I went back to school	BFC8SCHL_RAW_Recode
	My husband or partner did not support breastfeeding	BFC8HUSB_RAW_Recode
	My baby was jaundiced (yellowing of the skin or whites of the eyes)	BFC5JUAN_RAW_Recode
	I thought my baby was not gaining enough weight	BFC5WT_RAW_Recode
	Breastfeeding was too hard, painful, and time-consuming	BFC6HARD_RAW_Recode
Health care provider	My baby's doctor, nurse, or other health care worker My doctor, nurse, or other health care worker	BFINF_DR_RAW, BFINF_GRP_RAW, BFINF_NUR_RAW, and BFINF_SPC_RAW, Recoded to 1 BFINF_FAM_RAW=0

(table continues)

Variable	Definition	Coding
States	Alaska	AK
	Colorado	CO
	Connecticut	CT
	Louisiana	LA
	Maryland	MD
	Massachusetts	MA
	Michigan	MI
	Missouri	MO
	New Hampshire	NH
	New Jersey	NJ
	New Mexico	NM
	New York City	YC
	New York State	NY
	Oklahoma	OK
	Pennsylvania	PA
	West Virginia	WV
	Wisconsin	WI
	Wyoming	WY

Assumptions

The data used met all ethical standards and were validated as reliable without missing cases. The assumption was made that there were no biases involved in the collection of data and that participants responded honestly and openly in the survey.

Scope and Delimitations

The research focus was on the phenomenon of cessation of breastfeeding among Latina women in the United States. The boundaries of inclusion and exclusion of the sample were that only responses from women who identified as Hispanic in the PRAMS were analyzed.

Significance, Summary, and Conclusions

The literature review showed that there is a need to focus on non-White women and include Hispanic women in research. Furthermore, understanding breastfeeding motivation consists of the significance of attitude, performing behaviors, and behavior beliefs. Once Latina women's reasoning about breastfeeding cessation is better understood, health education and health promotion programs may be better designed to promote breastfeeding with Hispanic women.

Section 2: Research Design and Data Collection

Research Design

This research was a quantitative study. The design for data collection was descriptive cross-sectional. This method allows the use of a dichotomous multiple logistic regression. Breastfeeding is adherence to behavior and allows for multiple variables to be analyzed. This quantitative study used a secondary data analysis of the PRAMS survey conducted by the CDC. This design allows for a through standardization of data collection from phone and mailed questionnaires for all the mothers who participate.

The CDC mails out questionnaires and then follows up with a phone call. The methodology includes surveillance of six steps. The six steps are initiated two to four months after the mother delivers. The sequence starts with a preletter, initial mail questionnaire packet, tickler (a reminder postcard), second mail questionnaire packet, third mail questionnaire packet, and a telephone follow up (see Table 2).

Table 2

Pregnancy Risk Assessment and Monitoring System Surveillance Protocol

Contact	Timeframe	Recipient
Preletter	2-4 months after delivery	All sampled mothers
Initial mail questionnaire packet	3-7 days after the pre-letter	All sampled mothers
Tickler	7-10 days after the initial mail questionnaire	All sampled mothers
Second mail questionnaire packet	7-14 days after the tickler	All sampled mothers
Third mail questionnaire packet	7-14 days after the second questionnaire	Only to non-respondent sampled mothers

(table continues)

Contact	Timeframe	Recipient
Telephone follow-up	7-14 days after their last questionnaire by calling at different times during the day for up to 15 attempts	All nonresponding mail mothers

The data collection for each mother sampled takes about 60-95 days. There is a lot of data to manage and assess regarding which mother has responded or not; therefore, a tracking system is used, PRAMS Integrated Data System.

Methodology

The target population was Latina women across 18 states in the United States along with New York City, and the target size was approximate to what the CDC states as a 55% response rate threshold in order to have viable data released. There are currently 47 states that participate in PRAMS, but only the 18 included in this study met the criteria of have the threshold response rate across all 3 years.

The PRAMS has a two-part questionnaire, one that has core questions with which all 47 states participate and a second portion where states choose to add additional questions vetted by pretests from the CDC or the state itself. The core questions include 10 topics, among which one is breastfeeding. The participating states and one city for this research met the criteria of response rate threshold for the year and for CDC to release data. In addition to one oversampling in New York City, there were 18 states: Alaska, Colorado, Connecticut, Louisiana, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York State, Oklahoma, Pennsylvania, West Virginia, Wisconsin, and Wyoming.

Sampling Procedures

The population from which the sample was drawn was the Latinas in the United States taking the PRAMS survey. The sample size consisted of each state that conducts the survey either in English or Spanish. States sample between 1,300-3,400 women each year with live births (CDC, n.d.). This research only included the states that aligned with the survey questions for 2015-2017. The PRAMS has a model protocol each year and the version may change depending on the findings from the prior year. This research utilized the PRAMS model Protocol 2018 version. Each PRAMS survey has a weighting process because each state has a stratified systemic sample by race and low birth rates and has a 95% confidence. Also, there is an adjustment for nonresponse in the survey. The adjustment factors are for specific characteristics such as marital status and education. The only surveys that are not counted in the state are those surveys that are submitted late.

The procedure for gaining access to the data set is writing to the CDC. The CDC provides access to outside researchers by filling out a PRAMS application form and attaching a project abstract and data sharing agreement. Once the CDC receives the application, it is reviewed once a month, only on the first of each month. The application was submitted in March 2019 and received the approved dataset in June 2019. Permission letters to gain access to the data are in Appendix A.

All analytic research and variables for PRAMS are available via the CDC PRAMS website, which include birth certificate, operational, weighting, questionnaire,

and analytic. The birth certificate records in each state are what determines the sample and ranges between 1,000-3,000 women who had live births.

Data Analysis Plan

The software used for analyses was the Statistical Package for Social Sciences (SPSS). The data cleaning and screening procedures were to create categorical variables for educational level, marital status, breastfeeding events, and family members. For the multivariate logistic regression analysis a *t* test or chi-square was performed to determine the association between the independent variables to breastfeeding termination (see Table 3). The level of statistical significance was $p < .05$, which was the standard used to interpret results.

Table 3

Data Analysis

RQ	Independent variables	Dependent variables	Statistical test
To what extent is there an association between educational level and marital status with the reasons and the belief to terminate breastfeeding among Latina women in the United States between 2015-2017?	Educational level, marital status,	Breastfeeding	Chi-square then multiple logistic regression

(table continues)

RQ	Independent variables	Dependent variables	Statistical test
What is the relationship between the factors associated with Latina women deciding to terminate breastfeeding to the breastfeeding events that may have happened at the hospital where the new baby was born in the United States between 2015-2017?	Things that may have happened in the hospital (twelve variables that are information on breastfeeding, baby in the same room, breastfed in the hospital, hospital staff helped learn to breastfeed, breastfeeding within the first hour of baby being born, baby was placed in skin-to-skin contact within the first hour of life, baby was fed only breast milk at the hospital, hospital staff told to breastfeed whenever baby wanted, hospital gave a breast pump to use, hospital gave a gift pack with formula, hospital gave a telephone number to call for help with breastfeeding, hospital staff gave baby a pacifier)	Breastfeeding	Chi-square then multiple logistic regression
What is the relationship between the suggestions to not breastfeed the new baby by the family member(s) and health care provider(s) with Latina women decision to terminate breastfeeding in the United States between 2015-2017?	Family members (husband, partner, mother, father or in-laws, relative, and friend) Health care providers (my baby's doctor, nurse, or other health care worker My doctor, nurse, or other health care worker)	Breastfeeding	Chi-square then multiple logistic regression

Threats to Validity

The data collected via the PRAMS survey is stratified by each state. The stratification must occur at the state level to address various characteristics deemed appropriate to that state (i.e., race and ethnicity; see Table 4).

Table 4

State and Stratification Variables

State	Stratification variable(s)
Alaska	Birth weight, maternal race
Colorado	Birth weight, geographic area
Connecticut	Maternal race/ethnicity
Louisiana	Birth weight, maternal race, geographic area
Maryland	Birth weight
Massachusetts	Maternal race/ethnicity
Michigan	Birth weight, maternal race, geographic area
Missouri	Birth weight
New Hampshire	Birth weight
New Jersey	Maternal race/ethnicity, smoking status
New Mexico	Maternal race/ethnicity, geographic area, medicaid/WIC
New York City	Birth weight
New York	Birth weight
Oklahoma	Birth weight
Pennsylvania	Birth weight
West Virginia	Birth weight
Wisconsin	Maternal race/ethnicity, geographic area
Wyoming	Birth weight, maternal race

External validity can be compromised by time and selection biases. This sampling has a time frame of over three months, by which the newborn may be between three to five months, depending on the initial time frame from when the mother received the

initial letter. Time affects the generalizations of the mother's recalling information from perinatal care to what occurred in the hospital, for this sample may include selection biases since stratification varies from the 18 states and New York City. The implications arise when there are non-respondents in the methodology protocol, and the weighing process is then adjusted.

The internal validity is as appropriate at the statistical analysis is conducted. History and maturation may be affected. Maturation of the quantitative analysis of the PRAMS data from 2015-2017 may have changed now to generalize for the immediate present. However, this data analysis serves the purpose of foundational research or baseline for future researchers deciphering Latina women and breastfeeding across the nation. Additionally, the historical effects of the mailed and telephone survey impact the state of mind in addition to the family members and health care providers' relationship at the time of the survey. Asking the mother to recall a historical event in her immediate past or past can threaten the validity of her answers.

Ethical Procedures

The CDC is a reputable agency that oversees the PRAMS implementation. Ethical procedures for this research abide by those taken by each participating state in conjunction with the compilation of data. The Institutional Review Board from Walden University was used to include approvals for this secondary analysis.

Ethical concerns related to recruitment materials and processes related to the treatment of data in terms of archiving are protected by CDC, and an application for

research is needed. However, codebooks, questionnaires, and preliminary data are public record deidentified are available on the CDC PRAMS website. Once a researcher creates an agreement of research and becomes the principal investigator if approved through the CDC PRAMS monthly submissions for approvals, a data-sharing agreement included how the data is destroyed in addition to proper dissemination of research. CDC has steps in place to ensure that the research is pre-approved by the PRAMS committee members of each state involved with PRAMS.

Summary

This research is a quantitative secondary data analysis. The multiple logistic regression statistical analysis to CDC PRAMS data was used. The presentation of the results of PRAMS informed the national representation of breastfeeding termination across the nation, across 18 states, and New York City.

Section 3: Presentation of the Results and Findings

Results

In this section the results of the secondary data analysis of this descriptive cross-sectional study on PRAMS data from the CDC are described. This section provides relevant results for all three research questions. A variety of tables are included to provide the statistical significance; tables not discussed but that had relevance in the analysis steps are provided in Appendix B.

PRAMS data provided for years 2015-2017 were for a total of 11,728 women (see Table 5). The PRAMS data provided had 9,574 women who had stopped breastfeeding, meaning that 86.3% of Latinas breastfed their infant but had stopped (see Table 6). For the purposes of analyzing the data, the utilization of Census regions rather than state-specific data is feasible and more appropriate than standard federal regions (see Table 7).

Table 5

Breastfeeding Latinas in the United States, 2015-2017

		Frequency	Percent	Valid percent	Cumulative percent
Valid	No (never breastfed)	1112	9.5	9.7	9.7
	Yes (breastfed)	10357	88.3	90.3	100.0
	Total	11469	97.8	100.0	
Missing	System	259	2.2		
Total		11728	100.0		

Table 6

Latinas that Stopped Breastfeeding in the United States, 2015-2017

		Frequency	Percent	Valid percent	Cumulative percent
Valid	No (stopped)	9574	81.6	86.3	86.3
	Yes (still)	1522	13.0	13.7	100.0
	Total	11096	94.6	100.0	
Missing	System	632	5.4		
Total		11728	100.0		

Table 7

States by Census Region

West	Midwest	Northeast	South	Pacific
CO	MI	CT	LA	AK
NM	MO	MD	MA	
WY	WI	NH	OK	
		NJ	WV	
		NY		
		YC		
		PA		

According to the Pew Research Center (2020), Hispanics are the largest growing population between 2010-2019; therefore, analyzing by Census region was feasible for interpretation (see Tables 8 and 9).

Table 8

Hispanic Population by Region, 2015

	Hispanic population	Total population	Percent Hispanic
Northeast	7,897,872	56,283,891	14%
Midwest	5,164,639	67,907,404	7.6%

(table continues)

	Hispanic population	Total population	Percent Hispanic
South	20,853,647	121,182,847	17.2%
West	22,566,619	76,044,679	29.7%
Total	56,476,777	321,418,281	

Note. Pew Research Center tabulations of 2015 American Community Survey (1% IPUMS) *Statistical Portrait of Hispanics in the United States, 2015

Table 9

Hispanic Population by State, 2015

	Hispanic population	Total population	Percent Hispanic
Alaska	51,719	738,432	7.0%
Colorado	1,165,546	5,456,574	21.4%
Connecticut	554,361	3,590,886	15.4%
Louisiana	227,388	4,670,724	4.9%
Maryland	572,526	6,006,401	9.5%
Massachusetts	757,059	6,794,422	11.1%
Michigan	487,335	9,922,576	4.9%
Missouri	238,070	6,083,672	3.9%
New Hampshire	44,321	1,330,608	3.3%
New Jersey	1,762,984	8,958,013	19.7%
New Mexico	1,002,409	2,085,109	48.1%
New York City	None available		
New York	3,722,097	19,795,791	18.8%
Oklahoma	396,307	3,911,338	10.1%
Pennsylvania	867,095	12,802,503	6.8%
West Virginia	26,881	1,844,128	1.5%
Wisconsin	380,548	5,771,337	6.6%
Wyoming	57,801	586,107	9.9%

Note. Pew Research Center tabulations of 2015 American Community Survey (1% IPUMS) *Statistical Portrait of Hispanics in the United States, 2015

Table 10

Distribution of Latinas Who Took the Pregnancy Risk Assessment and Monitoring System Survey by Region, 2015-2017

		Frequency	Percent	Valid percent	Cumulative percent
Valid	West	3197	27.3	27.3	27.3
	Midwest	884	7.6	7.6	34.9
	Northeast	4786	40.9	40.9	75.8
	South	2484	21.2	21.2	97.1
	Pacific	340	2.9	2.9	100.0
	Total	11691	100.0	100.0	

Some tables may include multiple answers from the same Latina. The following questions from PRAMS were utilized in the aggregate data and cannot be isolated to learn which Latina answered which question (see Table 11).

Table 11

Pregnancy Risk Assessment and Monitoring System Survey Questions Questionnaire Indicators Included, 2015-2017

PRAMS question	Multiple answers available
What were your reasons for stopping breastfeeding?	Yes
This question asks about things that may have happened at the hospital where your new baby was born	Yes

The results for RQ1—To what extent is there an association between educational level and marital status with the reasons to terminate breastfeeding among Latina women in the United States between 2015-2017?—demonstrated that chi-square tests were

conducted between proposed predictor variables and the outcome variable at the bivariate level. All proposed predictors were associated with the outcome variables at $p < .20$ and were therefore included in the multivariate logistic regression model. Table 12 demonstrates the variable of marital status in relation to breastfeeding. Table 13 demonstrates the answers by Latinas who decided to stop breastfeeding based on their education.

Table 12

Marital Status in Relation to Termination of Breastfeeding by Region Crosstabulation

		Breastfed		
Regions	Martial status	No	Yes	Total
West	Other	1265	247	1512
	Married	1483	170	1653
	Total	2748	417	3165
Midwest	Other	262	113	375
	Married	371	104	475
	Total	633	217	850
Northeast	Other	2126	358	2484
	Married	1647	169	1816
	Total	3773	527	4300
South	Other	1057	226	1283
	Married	1036	123	1159
	Total	2093	349	2442
Pacific	Other	103	5	108
	Married	221	6	227
	Total	324	11	335

Note. n = 11,092.

Table 13

Maternal Education in Relation to Termination of Breastfeeding by Region Crosstabulation

Regions	Maternal education	Breastfed		Total
		No	Yes	
West	High school graduate and below	1437	275	1712
	Some college and above	1294	139	1433
	Total	2731	414	3145
Midwest	High school graduate and below	359	147	506
	Some college and above	273	66	339
	Total	632	213	845
Northeast	High school graduate and below	2188	368	2556
	Some college and above	1565	158	1723
	Total	3753	526	4279
South	High school graduate and below	1267	252	1519
	Some college and above	813	91	904
	Total	2080	343	2423
Pacific	High school graduate and below	125	6	131
	Some college and above	197	4	201
	Total	322	10	332

Note. n = 11,691.

West region's multivariate logistic regression results suggest that those with a minimum of some college education are 39.9% less likely to breastfeed (AOR = .601; 95% CI [.482, 3749], $p < 0.001$). Those who are married are 37.6% less likely to report breastfeeding (AOR = .624; 95% CI [.505, .772]; $p < = .001$). Therefore, there was no association between educational level and marriage in the reason for the termination of breastfeeding (see Table 14). The null hypothesis was accepted. Midwest region's multivariate logistic regression results suggested that those with a minimum of some college education are 36.2% less likely to report breastfeeding (AOR = .638; 95% CI [.454, .895], $p < 0.001$). Those who are married are 28.3% less likely to breastfeed (AOR

= .717; 95% CI [.520, .988]; p = .042). Therefore, there was no association between educational level and marriage in the reason for the termination of breastfeeding (see Table 15). The null hypothesis was accepted. Northeast region's multivariate logistic regression results suggested that those with a minimum of some college education are 34.4% less likely to report breastfeeding (AOR = .656; 95% CI [.536, .803, p < 0.001). Those who are married are 33.8% less likely to report breastfeeding (AOR = .662; 95% CI [.542, .807]; p < .001). Therefore, there was no association between educational level and marriage in the reason to terminate breastfeeding (see Table 14). The null hypothesis was accepted. South region's multivariate logistic regression results suggested that those with a minimum of some college education are 39.1% less likely to report breastfeeding (AOR = .601; 95% CI [.470, .789], p < 0.001). Those who are married are 39.9% less likely to report breastfeeding (AOR = .601; 95% CI [.473, .764]; p < .001). Therefore, there was no association between educational level and marriage in the reason for the termination of breastfeeding. The null hypothesis was accepted.

Table 14

Educational Level and Marital Status Factors for Termination of Breastfeeding

Regions			B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
West	Step 1[a]	Maternal education	-.509	.112	20.600	1	.000	.601	.482	.749
		Married status	-.471	.109	18.854	1	.000	.624	.505	.772
		Constant	-1.458	.078	352.955	1	.000	.233		
Midwest	Step 1[a]	Maternal education	-.450	.173	6.776	1	.009	.638	.454	.895
		Married status	-.333	.164	4.135	1	.042	.717	.520	.988
		Constant	-.744	.121	37.985	1	.000	.475		

(table continues)

Regions	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	Regions	B	S.E.
Northeast	Step 1[a]	Maternal education	-.421	.103	16.755	1	.000	.656	.536	.803
		Married status	-.413	.101	16.626	1	.000	.662	.542	.807
		Constant	-1.661	.063	698.536	1	.000	.190		
South	Step 1[a]	Maternal education	-.496	.132	14.110	1	.000	.609	.470	.789
		Married status	-.509	.122	17.290	1	.000	.601	.473	.764
		Constant	-1.425	.080	313.932	1	.000	.241		

Table 15

Chi-Square Tests by Region

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	5.869[a]	1	.015		
	Continuity correction[b]	4.540	1	.033		
	Likelihood ratio	4.871	1	.027		
	Fisher's exact test				.035	.023
Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Linear-by-linear association	5.845	1	.016		
	N of valid cases	250				
Midwest	Pearson chi-square	.224[c]	1	.636		
	Continuity correction[b]	.047	1	.828		
	Likelihood ratio	.224	1	.636		
	Fisher's exact test				.799	.415
	Linear-by-Linear Association	.222	1	.638		
	N of Valid Cases	119				

(table continues)

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Northeast	Pearson chi-square	.003[d]	1	.953		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.003	1	.954		
	Fisher's exact test				1.000	.534
	Linear-by-linear association	.003	1	.953		
	N of valid cases	742				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.464[f]	1	.496		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.825	1	.364		
	Fisher's exact test				1.000	.664
	Linear-by-linear association	.457	1	.499		
	N of valid cases	60				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.85.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.92.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.84.

e. No statistics are computed because I had too many other household duties and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .37.

The results for RQ2—What is the relationship between the factors (e.g., sick or on medicine; other children to take care of; too many household duties; didn't like breastfeeding; tried but it was too hard; didn't want to breastfeed; went back to work; went back to school; baby had difficulty latching or nursing; breast milk alone did not satisfy baby; thought baby was not gaining enough weight; nipples were score, cracked, or bleeding or it was too painful; believed was not producing enough milk or milk dried

up; felt it was the right time to stop breastfeeding; got sick or had to stop for other medical reasons; husband or partner did not support breastfeeding; baby was jaundiced; or other) associated with Latina women deciding to terminate breastfeeding to breastfeeding events that happened at the hospital where the new baby was born?–only had predictable outcomes via chi-square tests for three of the five regions: West, Midwest, and Northeast (see Table 16). The South region sample size (n = 3) was not significant enough to report results and the Pacific region sample size (n = 59) was not significant enough to report results (see Table 16).

Table 16

Factors Associated with Latina Women Deciding to Terminate Breastfeeding by Region

							95% CI		
Region	Step 1[a,b]	B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
West	I had too many other household duties	-.815	.725	1.264	1	.261	.443	.107	1.832
	I got sick or I had to stop for medical reasons	-1.880	.645	8.506	1	.004	.153	.043	.540
	Breastfeeding was too hard, painful, and time-consuming	-.015	.784	.000	1	.985	.985	.212	4.581
West (cont.)	My baby had difficulty latching or nursing	-.622	.521	1.424	1	.233	.537	.193	1.492
	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	.766	.638	1.444	1	.230	2.152	.616	7.512
	I thought my baby was not gaining enough weight	-.631	.666	.896	1	.344	.532	.144	1.964
	My nipples were sore, cracked, or bleeding, or it was too painful	.642	.849	.572	1	.449	1.901	.360	10.041
	I thought I was not producing enough milk, or my milk dried up	-.413	.513	.650	1	.420	.661	.242	1.807

(table continues)

Region	Step 1[a,b]	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI Lower	95% CI Upper
	My baby was jaundiced	-.216	.793	.074	1	.786	.806	.170	3.811
	Constant	1.242	1.319	.887	1	.346	3.462		
Midwest	I had too many other household duties	23.146	40192.993	.000	1	1.000	11280100286.803	.000	.
	I got sick or I had to stop for medical reasons	.016	1.710	.000	1	.993	1.016	.036	28.990
	Breastfeeding was too hard, painful, and time-consuming	-1.763	1.787	.973	1	.324	.172	.005	5.699
	My baby had difficulty latching or nursing	-.150	1.352	.012	1	.912	.861	.061	12.187
	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	-.087	2.271	.001	1	.969	.917	.011	78.560
	I thought my baby was not gaining enough weight	.127	2.509	.003	1	.960	1.135	.008	155.212
	My nipples were sore, cracked, or bleeding, or it was too painful	1.974	1.512	1.705	1	.192	7.202	.372	139.544
	I thought I was not producing enough milk, or my milk dried up	2.340	1.450	2.605	1	.107	10.381	.605	178.000
	My baby was jaundiced	-1.146	1.603	.511	1	.475	.318	.014	7.357
	Constant	-22.174	40192.993	.000	1	1.000	.000		
Northeast	I had too many other household duties	.567	.853	.443	1	.506	1.764	.331	9.384
	I got sick or I had to stop for medical reasons	-.553	.729	.575	1	.448	.575	.138	2.402
	Breastfeeding was too hard, painful, and time-consuming	-1.152	.597	3.717	1	.054	.316	.098	1.019
	My baby had difficulty latching or nursing	.003	.530	.000	1	.996	1.003	.355	2.834
	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	.227	.511	.197	1	.658	1.254	.461	3.415

(table continues)

Region	Step 1[a,b]	B	S.E.	Wald	df	Sig.	Exp(B)	95% CI Lower	Upper
	I thought my baby was not gaining enough weight	-1.133	.804	1.985	1	.159	.322	.067	1.557
	My nipples were sore, cracked, or bleeding, or it was too painful	-.216	.636	.116	1	.734	.806	.232	2.802
	I thought I was not producing enough milk, or my milk dried up	.081	.473	.030	1	.864	1.085	.429	2.743
	I felt it was the right time to stop breastfeeding	.527	1.155	.209	1	.648	1.695	.176	16.291
	My baby was jaundiced	19.160	8787.556	.000	1	.998	209455140.040	.000	.
	Constant	-20.057	8787.556	.000	1	.998	.000		
Pacific	I had too many other household duties	34.683	9448.411	.000	1	.997	1154662634805152.800	.000	.
	I got sick or I had to stop for medical reasons	.135	12256.630	.000	1	1.000	1.144	.000	.
	Breastfeeding was too hard, painful, and time-consuming	-16.794	11497.640	.000	1	.999	.000	.000	.
	My baby had difficulty latching or nursing	-35.173	7794.041	.000	1	.996	.000	.000	.
	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	-17.667	3961.396	.000	1	.996	.000	.000	.
	I thought my baby was not gaining enough weight	.291	9898.871	.000	1	1.000	1.338	.000	.
	My nipples were sore, cracked, or bleeding, or it was too painful	34.998	9846.337	.000	1	.997	1582798722991142.000	.000	.
	I thought I was not producing enough milk, or my milk dried up	35.016	6952.483	.000	1	.996	1612397913660195.200	.000	.
	I felt it was the right time to stop breastfeeding	-.095	12423.058	.000	1	1.000	.909	.000	.

(table continues)

Region	Step 1[a,b]		B	S.E.	Wald	df	Sig.	Exp(B)	95% CI Lower	Upper
	My baby was jaundiced	17.499	18677.237	.000		1	.999	39785608.282	.000	.
	Constant	-89.164	27960.093	.000		1	.997	.000		

Chi-square tests were conducted between the proposed predictor variables and the outcome variable at the bivariate level. For each region, predictors that were associated with the outcome variables at $p < .20$ were included in the analysis. There were numerous tables charted in the crosstabulation of breastfeeding to the factor of terminating breastfeeding and events that may have occurred in the hospital (see Appendix B). Table 16 depicts the multivariate regression results for all regions.

West region multivariate logistic regression results suggest that 74.0% of those women who report being sick terminated breastfeeding (AOR=.260; 95% CI [.096, .701]; $p = .008$). The right time to stop variables did not significantly predict breastfeeding termination ($p = .171$), and household duties did not significantly predict termination of breastfeeding ($p = .064$).

The Northeast region multivariate logistic regression results suggest that 67.7% of women who report breastfeeding *"*being too hard, painful, and time-consuming*"* terminated breastfeeding (AOR=.323; 95% CI [.125, .831; $p = .019$). *"*Milk not satisfying*"* did not significantly predict breastfeeding termination ($p = .674$). For the Midwest region multivariate logistic regression results suggest *"*going back to school*"* did not significantly predict the termination of breastfeeding ($p = .999$). *"*Milk not

satisfying*"* (p = .294) and not producing milk (p = .625) did not significantly predict breastfeeding termination.

The events that happened at the hospital were reported as follows: "hospital staff gave me information about breastfeeding,," "my baby stayed in the same room with me at the hospital," "hospital staff helped me learn how to breastfeed," "I breastfed in the first hour after my baby was born," "I breastfed my baby in the hospital, my baby was fed only breast milk at the hospital," "hospital staff told me to breastfeed whenever my baby wanted," "the hospital gave me a breast pump to use," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," and *"*the hospital staff gave my baby a pacifier." These reports were using a chi-square test to ensure significance value $p > .02$ to conduct the multiple logistic regression with each region.

Multiple logistic regression was not able to be utilized the factor of "too sedated to breastfeed" as there were no cases for all regions. Table 17 demonstrates the events that were excluded from multiple regression by region.

Table 17

Hospital Events Excluded from Regional Analysis

Region	Hospital events excluded
Midwest	Hospital staff gave my baby a pacifier, Hospital staff gave me information about breastfeeding, My baby stayed in the same room with me at the hospital, The hospital gave me a breast pump to use
Region	Hospital events excluded

(table continues)

Region	Hospital events excluded
Northeast	Hospital staff gave me information about breastfeeding
South	Hospital staff gave me information about breastfeeding
Pacific	The hospital gave me a telephone number to call for help with breastfeeding, Hospital staff gave me information about breastfeeding, My baby stayed in the same room with me at the hospital, Hospital staff helped me learn how to breastfeed, I breastfed my baby in the hospital, Hospital staff told me to breastfeed whenever my baby wanted, The hospital gave me a breast pump to use, The hospital gave me a gift pack with formula, The hospital gave me a telephone number to call for help with breastfeeding, and My baby was placed in skin-to-skin contact within the first hour of life

To further analyze the relationship between termination factors and the events that may have occurred at the hospital in relation to the barriers, if any, that were endured by Latinas, multiple logistic regression was utilized—the lower the p-value, the closer to 100% confidence in the results.

Results demonstrate that the barrier of "I had too many other household duties" with the events of "hospital staff gave me information about breastfeeding," "the hospital staff helped me learn how to breastfeed," "I breastfed in the first hour after my baby was born," "I breastfed my baby in the hospital," "hospital staff told me to breastfeed whenever my baby wanted," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," "hospital staff gave my baby a pacifier," "my baby was placed in skin-to-skin contact within the first hour of life" was not significant, $p > .05$.

The barrier “I had too many other household duties” and “my baby was fed only breast milk at the hospital” was significant in the Midwest Region, p =.045, “the hospital gave me a breast pump to use significant”, p =.033, “my baby stayed in the same room with me at the hospital” for Northeast Region, p =.049.

The barrier such as “my baby had difficulty latching or nursing” with the events of “hospital staff gave me information about breastfeeding,” “my baby stayed in the same room with me at the hospital,” “the hospital staff helped me learn how to breastfeed,” “I breastfed in the first hour after my baby was born,” “I breastfed my baby in the hospital,” “my baby was fed only breast milk at the hospital,” “hospital staff told me to breastfeed whenever my baby wanted,” “the hospital gave me a breast pump to use,” “the hospital gave me a gift pack with formula,” “the hospital gave me a telephone number to call for help with breastfeeding,” “hospital staff gave my baby a pacifier,” “my baby was placed in skin-to-skin contact within the first hour of life” had no significant association. There was a significant association between the barrier of “difficult to breastfeed,” and “baby fed” in the Northeast Region p = .001, “receiving help” in the West Region p = .014, “fed within the hour” for the Northeast Region p = .001, and “receiving a pump,” and “skin to skin” p = .003.

The barrier “I went back to work” with the events of “my baby stayed in the same room with me at the hospital” was significant, p = .038, for the Northeast Region, “the hospital gave me a breast pump” to use was significant for the West Region p = .049 with “hospital staff told me to breastfeed whenever my baby wanted” was significant p = .002

The barrier “I went back to work” with the events of “hospital staff gave me information about breastfeeding”, “the hospital staff helped me learn how to breastfeed,” “I breastfed in the first hour after my baby was born,” “I breastfed my baby in the hospital,” “my baby was fed only breast milk at the hospital,” “I went back to work with the events of the hospital gave me a gift pack with formula,” “the hospital gave me a telephone number to call for help with breastfeeding,” “hospital staff gave my baby a pacifier,” “my baby was placed in skin-to-skin contact within the first hour of life” were not significant.

The Northeast Region had a significant relationship for the barrier “I went back to school was significant” with the events of “I breastfed in the first hour after my baby was born” p =.025, “my baby was fed only breast milk at the hospital” p =.046, “my baby stayed in the same room with me at the hospital” p =.016, and “my baby was placed in skin-to-skin contact within the first hour of life” p =.030.

The barrier “breast milk alone did not satisfy my baby” had a significant association between the events that happened at the “hospital staff helped me learn how to breastfeed” for Midwest Region p = .008, and “my baby stayed in the same room with me at the hospital” for West Region p = .005. For the Northeast Region, the hospital event of “my baby was placed in skin-to-skin contact within the first hour of life” p = .001, the “hospital gave me a breast pump to use” p = .004, “my baby stayed in the same room with me at the hospital” p = .001, “hospital staff told me to breastfeed whenever my baby wanted” p = .003, “hospital staff gave my baby a pacifier” p = .017, “my baby

was placed in skin-to-skin contact within the first hour of life" $p = .002$, and "my baby stayed in the same room with me at the hospital" $p = .011$.

There was no significant association to report with the events of "hospital staff gave me information about breastfeeding," "I breastfed in the first hour after my baby was born," "I breastfed my baby in the hospital," "my baby was fed only breast milk at the hospital," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," and "hospital staff gave my baby a pacifier."

There was a significant association between the barrier of "I thought my baby was not gaining enough weight" with the hospital event of "I breastfed in the first hour after my baby was born" $p = .025$, "hospital staff gave my baby a pacifier" for the Pacific Region $p = .022$, and "my baby was fed only breast milk at the hospital" for the Midwest Region $p = .042$.

There was no significant association to report with the events at the hospital "staff gave me information about breastfeeding", "my baby stayed in the same room with me at the hospital," "the hospital staff helped me learn how to breastfeed," "I breastfed my baby in the hospital," "hospital staff told me to breastfeed whenever my baby wanted, the hospital gave me a breast pump to use," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," and" my baby was placed in skin-to-skin contact within the first hour of life."

There was a significant association between the barrier of “my nipples were sore, cracked, or bleeding, or it was too painful” with the event of the “hospital gave me a breast pump to use” for the Midwest Region p =.045 and the Pacific Region p =.045, “my baby stayed in the same room with me at the hospital” p =.028, and “hospital staff gave my baby a pacifier” in the West Region p =.046.

There was a significant association between the barrier “I thought I was not producing enough milk, or my milk dried up” with the events of the “hospital gave me a telephone number to call for help with breastfeeding” for the Northeast Region p = .009, the “hospital staff helped me learn how to breastfeed” for the Midwest Region p = .007.

The Pacific Region has a significant association with the events of “I breastfed in the first hour after my baby was born” p = .028, and “my baby was fed only breast milk at the hospital” p = .033. In the West Region, there was a significant association in the events of “I breastfed in the first hour after my baby was born” p = .007, “the hospital gave me a breast pump to use” p = .031, “my baby stayed in the same room with me at the hospital” p = .003, and “hospital staff told me to breastfeed whenever my baby wanted” p = .003. There were no significant associations to report with the events of “hospital staff gave me information about breastfeeding,” “I breastfed my baby in the hospital,” “the hospital gave me a gift pack with formula,” “hospital staff gave my baby a pacifier,” “my baby was placed in skin-to-skin contact within the first hour of life.”

There was a significant association between the barrier “I felt it was the right time to stop breastfeeding,” and the event of “my baby stayed in the same room with me at the

hospital" in the Northeast Region $p = .040$. There were no significant associations with "hospital staff gave me information about breastfeeding," "hospital staff helped me learn how to breastfeed," "I breastfed in the first hour after my baby was born," "I breastfed my baby in the hospital," "my baby was fed only breast milk at the hospital," "hospital staff told me to breastfeed whenever my baby wanted," "the hospital gave me a breast pump to use," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," "hospital staff gave my baby a pacifier," and "my baby was placed in skin-to-skin contact within the first hour of life."

There was a significant association between the barrier "I got sick, or I had to stop for medical reasons" and "hospital staff gave me information about breastfeeding" for the West Region $p = .001$ and the "hospital gave me a breast pump to use" for the Pacific Region" $p = .042$. There were no significant associations to report with the hospital event of "my baby stayed in the same room with me at the hospital," "hospital staff helped me learn how to breastfeed," "I breastfed in the first hour after my baby was born," "I breastfed my baby in the hospital," "my baby was fed only breast milk at the hospital," "hospital staff told me to breastfeed whenever my baby wanted," "the hospital gave me a gift pack with formula," "the hospital gave me a telephone number to call for help with breastfeeding," "hospital staff gave my baby a pacifier," "my baby was placed in skin-to-skin contact within the first hour of life."

There were no significant associations to report for the barriers "my husband or partner did not support breastfeeding," and "my baby was jaundiced (yellowing of the skin or whites of the eyes)" hospital event.

The results for RQ3 "what is the relationship between the suggestions to not breastfeed the new baby by the family member(s) and health care provider(s) with Latina women decision to terminate breastfeeding in the United States between 2015-2017?" demonstrated to be different for each region. Chi-square tests were conducted between the proposed predictor variables and the outcome variable at the bivariate level. For each region, predictors that were associated with the outcome variables at $p < .20$ were included in the analysis. Table 18 demonstrates that West region's multivariate logistic regression results reveal that those who received suggestions from family were 36.3% less likely to breastfed (AOR=.637; 95% CI [.485, .837]; $p = .001$).

Table 18

Family Member(s) Breastfeeding Information Suggestions in West Region

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Family Member (husband, partner, mother, father or in-laws, relative, friend)	-.451	.139	10.490	1	.001	.637	.485	.837
	Constant	-1.696	.106	257.690	1	.000	.183		

Table 19 demonstrates that the Midwest region multivariate logistic regression results reveal that those who received suggestions from family were 33.7% less likely to breastfed (AOR=.663; 95% CI [.451, .974]; $p = .036$). Table 20 shows that Northeast

region's multivariate logistic regression results reveal that those who received suggestions from family were 24.1% less likely to report infant being breastfed (AOR=.759; 95% CI [.603, .955]; p = .018). Table 21 South region's multivariable logistic regression results reveal receiving information from a doctor was not significantly related to breastfeeding (p = .120). Table 22 Pacific region's multivariable logistic regression results reveal that receiving suggestions from family was not significantly related to breastfeeding (p = .100). In summary, there was a relationship between the suggestions to not breastfeed with an only family member(s) and not the health care provider(s); therefore, the null hypothesis was accepted since there was only with a family member(s), not both.

Table 19

Family Member(s) Breastfeeding Information Suggestions in the Midwest Region

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Family Member (husband, partner, mother, father or in-laws, relative, friend)	-.411	.196	4.380	1	.036	.663	.451	.974
	Constant	-.729	.148	24.397	1	.000	.482		

Table 20

Family Member(s) Breastfeeding Information Suggestions in the Northeast Region

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Family Member (husband, partner, mother, father or in-laws, relative, friend)	-.276	.117	5.556	1	.018	.759	.603	.955
	Constant	-1.833	.089	422.974	1	.000	.160		

Table 21

Family Member(s) Breastfeeding Information Suggestions in South Region

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Family Member (husband, partner, mother, father or in-laws, relative, friend)	-.276	.117	5.556	1	.018	.759	.603	.955
	Constant	-1.833	.089	422.974	1	.000	.160		

Table 22

Family Member(s) Breastfeeding Information Suggestions in the Pacific Region

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Family Member (husband, partner, mother, father or in-laws, relative, friend)	-.276	.117	5.556	1	.018	.759	.603	.955
	Constant	-1.833	.089	422.974	1	.000	.160		

Summary

PRAMS data answered if there was an association between educational level and marital status, events at the birthing hospital, and barriers to breastfeeding to the relationship between the family and healthcare provider breastfeeding. The answer to the first research question was that the more education the Latina woman has, the less likely she is to breastfeed. At the same time, there was a correlation that marital status impacted her reasons to stop breastfeeding. The second question revealed that events that occurred at the hospital might not directly impact the barriers to breastfeeding because Latinas did not report their healthcare provider to stop breastfeeding; it is imperative to note that the frequency to barriers to breastfeeding was low overall, 33.4% reported difficulty latching, 13.3% household duties, 10.6% mom is sick, 7% infant was jaundiced, 37.4% milk not satisfying, 18.8% nipples sore, 8.3% the right time to stop, 19.9% went back to work or school, 10.9% infant not gaining weight, 18.8% too hard/painful/time consuming, and 1.4% partner did not support breastfeeding.

The results demonstrated that there was an association with events that occur at the hospital with Latinas deciding to stop breastfeeding. Different regions endure different reasons. Further analysis needs to be conducted on why policies and programs in the hospital setting that are associated with events that occur in the hospital. All the barriers to breastfeeding could be associated with one or more events at the hospital.

Some barriers make sense to associate with hospital events. For example, when the hospital provided the pump, the woman was comfortable enough to terminate

breastfeeding. The barrier of “I thought my baby was not gaining enough weight” with “I breastfed in the first hour after my baby was born” with the events of “my baby was fed only breast milk at the and the hospital,” “staff gave my baby a pacifier” have a strong association of the perceptions of Latinas societal influence that weight was healthy. The cultural influences of Latinos’ sociocultural pressures influence the motivation of breastfeeding. When there is a threat to health, the woman will resort to the perceived best practice of formula feeding.

The barrier of “my nipples were sore, cracked, or bleeding, or it was too painful” with the event of “the hospital gave me a breast pump to use and that the hospital staff gave my baby a pacifier” relationship was central to perceptions of the Latina woman. Take the pacifier action where the woman may think that this was the reason her nipples are sore or cracked, the baby is fond of sucking on something, which in turn may be an association with her breast. Then, in turn, needing a pump because she may perceive the pump was different than the action of skin to skin breastfeeding.

There was a significant association between the barrier “I thought I was not producing enough milk, or my milk dried up” with the event of “the hospital gave me a telephone number to call for help with breastfeeding” but still the Latina woman stopped breastfeeding even with the hospital staff told her to breastfeed whenever her baby wanted.

There was a significant association between the barrier “I got sick, or I had to stop for medical reasons,” and with the event that occurred at the hospital where staff gave

information about breastfeeding makes sense that the Latina made a decision appropriate for her at the time. Lastly, there was no relationship between the information on breastfeeding that came from the health care provider(s). Latinas have may be influenced by someone or something, thus impacting her breastfeeding (Ghaffari et al., 2019). Therefore, the association that family affects the Latina's choice to terminate breastfeeding.

Section 4: Application to Professional Practice and Implications for Social Change

The purpose of this study was to reveal the barriers that lead Latina women to terminate breastfeeding throughout the various Census regions in the United States. The study found a variety of correlations with information supplied through self-reported data collected through PRAMS. There was no association between breastfeeding cessation and educational level and marital status only. There was an association that married women are more impacted on reasons to stop breastfeeding. There was an association of barriers to breastfeeding with events at the hospital where the mother delivered her infant. A third of Latinas (33.4%) reported that difficulty latching was the primary reason for terminating breastfeeding. The peer-reviewed literature supports that there are some norms perceived by Latina women that may cause them to stop breastfeeding (Hohl et al., 2016; Wouk et al., 2016). The TPB highlights how behaviors are influenced through attitudes and perceived control of the factors, either barriers or events that occurred to the mother (Guo et al., 2015). Data in this study supported the need to examine further language barriers, cultural norms with practices, and review of other answers included in PRAMS.

Additionally, this study validated that the concept of perceived behavioral control and control beliefs as posited in the TPB affected Latinas' reasoning for terminating breastfeeding. The relationships found in RQ2 show that Latinas' attitudes toward breastfeeding are influenced by the experiences such as "the hospital gave me a breast pump to use," "the hospital staff gave my baby a pacifier," and "the hospital gave me a

telephone number to call for help with breastfeeding." When the perceived power does not come from the individual, it can create difficulty in performing, in this case, a continuation of breastfeeding. Latinas and all women must feel that they are in control of their choices to breastfeed. Their behavioral intention is in the right place, and with accurate information, their decisions to continue breastfeeding must be supported by society, health care providers, and family members.

Limitations of the Study

There were no issues with the generalizability or trustworthiness of the PRAMS dataset as the methodology used by each state was rigorous. The validity and reliability of the secondary data set were not questioned. However, data for Vermont was not included in the data that was sent; therefore, it was removed. In addition, putting the states into Census regions was easier for the readability use of information; consequently, some regions had significantly fewer states, making the sample different for each region. This may or may not have impacted the significance value of variables to generalize. For example, the Pacific Region only included the state of Alaska.

The self-reported data from PRAMS was a limitation because those mothers may or may not have revealed all of the information asked in this survey. The likely causes of this may include feeling embarrassed of the reality of their breastfeeding situation or, conversely, a tendency to exaggerate their breastfeeding experience. The cross-sectional study design also has implications in that the relationships may be temporary given that

this was a snapshot in time of when the mother took the survey. Therefore, claiming a cause and effect result is not feasible.

Recommendations

Recommendations for further research that are grounded in the strengths of this research are oversampling Latinas or including all 50 states to ensure a broader perspective of Latinas. Furthermore, a comparison of race, that is, Whites and Latinas in the United States, could provide valuable information as Latinas have the highest initiation rate of breastfeeding compared to their racial counterparts.

Additionally, the research regarding a language barrier did not address language hindering or supporting Latina women for breastfeeding. PRAMS did not include questions on the use of language as a barrier for Latinas, but this could be an implied or indirect outcome from the hospital setting.

The PRAMS data did not include data on two barriers, “no place to pump or express milk” and “hard to take breaks to pump or breastfeed.” Because there was no documented data from Latinas, it does not mean that Latinas did not express this problem, which suggests that the place of employment needs to be reviewed.

Additionally, the production of milk can be correlated to social influences on the perception of the Latina as per the TPB. This study found that 56% of Latinas reported not producing milk. The production of milk can have a variety of implications for information access and the response to information. It may be valuable to know what information the Latina was receiving that made her believe that she was not producing

enough milk. While 37.4% responded that breastfeeding was not satisfying, further analysis of the relationship of the lack of satisfaction with not producing enough milk would be needed. Further investigation needs to be done to determine if Latinas receiving a pump were provided the reasons for if and when they should use it, as it was unclear in this analysis.

Limitations of the current study include missing states and the oversampling of New York City. The literature reviewed in Section 1 minimally discussed Latinas at the national level, and few studies are conducted in small cities of the United States. Therefore, future research needs to address these limitations.

Implications for Professional and Social Change

Recommendations for professional practice include reviewing the Baby-Friendly Hospital Initiative to determine why providing a formula as a gift was still a practice. The TPB reveals how social influences play a major role in behavior. Latinas receiving formula as a form of a gift from trusted individuals of Western medicine such as a nurse or doctor could affect attitudes and perceptions.

There is a potential impact for positive social change at different levels, organizational, research, and societal/policy. The social change at the organizational level includes awareness of policies created and implemented at hospitals, clinics, and perinatal health care providers. This study could impact policies at maternal child health programs at the local, state, and federal levels. Integrating these findings into policy considerations would be a start. This would not have to be a onetime practice; it would be

worthwhile to revisit the various barriers for Latinas to breastfeeding acceptance over time. Overall, policies can trigger societal influences on the treatment of Latinas contemplating or practicing breastfeeding.

The societal aspect of social change comes from changes in the perceived behavior control of women when policies are modified to address formula gifts and marketing. Targeted formula marketing with communities of color such as Latinas may imply that breastfeeding is unacceptable or not a choice. Providing Latinas the opportunity to make their own informed decision with all the feeding possibilities and feeding options available can change the way breastfeeding is perceived. When Latinas see how society is making the shift toward normalizing breastfeeding, including in health care sphere, they can make and sustain their infant feeding choice with intention and motivation.

Conclusion

The PRAMS data analyzed in this study was strictly for women who breastfed for any amount of time. The analysis of Census regions, West, Northeast, Pacific, and South, did not have any commonalities among the three research questions. However, it demonstrated that Latina women are influenced in their breastfeeding choices. The TPB explains how influences affect judgment, positive or negative. Latinas need the support of both family and health care providers to make the breastfeeding experience fruitful for both mothers and babies. While Latinas may decide to stop breastfeeding due to illness,

there is still a need for support. The implications listed for research, practice, and policy are vital to bridging barriers that Latinas experience with breastfeeding.

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Appendix A: Centers for Disease Control and Prevention letter of Approval

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta, GA 30341-3724

Dear xxxxxxxxxxx

Thank you for your interest in the Pregnancy Risk Assessment Monitoring System (PRAMS); we are eager to learn of the results from your analysis. The enclosed CD-ROM disk contains the weighted PRAMS data you requested. The CD will unzip to several files: the SAS analysis dataset; the SAS format library; a document describing how to properly analyze the PRAMS data using the complex sample modules of SUDAAN, SAS, SPSS, and STATA; and the codebook(s).

The analysis data set contains variables you requested from the PRAMS questionnaire; however, in order to analyze this data using complex sample software, you will need variables that account for the weighting and survey design. These variables are labeled SUD_NEST, WTANAL, SAMCNT, and TOTCNT. The original stratum assignment of each record is SUD_NEST, which determines its sampling weight. The final analysis weight is WTANAL, the product of the sampling weight, nonresponse weight, and noncoverage weight. The values of SAMCNT and TOTCNT reflect the sample design (number of respondents and population size in each stratum) and are based on SUD_NEST.

The variables included are those that are part of the PRAMS Analytic Research File. As stated in the PRAMS Proposal Guidelines, no additional birth certificate variables are available through the CDC proposal process.

If you still have questions after reviewing these files, Mr. Brian Morrow will be able to provide statistical advice and answer questions about the data and how the files were constructed. He can be reached at xxxxxxxxxx or via email at xxxxxxx. If it would be helpful to you, Brian can send you SAS programs with SUDAAN statements, as examples.

Sincerely,

CDC PRAMS Team

National Center for Chronic Disease Prevention and Health Promotion

Comment Page

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Appendix B: Statistical Tables

Table B 1

Chi-Square Tests Education and Breastfeeding Termination

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	27.631[a]	1	.000		
	Continuity correction[b]	27.077	1	.000		
	Likelihood ratio	28.225	1	.000		
	Fisher's exact test				.000	.000
	Linear-by-linear association	27.622	1	.000		
	N of valid cases	3145				
Midwest	Pearson chi-square	9.887[c]	1	.002		
	Continuity correction[b]	9.385	1	.002		
	Likelihood ratio	10.108	1	.001		
	Fisher's exact test				.002	.001
	Linear-by-linear association	9.875	1	.002		
	N of valid cases	845				
Northeast	Pearson chi-square	26.086[d]	1	.000		
	Continuity correction[b]	25.603	1	.000		
	Likelihood ratio	26.920	1	.000		
	Fisher's exact test				.000	.000
	Linear-by-linear association	26.080	1	.000		
	N of Valid Cases	4279				
South	Pearson chi-square	19.846[e]	1	.000		
	Continuity correction[b]	19.313	1	.000		
	Likelihood ratio	20.702	1	.000		
	Fisher's exact test				.000	.000
	Linear-by-linear association	19.838	1	.000		
	N of Valid Cases	2423				

(table continues)

Regions	Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)		Exact sig. (1-sided)	
Pacific	Pearson chi-square	1.821[f]	1	.177			
	Continuity correction[b]	1.043	1	.307			
	Likelihood ratio	1.769	1	.184			
	Fisher's exact test				.201	.154	
	Linear-by-linear association	1.816	1	.178			
	N of valid cases	332					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 188.64.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 85.45.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 211.80.
e. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 127.97.
f. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.95.

Table B 2

Chi-Square Tests Marital Status and Termination of Breastfeeding

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	25.281[a]	1	.000		
	Continuity correction[b]	24.755	1	.000		
	Likelihood ratio	25.329	1	.000		
	Fisher's exact test				.000	.000
	Linear-by-linear association	25.273	1	.000		
	N of valid cases	3165				
Midwest	Pearson chi-square	7.481[c]	1	.006		
	Continuity correction[b]	7.054	1	.008		
	Likelihood ratio	7.445	1	.006		
	Fisher's exact test				.007	.004
	Linear-by-linear association	7.473	1	.006		
	N of valid cases	850				

(table continues)

Regions	Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)		Exact sig. (1-sided)	
Northeast	Pearson chi-square	25.434[d]	1	.000			
	Continuity correction[b]	24.961	1	.000			
	Likelihood ratio	26.096	1	.000			
	Fisher's exact test				.000	.000	
	Linear-by-linear association	25.428	1	.000			
	N of Valid Cases	4300					
South	Pearson chi-square	24.375[e]	1	.000			
	Continuity correction[b]	23.807	1	.000			
	Likelihood ratio	24.767	1	.000			
	Fisher's exact test				.000	.000	
	Linear-by-linear association	24.365	1	.000			
	N of valid cases	2442					
Pacific	Pearson chi-square	.909[f]	1	.340			
	Continuity correction[b]	.391	1	.532			
	Likelihood ratio	.862	1	.353			
	Fisher's exact test				.342	.259	
	Linear-by-linear association	.907	1	.341			
	N of valid cases	335					

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 199.21.
b. Computed only for a 2x2 table
c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 95.74.
d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 222.57.
e. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 165.64.
f. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.55.

Table B 3

Logistic Regression Marital Status with Education and Termination of Breastfeeding

Regions		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
West	Step 1[a] Maternal education	-.509	.112	20.600	1	.000	.601	.482	.749

(table continues)

Regions			B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower		Upper	
		Marital status	-.471	.109	18.854	1	.000	.624	.505	.772		
		Constant	-1.458	.078	352.955	1	.000	.233				
Midwest	Step 1[a]	Maternal education	-.450	.173	6.776	1	.009	.638	.454	.895		
		Marital status	-.333	.164	4.135	1	.042	.717	.520	.988		
		Constant	-.744	.121	37.985	1	.000	.475				
Northeast	Step 1[a]	Maternal education	-.421	.103	16.755	1	.000	.656	.536	.803		
		Marital status	-.413	.101	16.626	1	.000	.662	.542	.807		
		Constant	-1.661	.063	698.536	1	.000	.190				
South	Step 1[a]	Maternal education	-.496	.132	14.110	1	.000	.609	.470	.789		
		Marital status	-.509	.122	17.290	1	.000	.601	.473	.764		
		Constant	-1.425	.080	313.932	1	.000	.241				

Table B 4

Breastfeeding was Too Hard, Painful, and Time-Consuming by Region Crosstabulation

Regions			Breastfed No	Breastfed Yes	Total
West	Breastfeeding was too hard, painful, and time-consuming	No	28	5	33
		Yes	148	17	165
	Total		176	22	198
Midwest	Breastfeeding was too hard, painful, and time-consuming	No	2	4	6
		Yes	6	11	17
	Total		8	15	23
Northeast	Breastfeeding was too hard, painful, and time-consuming	No	39	8	47
		Yes	200	14	214
	Total		239	22	261
South	Breastfeeding was too hard, painful, and time-consuming	Yes	3		3
	Total		3		3
Pacific	Breastfeeding was too hard, painful, and time-consuming	No	16	0	16
		Yes	41	2	43
	Total		57	2	59

Note. $n = 568$.

Table B 5

Chi-Square Tests for Breastfeeding was Too Hard Painful, and Time-Consuming by Region

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.655[a]	1	.418		
	Continuity correction[b]	.256	1	.613		
	Likelihood ratio	.608	1	.436		
	Fisher's exact test				.378	.293
	Linear-by-linear association	.651	1	.420		
	N of valid cases	198				
Midwest	Pearson chi-square	.008[c]	1	.931		
	Continuity Correction[b]	.000	1	1.000		
	Likelihood ratio	.008	1	.931		
	Fisher's exact test				1.000	.666
	Linear-by-linear association	.007	1	.932		
	N of valid cases	23				
Northeast	Pearson chi-square	5.483[d]	1	.019		
	Continuity correction[b]	4.209	1	.040		
	Likelihood ratio	4.622	1	.032		
	Fisher's exact test				.037	.026
	Linear-by-linear association	5.462	1	.019		
	N of valid cases	261				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.770[f]	1	.380		
	Continuity correction[b]	.005	1	.945		
	Likelihood ratio	1.291	1	.256		
	Fisher's exact test				1.000	.528
	Linear-by-linear association	.757	1	.384		

(table continues)

Regions	Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
N of valid cases 59					

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.67.

b. Computed only for a 2x2 table

c. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.09.

d. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.96.

e. No statistics are computed because Breastfeeding was too hard, painful, and time-consuming and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .54.

Table B 6

I went Back to Work by Region Chi-Square Tests

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	1.307[a]	1	.253		
	Continuity correction[b]	.520	1	.471		
	Likelihood ratio	1.497	1	.221		
	Fisher's exact test				.409	.244
	Linear-by-linear association	1.281	1	.258		
	N of valid cases	51				
Midwest	Pearson chi-square	.005[c]	1	.946		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.005	1	.946		
	Fisher's exact test				1.000	.578
	Linear-by-linear association	.005	1	.946		
	N of valid cases	95				
Northeast	Pearson chi-square	.229[d]	1	.632		
	Continuity correction[b]	.070	1	.791		
	Likelihood ratio	.239	1	.625		
	Fisher's exact test				.831	.411

(table continues)

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Linear-by-linear association	.229	1	.632		
	N of valid cases	487				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.35.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.87.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.12.

Table B 7

I went back to School by Region Chi-Square Tests

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.[a]				
	N of valid cases	51				
Midwest	Pearson chi-square	2.324[b]	1	.127		
	Continuity correction[c]	1.133	1	.287		
	Likelihood ratio	2.444	1	.118		
	Fisher's exact test				.183	.144
	Linear-by-linear association	2.300	1	.129		
	N of valid cases	96				
Northeast	Pearson chi-square	.930[d]	1	.335		
	Continuity correction[c]	.317	1	.573		
	Likelihood ratio	.797	1	.372		
	Fisher's exact test				.408	.264
	Linear-by-linear association	.928	1	.335		
	N of valid cases	482				

a. No statistics are computed because I went back to school is a constant.

b. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.34.

c. Computed only for a 2x2 table

d. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.80.

Table B 8

Breastmilk Alone Did Not Satisfy My Baby by Region Chi-Square

(table continues)

Regions	Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Linear-by-linear association	1	.021	.886	
	N of valid cases		60		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 12.37.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 19.98.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.58.

e. No statistics are computed because Breastfed is a constant.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .90.

Table B 9

I went Back to Work by Region Crosstabulation

Regions			Breastfed		Total
			No	Yes	
West	I went back to work	No	7	1	8
		Yes	29	14	43
	Total		36	15	51
Midwest	I went back to work	No	9	8	17
		Yes	42	36	78
	Total		51	44	95
Northeast	I went back to work	No	62	6	68
		Yes	374	45	419
	Total		436	51	487

Note. $n = 633$.

Table B 10

I went back to School by Region Crosstabulation

Regions			Breastfed No	Breastfed Yes	Total
West	I went back to school	Yes	36	15	51
	Total		36	15	51
Midwest	I went back to school	No	1	4	5
		Yes	50	41	91
	Total		51	45	96
Northeast	I went back to school	No	14	3	17
		Yes	417	48	465
	Total		431	51	482

Note. $n = 607$.

Table B 11

Difficulty Latching or Nursing by Region Crosstabulation

Regions			Breastfed No	Breastfed Yes	Total
West	My baby had difficulty latching or nursing	No	61	13	74
		Yes	153	24	177
	Total		214	37	251
Midwest	My baby had difficulty latching or nursing	No	20	22	42
		Yes	38	39	77
	Total		58	61	119
Northeast	My baby had difficulty latching or nursing	No	223	28	251
		Yes	447	46	493
	Total		670	74	744
South	My baby had difficulty latching or nursing	Yes	3		3
	Total		3		3
Pacific	My baby had difficulty latching or nursing	No	24	2	26
		Yes	34	0	34

(table continues)

Regions		Breastfed		
		No	Yes	Total
Pacific (cont.)	Total	58	2	60

Note. n = 1,177.

Table B 12

Difficulty Latching or Nursing by Region Chi-Square Tests

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.667[a]	1	.414		
	Continuity correction[b]	.386	1	.534		
	Likelihood ratio	.649	1	.420		
	Fisher's exact test				.438	.264
	Linear-by-linear association	.664	1	.415		
	N of valid cases	251				
Midwest	Pearson chi-square	.033[c]	1	.857		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.033	1	.857		
	Fisher's exact test				1.000	.505
	Linear-by-linear association	.032	1	.857		
	N of valid cases	119				
Northeast	Pearson chi-square	.618[d]	1	.432		
	Continuity correction[b]	.431	1	.511		
	Likelihood ratio	.608	1	.435		
	Fisher's exact test				.439	.254
	Linear-by-linear association	.617	1	.432		
	N of valid cases	744				
South	Pearson chi-square	.[e]				
	N of valid cases	3				

(table continues)

Regions		Value	df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pacific	Pearson chi-square	2.706[f]	1	.100		
	Continuity correction[b]	.845	1	.358		
	Likelihood ratio	3.436	1	.064		
	Fisher's exact test				.184	.184
	Linear-by-linear association	2.660	1	.103		
	N of valid cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.91.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 20.47.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.97.

e. No statistics are computed because My baby had difficulty latching or nursing and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .87.

Table B 13

Breastmilk Alone Did Not Satisfy My Baby by Region Crosstabulation

Regions			Breastfed No	Breastfed Yes	Total
West	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	No	73	10	83
		Yes	144	28	172
	Total		217	38	255
Midwest	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	No	25	16	41
		Yes	33	45	78
	Total		58	61	119
Northeast	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	No	276	20	296
		Yes	407	53	460
	Total		683	73	756
South	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	No	1		1
		Yes	2		2
	Total		3		3

(table continues)

Regions		Breastfed				
		No	Yes	Total		
Pacific	Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	No	26	1	27
		Yes	32	1	33
	Total		58	2	60

Note. n = 1,193.

Table B 14

I Thought My Baby Was Not Gaining Enough Weight by Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	I thought my baby was not gaining enough weight	No	29	5	34
		Yes	185	32	217
	Total		214	37	251
Midwest	I thought my baby was not gaining enough weight	No	9	5	14
		Yes	49	54	103
	Total		58	59	117
Northeast	I thought my baby was not gaining enough weight	No	55	9	64
		Yes	614	64	678
	Total		669	73	742
South	I thought my baby was not gaining enough weight	Yes	3		3
	Total		3		3
Pacific	I thought my baby was not gaining enough weight	No	14	0	14
		Yes	43	2	45
	Total		57	2	59

Note. n = 1,172.

Table B 15

I Thought My Baby Was Not Gaining Enough Weight by Region Chi-Square Tests

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.000[a]	1	.995		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.000	1	.995		
	Fisher's exact test				1.000	.616
	Linear-by-linear association	.000	1	.995		
	N of valid cases	251				
Midwest	Pearson chi-square	1.377[c]	1	.241		
	Continuity correction[b]	.790	1	.374		
	Likelihood ratio	1.393	1	.238		
	Fisher's exact test				.269	.187
	Linear-by-linear association	1.365	1	.243		
	N of valid cases	117				
Northeast	Pearson chi-square	1.409[d]	1	.235		
	Continuity correction[b]	.936	1	.333		
	Likelihood ratio	1.275	1	.259		
	Fisher's exact test				.268	.165
	Linear-by-linear association	1.407	1	.236		
	N of valid cases	742				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.644[f]	1	.422		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	1.105	1	.293		
	Fisher's exact test				1.000	.579
	Linear-by-linear association	.633	1	.426		
	N of valid cases	59				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.01.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.94.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.30.

e. No statistics are computed because I thought my baby was not gaining enough weight and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .47.

Table B 16

My Nipples Were Score, Cracked, or Bleeding or It Was Too Painful By Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	My nipples were sore, cracked, or bleeding, or it was too painful	No	31	4	35
		Yes	182	33	215
	Total		213	37	250
Midwest	My nipples were sore, cracked, or bleeding, or it was too painful	No	12	10	22
		Yes	47	49	96
	Total		59	59	118
Northeast	My nipples were sore, cracked, or bleeding, or it was too painful	No	130	18	148
		Yes	541	55	596
	Total		671	73	744
South	My nipples were sore, cracked, or bleeding, or it was too painful	Yes	3		3
	Total		3		3
Pacific	My nipples were sore, cracked, or bleeding, or it was too painful	No	16	0	16
		Yes	41	2	43
	Total		57	2	59

Note. n = 1,174.

Table B 17

My Nipples Were Score, Cracked, or Bleeding or It Was Too Painful By Region Crosstabulation Chi-Square Tests

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.367[a]	1	.545		
	Continuity correction[b]	.122	1	.727		
	Likelihood ratio	.389	1	.533		
	Fisher's exact test				.797	.379

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Linear-by-linear association	.365	1	.546		
	N of valid cases	250				
Midwest	Pearson chi-square	.223[c]	1	.636		
	Continuity correction[b]	.056	1	.813		
	Likelihood ratio	.224	1	.636		
	Fisher's exact test				.814	.407
	Linear-by-linear association	.222	1	.638		
	N of valid cases	118				
Northeast	Pearson chi-square	1.153[d]	1	.283		
	Continuity correction[b]	.846	1	.358		
	Likelihood ratio	1.099	1	.295		
	Fisher's exact test				.282	.178
	Linear-by-linear association	1.152	1	.283		
	N of valid cases	744				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.770[f]	1	.380		
	Continuity correction[b]	.005	1	.945		
	Likelihood ratio	1.291	1	.256		
	Fisher's exact test				1.000	.528
	Linear-by-linear association	.757	1	.384		
	N of valid cases	59				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.18.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.00.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.52.

e. No statistics are computed because My nipples were sore, cracked, or bleeding, or it was too painful and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .54.

Table B 18

I Thought I Was Not Producing Enough Milk, or My Milk Dried Up By Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	I thought I was not producing enough milk, or my milk dried up	No	122	25	147
		Yes	96	13	109
	Total		218	38	256
Midwest	I thought I was not producing enough milk, or my milk dried up	No	42	31	73
		Yes	20	29	49
	Total		62	60	122
Northeast	I thought I was not producing enough milk, or my milk dried up	No	375	37	412
		Yes	299	37	336
	Total		674	74	748
South	I thought I was not producing enough milk, or my milk dried up	Yes	3		3
	Total		3		3
Pacific	I thought I was not producing enough milk, or my milk dried up	No	34	0	34
		Yes	23	2	25
	Total		57	2	59

Note. n = 1,188.

Table B 19

I Thought I Was Not Producing Enough Milk, Or My Milk Dried Up By Region Chi-Square Tests

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	1.278[a]	1	.258		
	Continuity correction[b]	.908	1	.341		
	Likelihood ratio	1.302	1	.254		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Fisher's exact test				.290	.171
	Linear-by-linear association	1.273	1	.259		
	N of valid cases	256				
Midwest	Pearson chi-square	3.279[c]	1	.070		
	Continuity correction[b]	2.644	1	.104		
	Likelihood ratio	3.294	1	.070		
	Fisher's exact test				.096	.052
	Linear-by-linear association	3.252	1	.071		
	N of valid cases	122				
Northeast	Pearson chi-square	.857[d]	1	.355		
	Continuity correction[b]	.644	1	.422		
	Likelihood ratio	.853	1	.356		
	Fisher's exact test				.390	.211
	Linear-by-linear association	.856	1	.355		
	N of valid cases	748				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	2.815[f]	1	.093		
	Continuity correction[b]	.903	1	.342		
	Likelihood ratio	3.531	1	.060		
	Fisher's exact test				.175	.175
	Linear-by-linear association	2.768	1	.096		
	N of valid cases	59				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.18.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.10.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.24.

e. No statistics are computed because I thought I was not producing enough milk, or my milk dried up and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .85.

Table B 20

I Felt It Was The Right Time To Stop Breastfeeding By Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	I felt it was the right time to stop breastfeeding	No	15	7	22
		Yes	199	30	229
	Total		214	37	251
Midwest	I felt it was the right time to stop breastfeeding	No	6	4	10
		Yes	54	55	109
	Total		60	59	119
Northeast	I felt it was the right time to stop breastfeeding	No	53	4	57
		Yes	614	69	683
	Total		667	73	740
South	I felt it was the right time to stop breastfeeding	Yes	3		3
	Total		3		3
Pacific	I felt it was the right time to stop breastfeeding	No	8	0	8
		Yes	49	2	51
	Total		57	2	59

Note. n = 1,172.

Table B 21

I Felt It Was The Right Time To Stop Breastfeeding By Region Chi-Square

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	5.595[a]	1	.018		
	Continuity correction[b]	4.205	1	.040		
	Likelihood ratio	4.573	1	.032		
	Fisher's exact test				.027	.027
	Linear-by-linear association	5.573	1	.018		
	N of valid cases	251				

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Midwest	Pearson chi-square	.401[c]	1	.527		
	Continuity correction[b]	.092	1	.762		
	Likelihood ratio	.403	1	.525		
	Fisher's exact test				.743	.382
	Linear-by-linear association	.397	1	.528		
	N of valid cases	119				
Northeast	Pearson chi-square	.563[d]	1	.453		
	Continuity correction[b]	.270	1	.604		
	Likelihood ratio	.615	1	.433		
	Fisher's exact test				.643	.316
	Linear-by-linear association	.562	1	.453		
	N of valid cases	740				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.325[f]	1	.569		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.594	1	.441		
	Fisher's exact test				1.000	.745
	Linear-by-linear association	.319	1	.572		
	N of valid cases	59				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.24.

b. Computed only for a 2x2 table

c. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 4.96.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 5.62.

e. No statistics are computed because I felt it was the right time to stop breastfeeding and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .27.

Table B 22

I Got Sick or I Had To Stop For Medical Reasons by Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	I got sick or I had to stop for medical reasons	No	14	8	22
		Yes	199	29	228
	Total		213	37	250
Midwest	I got sick or I had to stop for medical reasons	No	9	7	16
		Yes	50	52	102
	Total		59	59	118
Northeast	I got sick or I had to stop for medical reasons	No	68	10	78
		Yes	598	63	661
	Total		666	73	739
South	I got sick or I had to stop for medical reasons	No	2		2
		Yes	2		2
	Total		4		4
Pacific	I got sick or I had to stop for medical reasons	No	7	0	7
		Yes	50	2	52
	Total		57	2	59

Note. n = 1,170.

Table B 23

My Husband or Partner Did Not Support Breastfeeding By Region Crosstabulation

Regions			Breastfed		
			No	Yes	Total
West	My husband or partner did not support breastfeeding	No	0	1	1
		Yes	36	14	50
	Total		36	15	51
Midwest	My husband or partner did not support breastfeeding	Yes	51	44	95
	Total		51	44	95
Northeast	My husband or partner did not support breastfeeding	No	8	0	8
		Yes	418	51	469
	Total		426	51	477

Table B 24

My Husband or Partner Did Not Support Breastfeeding By Region Chi-Square Tests

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	2.448[a]	1	.118		
	Continuity correction[b]	.208	1	.648		
	Likelihood ratio	2.496	1	.114		
	Fisher's exact test				.294	.294
	Linear-by-linear association	2.400	1	.121		
	N of valid cases	51				
Midwest	Pearson chi-square	.[c]				
	N of valid cases	95				
Northeast	Pearson chi-square	.974[d]	1	.324		
	Continuity correction[b]	.168	1	.682		
	Likelihood ratio	1.825	1	.177		
	Fisher's exact test				1.000	.402
	Linear-by-linear association	.972	1	.324		
	N of valid cases	477				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .29.

b. Computed only for a 2x2 table

c. No statistics are computed because My husband or partner did not support breastfeeding is a constant.

d. 1 cells (25.0%) have expected count less than 5. The minimum expected count is .86.

Table B 25

Factors Associated with Latina Women Deciding To Terminate Breastfeeding By Region Chi-Square Tests

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	1.278[a]	1	.258		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West (cont.)	Continuity correction[b]	.908	1	.341		
	Likelihood ratio	1.302	1	.254		
	Fisher's exact test				.290	.171
	Linear-by-linear association	1.273	1	.259		
	N of valid cases	256				
Midwest	Pearson chi-square	3.279[c]	1	.070		
	Continuity correction[b]	2.644	1	.104		
	Likelihood ratio	3.294	1	.070		
	Fisher's exact test				.096	.052
	Linear-by-linear association	3.252	1	.071		
	N of valid cases	122				
Northeast	Pearson chi-square	.857[d]	1	.355		
	Continuity correction[b]	.644	1	.422		
	Likelihood ratio	.853	1	.356		
	Fisher's exact test				.390	.211
	Linear-by-linear association	.856	1	.355		
	N of valid cases	748				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	2.815[f]	1	.093		
	Continuity correction[b]	.903	1	.342		
	Likelihood ratio	3.531	1	.060		
	Fisher's exact test				.175	.175
	Linear-by-linear association	2.768	1	.096		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pacific (cont.)	N of valid cases	59				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 16.18.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 24.10.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 33.24.

e. No statistics are computed because I thought I was not producing enough milk, or my milk dried up and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .85.

Table B 26

I Had Too Many Other Household Duties to Breastfed Crosstabulation

			Breastfed		
Regions			No	Yes	Total
West	I had too many other household duties	No	195	29	224
		Yes	18	8	26
	Total		213	37	250
Midwest	I had too many other household duties	No	50	51	101
		Yes	10	8	18
	Total		60	59	119
Northeast	I had too many other household duties	No	579	63	642
		Yes	90	10	100
	Total		669	73	742
South	I had too many other household duties	No	3		3
	Total		3		3
Pacific	I had too many other household duties	No	47	2	49
		Yes	11	0	11
	Total		58	2	60

Note. n = 1,174.

Table B 27

Chi-Square Tests Home Duties as a Barrier By Region

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	5.869[a]	1	.015		
	Continuity correction[b]	4.540	1	.033		
	Likelihood ratio	4.871	1	.027		
	Fisher's exact test				.035	.023
	Linear-by-linear association	5.845	1	.016		
	N of valid cases	250				
Midwest	Pearson chi-square	.224[c]	1	.636		
	Continuity correction[b]	.047	1	.828		
	Likelihood ratio	.224	1	.636		
	Fisher's exact test				.799	.415
	Linear-by-linear association	.222	1	.638		
	N of valid cases	119				
Northeast	Pearson chi-square	.003[d]	1	.953		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.003	1	.954		
	Fisher's exact test				1.000	.534
	Linear-by-linear association	.003	1	.953		
	N of valid cases	742				
South	Pearson chi-square	.[e]				
	N of valid cases	3				
Pacific	Pearson chi-square	.464[f]	1	.496		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.825	1	.364		
	Fisher's exact test				1.000	.664
	Linear-by-linear association	.457	1	.499		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
Pacific (cont.)	N of valid cases	60				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.85.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.92.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.84.

e. No statistics are computed because I had too many other household duties and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .37.

Table B 28

Chi-Square Tests Breastfeeding is Hard By Region

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.655[a]	1	.418		
	Continuity correction[b]	.256	1	.613		
	Likelihood ratio	.608	1	.436		
	Fisher's exact test				.378	.293
	Linear-by-linear association	.651				
	Linear-by-linear association	.651	1	.420		
	N of valid cases	198				
Midwest	Pearson chi-square	.008[c]	1	.931		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.008	1	.931		
	Fisher's exact test				1.000	.666
	Linear-by-linear association	.007	1	.932		
	N of valid cases	23				
Northeast	Pearson chi-square	5.483[d]	1	.019		
	Continuity correction[b]	4.209	1	.040		
	Likelihood ratio	4.622	1	.032		

(table continues)

Regions	Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)		Exact sig. (1-sided)	
Northeast (cont.)	Fisher's exact test					.037	.026
	Linear-by-linear association		5.462	1	.019		
	N of valid cases		261				
South	Pearson chi-square		.[e]				
	N of valid cases		3				
Pacific	Pearson chi-square		.770[f]	1	.380		
	Continuity correction[b]		.005	1	.945		
	Likelihood ratio		1.291	1	.256		
	Fisher's exact test					1.000	.528
	Linear-by-linear association		.757	1	.384		
	N of valid cases		59				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.67.

b. Computed only for a 2x2 table

c. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.09.

d. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.96.

e. No statistics are computed because Breastfeeding was too hard, painful, and time-consuming and Breastfed are constants.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is .54.

Table B 29

Chi-Square Tests Went Back to Work By Region

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	1.307[a]	1	.253		
	Continuity correction[b]	.520	1	.471		
	Likelihood ratio	1.497	1	.221		
	Fisher's exact test				.409	.244
	Linear-by-linear association	1.281	1	.258		

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	N of valid cases	51				
Midwest	Pearson chi-square	.005[c]	1	.946		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.005	1	.946		
	Fisher's exact test				1.000	.578
	Linear-by-linear association	.005	1	.946		
	N of valid cases	95				
Northeast	Pearson chi-square	.229[d]	1	.632		
	Continuity correction[b]	.070	1	.791		
	Likelihood ratio	.239	1	.625		
	Fisher's exact test				.831	.411
	Linear-by-linear association	.229	1	.632		
	N of valid cases	487				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 2.35.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.87.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.12.

Table B 30

Factors Associated with Latina Women Deciding To Terminate Breastfeeding in West Region

Regions									Lower	Upper
West	Step 1[a]	I had too many other household duties	.955	.516	3.429	1	.064	2.598	.946	7.137
		I got sick or I had to stop for medical reasons	-1.347	.506	7.084	1	.008	.260	.096	.701
		I felt it was the right time to stop breastfeeding	-.766	.559	1.876	1	.171	.465	.155	1.391
		Constant	-.032	.655	.002	1	.960	.968		

Table B 31

Factors Associated with Latina Women Deciding to Terminate Breastfeeding in the Midwest Region

Regions			B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Midwest	Step 1[a]	I went back to school	-21.397	19934.628	.000	1	.999	.000	.000	.
		Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	.508	.484	1.102	1	.294	1.662	.644	4.287
		I thought I was not producing enough milk, or my milk dried up	.231	.472	.239	1	.625	1.260	.499	3.179
		Constant	20.787	19934.628	.000	1	.999	1065516136.435		

Table B 32

Factors Associated With Latina Women Deciding To Terminate Breastfeeding in the Northeast Region

Regions			B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Northeast	Step 1[a]	Breastfeeding was too hard, painful, and time-consuming	-1.132	.483	5.485	1	.019	.323	.125	.831
		Breast milk alone did not satisfy my baby I thought my baby was not gaining enough weight	.199	.474	.177	1	.674	1.221	.482	3.091
		Constant	-1.661	.464	12.819	1	.000	.190		

Table B 33

Factors Associated With Latina Women Deciding To Terminate Breastfeeding in the Pacific Region

Regions			B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Pacific	Step 1[a]	My baby had difficulty latching or nursing	-18.771	6151.588	.000	1	.998	.000	.000	.
		I thought I was not producing enough milk, or my milk dried up	18.771	6151.589	.000	1	.998	141907651.812	.000	.
		Constant	-20.157	6151.588	.000	1	.997	.000		

Table B 34

Health Care Provider(s) Breastfeeding Information Suggestions Crosstabulation by Region

Regions			Breastfed No	Breastfed Yes	Total
West	Health care provider (my baby's doctor, nurse, or other health care worker	No	74	13	87
	My doctor, nurse, or other health care worker)	Yes	1654	226	1880
	Total		1728	239	1967
Midwest	Health care provider (my baby's doctor, nurse, or other health care worker	No	18	8	26
	My doctor, nurse, or other health care worker)	Yes	362	136	498
	Total		380	144	524
Northeast	Health care provider (my baby's doctor, nurse, or other health care worker	No	162	22	184
	My doctor, nurse, or other health care worker)	Yes	2268	310	2578
	Total		2430	332	2762
South	Health care provider (my baby's doctor, nurse, or other health care worker	No	65	16	81
	My doctor, nurse, or other health care worker)	Yes	1287	202	1489
	Total		1352	218	1570

(table continues)

Regions			Breastfed No	Breastfed Yes	Total
Pacific	Health care provider (my baby's doctor, nurse, or other health care worker	No	2	0	2
	My doctor, nurse, or other health care worker)	Yes	179	5	184
	Total		181	5	186

Note. n = 7,009.

Table B 35

Health Care Provider(s) Breastfeeding Information Suggestions Chi-Square Tests by Region

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	.665[a]	1	.415		
	Continuity correction[b]	.419	1	.517		
	Likelihood ratio	.627	1	.428		
	Fisher's exact test				.402	.251
	Linear-by-linear association	.664	1	.415		
	N of valid cases	1967				
Midwest	Pearson chi-square	.148[c]	1	.700		
	Continuity correction[b]	.026	1	.873		
	Likelihood ratio	.145	1	.703		
	Fisher's exact test				.659	.425
	Linear-by-linear association	.148	1	.700		
	N of valid cases	524				
Northeast	Pearson chi-square	.001[d]	1	.978		
	Continuity correction[b]	.000	1	1.000		
	Likelihood ratio	.001	1	.978		
	Fisher's exact test				1.000	.546
	Linear-by-linear association	.001	1	.978		
	N of valid cases	2762				

(table continues)

Regions	Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
South	Pearson chi-square	2.459[e]	1	.117	
	Continuity correction[b]	1.969	1	.161	
	Likelihood ratio	2.233	1	.135	
	Fisher's exact test				.135 .084
	Linear-by-linear association	2.458	1	.117	
	N of valid cases	1570			
Pacific	Pearson chi-square	.056[f]	1	.813	
	Continuity correction[b]	.000	1	1.000	
	Likelihood ratio	.110	1	.741	
	Fisher's exact test				1.000 .947
	Linear-by-linear association	.056	1	.814	
	N of valid cases	186			

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.57.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.15.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.12.

e. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.25.

f. 3 cells (75.0%) have expected count less than 5. The minimum expected count is .05.

Table B 36

Family Member(s) Breastfeeding Information Suggestions Crosstabulation by Region

Regions			Breastfed No	Breastfed Yes	Total
West	Family member (husband, partner, mother, father or in-laws, relative, friend)	No	578	106	684
		Yes	1164	136	1300
	Total		1742	242	1984
Midwest	Family member (husband, partner, mother, father or in-laws, relative, friend)	No	141	68	209
		Yes	247	79	326
	Total		388	147	535
Northeast	Family member (husband, partner, mother, father or in-laws, relative, friend)	No	913	146	1059
		Yes	1599	194	1793
	Total		2512	340	2852

(table continues)

Regions			Breastfed		Total
South	Family member (husband, partner, mother, father or in-laws, relative, friend)	No	460	86	546
		Yes	923	143	1066
	Total		1383	229	1612
Pacific	Family member (husband, partner, mother, father or in-laws, relative, friend)	No	44	3	47
		Yes	135	2	137
	Total		179	5	184

Note. n = 7,167.

Table B 37

Family Member(s) Breastfeeding Information Suggestions Chi-Square Tests by Region

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
West	Pearson chi-square	10.611[a]	1	.001		
	Continuity correction[b]	10.146	1	.001		
	Likelihood ratio	10.297	1	.001		
	Fisher's exact test				.001	.001
	Linear-by-linear association	10.606	1	.001		
	N of valid cases	1984				
Midwest	Pearson chi-square	4.406[c]	1	.036		
	Continuity correction[b]	3.999	1	.046		
	Likelihood ratio	4.359	1	.037		
	Fisher's exact test				.038	.023
	Linear-by-linear association	4.397	1	.036		
	N of valid cases	535				
Northeast	Pearson chi-square	5.581[d]	1	.018		
	Continuity correction[b]	5.302	1	.021		
	Likelihood ratio	5.492	1	.019		
	Fisher's exact test				.020	.011

(table continues)

Regions		Value	Df	Asymptotic significance (2-sided)	Exact sig. (2-sided)	Exact sig. (1-sided)
	Linear-by-linear association	5.579	1	.018		
	N of valid cases	2852				
South	Pearson chi-square	1.617[e]	1	.204		
	Continuity correction[b]	1.431	1	.232		
	Likelihood ratio	1.595	1	.207		
	Fisher's exact test				.228	.116
	Linear-by-linear association	1.616	1	.204		
	N of valid cases	1612				
Pacific	Pearson chi-square	3.208[f]	1	.073		
	Continuity correction[b]	1.616	1	.204		
	Likelihood ratio	2.726	1	.099		
	Fisher's exact test				.106	.106
	Linear-by-linear association	3.191	1	.074		
	N of valid cases	184				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 83.43.

b. Computed only for a 2x2 table

c. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 57.43.

d. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 126.25.

e. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 77.56.

f. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.28.