QUALITATIVE STUDY OF INFANT FEEDING PRACTICE, BELIEFS, AND PERCEPTIONS IN MOTHERS OF MEXICAN HERITAGE IN NORTHWEST OHIO

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A Thesis
Submitted to the Graduate College of Bowling Green State University in partial fulfillment of the requirements for the degree of

MASTERS OF FOOD AND NUTRITION

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Committee:
Rebecca Pobocik, Advisor
Mark Earley
Objective: This study’s purpose was to better understand infant feeding practices in mothers of Mexican heritage as they acculturate.

Design, Setting, and Participants: This phenomenological study of mothers of Mexican heritage with infants living in Northwest Ohio involved in-depth, semi-structured interviews and purposeful sampling until data saturation. Nine of 11 participant interviews were in Spanish, with most participants scoring below 2 on an acculturation scale indicating very Mexican or Mexican-oriented bicultural status.

Outcome Measures and Analysis: All interviews were taped and transcribed. Thematic analysis was employed through the use of quotations. Data were mined for clarity to obtain more detail on patterns of themes.

Results: The mothers exhibited an extensive understanding of breastfeeding’s benefits. They described it as an easy, instinctive method associated with physical and mental health in infants, tradition, enjoyment, and gratification. Grandmothers were identified as the primary source of breastfeeding support, yet distance may weaken this help. Many participants shared the inconvenience (time, battle, pain, modesty) and uncertainty of breastfeeding (not knowing how much milk to give or if producing enough milk). Another major obstacle was employment (i.e. the lack of time, access to a breast pump, or place to pump). Affluence was perceived to provide more infant feeding options. Challenges often led participants to complement or replace breastfeeding with formula. Formula was thought to be adequate, although it was often associated with negative side
effects (gastrointestinal, general health). Perception of preferred infant feeding in Mexico was breastfeeding whereas it was to be formula in the United States. In Mexico, breastfeeding was described as tradition and as an only option, whereas in the United States, breastfeeding was perceived as a choice.

**Conclusions and Implications:** Responses suggested that infant feeding beliefs and practice stem not only from the mothers’ cultural values but may also be a product of their perceived infant feeding environment. Follow up and hands on support to address obstacles and insecurities, as well as reinforce the positive cultural values toward breastfeeding, may help protect breastfeeding in women of Mexican heritage as they acculturate.
“To the world you may be one person; but to one person you may be the world.”

Dr. Seuss

To my mom and my dad, my sister, my husband and my son: thank you for your unconditional love and for being my number one supporters.

You are my world.
ACKNOWLEDGMENTS

Most importantly, I want to acknowledge and thank all of the mothers that participated in this study. Their willingness to share their thoughts, beliefs and experiences, allowed this study to be completed.

Also, I want to thank the coordinators from Adelante and Path Stone Corporation, for welcoming me in their community and helping make this study possible.

In addition, I would like to extend my gratitude to each member of my dissertation Committee. A special thanks to Dr. Rebecca Pobocik for her outstanding leadership, and her continuing support and encouragement throughout this journey. Also, I would like to thank Dr. Mark Earley for his invaluable guidance in methodology.

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Finally, I want to thank Dr. Dawn Anderson and Kathleen Beattie for all of their help during the course of my thesis.
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CHAPTER I
INTRODUCTION
PRELIMINARY INFORMATION

The Latino Population
First it is important to define the Latino population. The terms Hispanic and Latino are often used as synonymous. The term Hispanic refers to people whose primary language is Spanish and who were born in a country conquered by Spaniards, and which excludes Brazil (1). The term Latino refers to people coming from all countries in Latin America (1). The majority of Latinos living in the United States have Mexican origins (65.5%). The remaining 34.5% of the Latino population consists of Central American (8.2%), Puerto Rican (8%), South American (6%), Cuban (3.7%), and other Latino American (8%) origins (2). The Latino population living in the U.S is estimated at 44 millions. It is the fastest growing minority group in the United States and is expected to represent 25% of the US population in 2050 (3).

It is important to keep in mind that the Latino population consists of both foreign-born and US-born Latino. According to a report based on the US census data (4), there are 38 millions immigrants living in the US, 54.6 % of which are from Latin America. 57% of Latin American immigrants were born in Mexico. As of 2007, Mexico is the leading country of birth of immigrants representing 31% of the total immigrant population and is followed by China, which represents 5%. Ten percent of US-born natives are Hispanic whereas 48% of immigrants are Hispanic. In Toledo, Ohio, 18,000 people are Hispanic (5%) of which 78% are of Mexican ancestry, 10% are foreign-born, and 38% speak a language other than English at home (5). Therefore, the Hispanic population living in Toledo is predominantly of Mexican ancestry and represents mostly second (or more) generation Hispanics.
Health Disparities

The epidemic of overweight and obesity is affecting both Latinos and non-Latino White Americans. However, the prevalence of overweight and obesity is greater in Latinos (73.4 and 34.4% respectively) than in non-Latino Whites (62.3% and 28.7% respectively) even though the increase rate in overweight and obesity has been greater in non-Latino Whites than in Latinos in the past twenty years (6). Obesity and overweight disparities affecting the Latino population in the United States is caused by a combination of factors. Environmental factors such as acculturation, change of lifestyle, and low income have been correlated with inadequate nutrition leading to the prevalence of obesity in Hispanics (7). In addition to environmental factors, genetic is also found to be a dynamic in the prevalence of obesity leading to diabetes and metabolic syndrome in the Latino Population (8-10).

Some studies found that breastfeeding has the potential benefit to decrease the incidence of Type 1 (11) and Type 2 diabetes (12) and overweight and obesity in children (13) and delay or reduce the incidence of Type 2 diabetes in mothers (14, 15). However, further investigations are needed as some studies have found conflicting results regarding protective effect against Type 1 Diabetes (16) and against Type 2 diabetes and obesity in Hispanic children (17).

Immigration Health Paradox

The Latino health paradox is defined as "the health advantage that Latinos appear to have”, which “might be rooted in their cultural orientation and strong social networks”. Some argue that “the so-called paradoxes are the result of selection processes that bring to the United States Latino immigrants that are healthier than their nonimmigrant conational” (18).

A study by Bender and Castro (19) found that the immigrants’ birthplace cultural traditions such as familismo and social network (20) may be beneficial to pregnancy outcomes
such as lower rate of low birth weight in newly immigrated Latina Women. Such findings make us wonder if we could expand the beneficial effect of the immigration paradox to infant feeding practices, as breastfeeding is normative in many Latin countries (21). However, it is important to keep in mind that it is difficult to generalize infant feeding practice to the general Hispanic population as it may vary from countries to countries where the mother or child are born. For instance breastfeeding practices appear to be promoted more in Mexico than in Puerto Rico (22).

**SIGNIFICANCE OF THE PROBLEM**

In order to better understand infant feeding patterns in Latinos, it is important to first comprehend the cultural background which influences the Latino family dynamic and their infant feeding decisions. In addition, it is helpful to keep in mind other factors, such as the level of acculturation and the country of origin that may also influence the Latino family’s infant feeding practice. Acculturation measurement is complex, and studies have identified missing data on specific acculturation dimensions as being a limitation (23, 24). In terms of country of origin, it is important to keep in mind that the Hispanic population comes from various ancestries with different cultural values. Therefore, further research has been recommended to identify different breastfeeding practices amongst Hispanic subgroups (i.e. Mexican vs. Puerto Rican) (24).

Furthermore, nativity within these Hispanic subgroups has to be taken into account. Although breastfeeding rates in Hispanic appear to be greater than for other ethnicities (25), additional studies have been recommended. The elevated rates of breastfeeding observed in foreign-born Hispanics, may skew the overall rate of breastfeeding in Hispanics (26) and hide negative trends, such as decreased duration of exclusive breastfeeding, occurring in acculturating Hispanics (26, 27). It is therefore important for health care providers to be able to intervene early enough in the Latina mother’s acculturation process in order to help her stay connected to
cultural values that may be favoring breastfeeding practice (28). Then, the healthcare provider’s ability to assess the level of acculturation in Latina women will allow them to provide suitable and therefore efficient intervention (29).

Many studies recommend a need for qualitative research to better understand how cultural values and different components of the acculturation process shapes infant feeding beliefs, perceptions, and influences its practice (30, 31). Although qualitative studies have been done on the infant feeding practice and beliefs (32, 33) of Mexican American women, further qualitative studies are needed to find out if themes identified apply to a Mexican American population from a diverse region and acculturation level. Also qualitative study using individual interviews instead of focus groups may unveil new themes and more in-depth information on what may influence infant feeding decisions in the selected sample (34).

**SPECIFIC AIMS**

The purpose of this study is to better understand the evolution of infant feeding practice in women of Mexican heritage as they acculturate. Specific objectives are to identify cultural beliefs and perceptions of their social environment, which may influence infant feeding practice, and unveil potential obstacles to exclusive breastfeeding.

Qualitative inquiry is better suited for a study that is looking to better understand a phenomenon. It requires some discovering as the researcher ventures in unexplored territories. In addition, qualitative research allows for obtaining in-depth and contextual information on a topic (35). Demographic data should be collected in order to describe the participants that will be interviewed as lack of it can be a shortfall in a qualitative study (32).

Interview questions allows for a more specific and contextual understanding of the phenomenon at hand (34). Questions should be planned in such way that it does not trigger yes
or no answers. Also multiple topics should be avoided in the question design as participants may choose to focus on one topic and disregard the others. Questions relating to experience should be asked at the beginning to make participant comfortable. When inquiring about a topic that requires some knowledge, the question should be easy enough so that the participant is not afraid to respond because she does not know. “Why” questions can trigger a variety of perspective. Probing helps the participants focus on specific area of interest without hinting at what the interviewer may expect as a response.

**SUMMARY**

The Latino Population is the fastest growing minority group in the U.S and is projected to be 25% of the US population in 2050(3). It comprises US-born and foreign born, as well as individuals from various ethnicities (4). Immigration status and ancestry/birth place play an important role in breastfeeding prevalence as they influence the degree to which common breastfeeding predictors are relevant to the Hispanic population (24). Although Hispanics have higher breastfeeding rates, prevalence varies greatly across Hispanic subgroups (25). Cultural factors and social support tend to have a positive effect on some of the Latino Population’s health aspects, a phenomenon also called the Latino health paradox (18). Since breastfeeding practices can be more popular in some Latin American countries, one wonders the extent of which such tradition could prevail once in the United States (21). However, the acculturation process can have a negative impact on breastfeeding practices in Latinos living in the US (26, 27). Qualitative studies involving a Mexican American population of various acculturation levels and using individual interviews may provide additional information (34) other than already found in previous qualitative studies (32, 33). Such qualitative research may help better understand the dynamic of infant feeding evolution and identifying key players in the process of
acculturation and will be extremely valuable to design efficient interventions targeted to Latino of diverse acculturation levels (30, 31).
DEFINITIONS

La Cuarentena: a forty-day postpartum period during which the mother to rest to better tend to the newborn

Fatalismo: meant to be

Gordito: chubby

Susto: fright

Coraje: anger

Atole: cornstarch drink

Combination Feeding/“los dos”: consist of formula and human milk

Exclusive Breastfeeding: human milk is used exclusively

Manzanilla: chamomile tea

Promotoras: Spanish speaking lactation consultant
CHAPTER II
LITERATURE REVIEW

INFANT FEEDING RECOMMENDATIONS

Breastfeeding is considered the best form of infant feeding (WHO). The American Academy of Pediatrics’ statement on breastfeeding recommends exclusive breastfeeding for the first six months after which complementary foods are allowed in combination with human milk which should be provided for at least 12 months (36).

The Healthy People 2010 objective to "increase the proportion of mothers who breastfeed their babies" set the target goals to increase the rate of breastfeeding initiation to 75%, breastfeeding at six months to 50%, and breastfeeding at 12 months to 25% and increase exclusive breastfeeding at three and six months to 40% and 17% respectively (37). The 1998 baseline data used by NHANES for Hispanic for breastfeeding initiation, breastfeeding at six months, and breastfeeding at 12 months were 66%, 28%, and 19% respectively.

BENEFITS OF BREASTFEEDING

The American Academy of Pediatrics as well as the Academy of Nutrition and Dietetic’s statement on breastfeeding highlights the benefits for mother, children, and the community (36, 38).

Breastfeeding benefits to children include optimal nutrition, sanitary form of nutrition, enhanced immune system, protection from intolerances and allergies, reduced risk of gastrointestinal disorders, lower respiratory infections, and heart disease, better development of jaws, teeth and speech, enhancement of cognitive function, and greater mother infant bond (38), and reduction of occurrence and/or severity of infectious diseases and post neonatal infant mortality rate(36, 38). Other potential benefits include a reduction of sudden infant death
syndrome, type 1 & 2 diabetes, and overweight and obesity (36, 38). However these benefits require further investigations. Breastfeeding benefits to the mother include reduced bleeding and quicker adjustment of the uterus to its normal size after birth, delayed amenorrhea, reduced risk of breast and ovarian cancer (36, 38), better bone density, blood glucose in gestational diabetic mothers, infant mother bond, maternal self-esteem, and less work and money involved in formula feeding (38). Breastfeeding benefits to the community are that it may significantly decrease the risk of health care cost, WIC cost, work absenteeism (related to child sickness) cost. In addition breastfeeding is green in the sense that it reduces the amount of waste generated from formula can disposal and energy production (36, 38).

**TRENDS AND PREVALENCE OF BREASTFEEDING**

According to NHANES breastfeeding report (39), breastfeeding initiation rates have been increasing and reached the Healthy People 2010 goal with a rate of 77% in 2005. In 2005-2006, Mexican American and non-Hispanic white infants continue to be more likely to initiate breastfeeding (80% and 79% respectively) than non-Hispanic black infants (65%), even though the rate of breastfeeding initiation in the latter has nearly doubled in the past decades (from 36% to 65%). Breastfeeding rates at six month also greater in Mexican American (40%) and non-Hispanic white infants (35%) than in non-Hispanic black infants (20%). However, none of those rates meet the Healthy People 2010 goal (50%).

A study using cross-sectional data from the 2003 National Survey of Children’s Health estimated the prevalence of breastfeeding initiation and duration by race/ethnicity, nativity, and socioeconomic status (24). The sample size was 33,121 children aged 0 to 5 year, including 5056 children with at least one foreign-born parent (ethnicity not specified), and 5418 Hispanic children (nativity not specified). Foreign-born children with foreign-born parents were
supposedly the least acculturated group and the US-born children with US-born parents, the most acculturated group. The rates of breastfeeding initiation were highest in Hispanic (77%), Asians (89%), and native children with one or two foreign-born parent(s) (84-85%). Breastfeeding initiation rates were lowest in the Non-Hispanic Black (51.4%) and American Indians (60%) ethnic groups, and in the US-born children with US-born parents (70%) and foreign-born children with foreign-born parents (76%) nativity groups. At 3 months, the rates continued to be higher for Asians (71%), Hispanics (57%), and for all children with one or more foreign parents (63-67%). Although breastfeeding duration did not differ significantly by ethnicity beyond three months of breastfeeding, (38-40% at six months and 16-18% at 12 months) with the exception of Non-Hispanic Black (23% at six months and 7% at 12 months), American Indians (32% at six months), and Asians (13% at 12 months), it did consistently differ by nativity. Foreign-born children with foreign-born parents had the greatest rates of breastfeeding at six months (53%) and 12 months (28%) whereas US-born children with US-born parents had the lowest rates of breastfeeding at six months (35%) and 12 months (15%). Breastfeeding duration appears to be negatively correlated with acculturation. To better understand the differences of breastfeeding rates amongst different ethnicities, the study also looked at how breastfeeding initiation and duration rates may vary in relation to nativity when combined with ethnicity and socioeconomic factors, and found interesting trends. When combining nativity and Hispanic ethnicity, breastfeeding initiation and duration rates were negatively correlated with acculturation (Table 1).
Table 1: Breastfeeding prevalence by nativity and race/ethnicity

<table>
<thead>
<tr>
<th>Variables</th>
<th>Ever Breastfed (%)</th>
<th>Odds of Not Ever Breastfeeding</th>
<th>Breastfeeding at 6 Months (%)</th>
<th>Odds of Not Breastfeeding for at Least 6 Months</th>
</tr>
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<tbody>
<tr>
<td>Nativity-Hispanic</td>
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</tr>
<tr>
<td>Immigrant parents, foreign-born child</td>
<td>85.50</td>
<td>1 Reference</td>
<td>63.1</td>
<td>1 Reference</td>
</tr>
<tr>
<td>US-born parents, US-born child</td>
<td>71.50</td>
<td>2.38 95% CI (1.38-4.11)</td>
<td>32.3</td>
<td>3.74 95% CI (2.26-6.19)</td>
</tr>
</tbody>
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Adapted from the Joint Effects of Nativity/Immigrant Status with Race/Ethnicity and Household Socioeconomic Status on Breastfeeding Initiation and Duration: The 2003 NSCH Table (24)

**BREASTFEEDING PREDICTORS**

**Social and Economic Factors**

**Social network**

Social network is found to be an important predictor in Latina mothers’ infant feeding practices. A study found that Spanish speaking Latina mothers’ significant other were quite supportive of breastfeeding with a rate of 90% (40). However a study based on data from the national Maternal and Infant Health Surveys also found that the father’s Hispanic origin was significantly negatively correlated with intention to breastfeeding (23). Another study found that support from the grandmother was positively correlated with the initiation of breastfeeding (41). Social support based on frequency of family member being part of children’s life was also associated with greater rates of breastfeeding initiation and duration (24). When immigrating to the US from another country, some immigrants may leave their extended family/social network behind which raise the question if this sudden loss of social support could affect the rate of breastfeeding in new immigrants. What aspects of immigrants’ social support influence mothers to breastfeed?
Maternal age

Age seems to influence breastfeeding intention both positively and negatively. Women who initiate breastfeeding tend to be older (30, 42). Older women seem more likely to have had or heard of breastfeeding experience, which may have beneficial or detrimental effect. For instance, women who have had or heard of negative breastfeeding experience were less likely to want to breastfeeding (42). According to NHANES breastfeeding report (39), breastfeeding initiation rate were lower in younger Mexican American mothers less than 20 years of age (66%). However, the rates did not vary significantly past the age of 20 with rates of 75% and 76% for Mexican American mothers between 20 to 29 years and over 30 years of age respectively.

Socio-economic status

Maternal Education

In relation to education, 51% of Hispanic immigrants (60% of Mexican immigrants) and 19% of US-born Hispanics have less than high school education (4). This information is important since studies have found that women who have a higher educational level are more likely to initiate breastfeeding (42) and up to two time more than women with high school or lower educational levels when they have had college education (30). However, according to the 2003 National Survey of Children’s Health data, education level had mixed effects of breastfeeding initiation and duration rates as highest rate were found in highest educational bracket (13 years or more) and lowest rates in intermediate educational bracket (12 years) (24).

When combining nativity and lower education, breastfeeding initiation and duration rates were negatively correlated with acculturation. On the other hand, the combination of nativity and higher education gave lower breastfeeding initiation and duration rates on both end of the
acculturation spectrum whereas higher rates were seen in intermediate acculturation levels (Table 2). Such finding suggests that lower educational level is not as much of an inhibiting factor to breastfeeding for immigrants as it is for natives.

**Table 2**: Prevalence of breastfeeding by nativity and education level

<table>
<thead>
<tr>
<th>Variables</th>
<th>Ever Breastfed (%)</th>
<th>Odds of Not ever Breastfeeding</th>
<th>Breastfeeding at Six Months (%)</th>
<th>Odds of Not Breastfeeding for at least Six Months</th>
</tr>
</thead>
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<tr>
<td><strong>Nativity-&lt;13 y of education</strong></td>
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</tr>
<tr>
<td>Immigrant parents, foreign-born child</td>
<td>90.5</td>
<td>0.99 95% CI (0.48-2.06)</td>
<td>69.7</td>
<td>0.33 95% CI (0.18-0.59)</td>
</tr>
<tr>
<td>US-born parents, US-born child</td>
<td>53.5</td>
<td>5.41 95% CI (3.80-7.71)</td>
<td>20.7</td>
<td>2.59 95% CI (1.93-3.46)</td>
</tr>
<tr>
<td><strong>Nativity-≥13 y of education</strong></td>
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</tr>
<tr>
<td>Immigrant parents, foreign-born child</td>
<td>66.4</td>
<td>5.07 95% CI (3.09-8.34)</td>
<td>41.6</td>
<td>1.33 95% CI (0.81-2.17)</td>
</tr>
<tr>
<td>Immigrant parents, US-born child</td>
<td>90.6</td>
<td>1 Reference</td>
<td>49.6</td>
<td>1 Reference</td>
</tr>
<tr>
<td>1 Immigrant parent, US-born child</td>
<td>86.5</td>
<td>1.49 95% CI (0.97-2.28)</td>
<td>50.9</td>
<td>0.95 95% CI (0.70-1.30)</td>
</tr>
<tr>
<td>US-born parents, US-born child</td>
<td>77.2</td>
<td>2.37 95% CI (1.68-3.34)</td>
<td>42.5</td>
<td>1.21 95% CI (0.92-1.59)</td>
</tr>
</tbody>
</table>

Adapted from the *Joint Effects of Nativity/Immigrant Status with Race/Ethnicity and Household Socioeconomic Status on Breastfeeding Initiation and Duration: The 2003 NSCH Table* (24)

**Maternal Employment**

According to the US department of labor, women represent 37% of the Mexican-American population workforce compared to 49%, and 43% of Puerto Rican and Cuban population workforce respectively (43). Across all ethnicities participation to labor force appears to be similar 56%, 59%, and 59% for Hispanic, Asians, and White respectively, except for African
American women who have a higher participation rate in the labor force with 64%. Although maternal employment may be low in some Hispanic subgroups, it is still important to ask about maternal employment as it has been identified as one of the main reasons to stop breastfeeding (30).

*Household Income Level*

According to the Center for Immigration Studies, 18% of US-born Hispanic and 20% Hispanic Immigrants (22% of Mexican immigrants) live in poverty and 41% of US-born Hispanic and 54% of Hispanic Immigrants (60% of Mexican immigrants) live below 200% of poverty guidelines (4). The lower income status in the Hispanic population could be detrimental for its breastfeeding practice as participation rate to the Women Infants and Children nutrition program is consequently high (41% of WIC participants are Hispanic) (44), and participation to WIC has been associated with lower breastfeeding rates (45). The prevalence of lower income in the Hispanic population is also significant because precariousness has been associated with lower breastfeeding rate in the general population (24, 42). According to NHANES breastfeeding report (39), breastfeeding initiation rates were lower (57%) in lower income families and higher in higher income families (74%). However, such trend did not seem to apply to Mexican American which rate remains high (74%) across income levels.

*Income by Nativity*

In a study evaluating the effect of income level combined with nativity on breastfeeding rates (24), breastfeeding initiation, and duration were negatively correlated with acculturation in lower income families (below poverty to 200% of poverty level). Such trend was also seen in higher income families (200%-over 400% of poverty level) with the exception of foreign-born child with immigrant parents for which breastfeeding initiation and duration rates were the lowest
Such findings make us wonder why affluence would have such a negative impact on breastfeeding practices in newly immigrants and why lower income has the opposite effect.

**Table 3:** Breastfeeding prevalence by nativity and income level

<table>
<thead>
<tr>
<th>Variables</th>
<th>Ever Breastfed (%)</th>
<th>Odds of Not Ever Breastfeeding</th>
<th>Breastfeeding at Six Months (%)</th>
<th>Odds of Not Breastfeeding for at Least Six Months</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nativity- below poverty level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immigrant parents, foreign-born child</td>
<td>87.80</td>
<td>1.54 95% CI (0.55-4.30)</td>
<td>63.60</td>
<td>0.41 95% CI (0.19-0.92)</td>
</tr>
<tr>
<td>US-born parents, US-born child</td>
<td>54.80</td>
<td>5.8 95% CI (3.23-10.44)</td>
<td>22.80</td>
<td>2.12 95% CI (1.33-3.38)</td>
</tr>
<tr>
<td><strong>Nativity- &gt;=400% of poverty level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immigrant parents, foreign-born child</td>
<td>42.70</td>
<td>20.22 95% CI (9.48-43.11)</td>
<td>32.90</td>
<td>2.48 95% CI (1.23-5.03)</td>
</tr>
<tr>
<td>Immigrant parents, US-born child</td>
<td>93.60</td>
<td>1 Reference</td>
<td>53.30</td>
<td>1 Reference</td>
</tr>
<tr>
<td>1 Immigrant parent, US-born child</td>
<td>90.90</td>
<td>1.35 95% CI (0.68-2.67)</td>
<td>52.20</td>
<td>1.04 95% CI (0.63-1.71)</td>
</tr>
<tr>
<td>US-born parents, US-born child</td>
<td>80.90</td>
<td>2.97 95% CI (1.67-5.29)</td>
<td>45.60</td>
<td>1.35 95% CI (0.87-2.09)</td>
</tr>
</tbody>
</table>

Adapted from the *Joint Effects of Nativity/Immigrant Status with Race/Ethnicity and Household Socioeconomic Status on Breastfeeding Initiation and Duration: The 2003 NSCH Table (24)*

**Acculturation**

A cross sectional study using the data from the San Diego Birth Center Study, gathered exclusive breastfeeding, acculturation, and background information collected from the medical records of 1635 low-income and low-risk mothers (46). The purpose of the study was to see if, after controlling for socio-demographic and medical factors, there were any differences in exclusive breastfeeding practice at hospital discharge across different acculturation levels. The sample was
divided in three groups: low acculturation (58%), high acculturation (25%), and white, English speaking (17%). The majority of the participants were of Mexican origin, with 66% of the total sample and 94% of the low acculturation group born in Mexico. Rates of exclusive breastfeeding were 78% (White), 76% (low acculturation), and 69% (high acculturation). The low acculturation group had the highest percentage of mothers with less than 9 years of education (45%) compared to the high acculturation (7%) and White group (9%). In addition, the low acculturation group tend to have more multiparous births and to be single. After controlling confounding factors, the odds of exclusively breastfeeding after discharge were greater in the low acculturation (OR=1.36; 95%CI 1.01–1.84) and White group (1.49) than in the high acculturation group (1.00). The author suggested that culturally driven breastfeeding attitudes and practice in Hispanic might change with acculturation and recommend that further studies identify cultural aspects, which may inhibit exclusive breastfeeding in the Hispanic community.

Another study looked at the correlation between acculturation and breastfeeding initiation duration (31). The study used an initial sample of 679 mothers (74% Latina) receiving WIC benefits, including 373 foreign-born mothers (92% Latina, assumed to be from diverse Latin American countries), for the first interview. By the follow up interview, the study had lost participants and the data was based on a sample that consisted of 274 mothers, including 165 foreign-born mothers. Acculturation was measured according to mother’s nativity, mother’s parents’ nativity, length of time in the US, and language use. The study found that foreign-born mothers were two times more likely to initiate breastfeeding if overweight/obese. Also, foreign-born mothers who only spoke their native language, had foreign-born parents, and watched less TV were more likely to breastfeed beyond six months. Foreign and US-born mothers combined
were more likely to initiate breastfeeding when they only spoke their native language, were overweight or obese, and completed high school. However, if the mother had other children living at home, she was less likely to initiate breastfeeding. Mother’s parents’ nativity (foreign born), exclusive native language use, mother’s age (over 30), and number of people living at home (over five) increased the odds of breastfeeding beyond six months. The authors noted that in this study, length of time in the US and the mother’s nativity did not have a significant effect on breastfeeding initiation or duration unlike other studies that did find such correlation (24, 26, 27, 47, 48).

**Dimensions of Acculturation and Effect on Breastfeeding**

**Immigrant status**

A longitudinal study used the New Jersey Birth Certificate data of 503,593 mothers to evaluate the evolution of infant feeding between first and second birth and how it may differ across race/ethnicity, and nativity status (49). Recurrence rate and recruitment rate were used to show the evolution of breastfeeding between first and second birth at hospital discharge. The recurrence rate was defined as the probability of mothers breastfeeding (exclusive or any) their first and second child. Recruitment rate was defined as the probability of mothers’ breastfeeding exclusively their second child while they gave formula or combination fed their first child. The study found that the prevalence of exclusive breastfeeding decreased from the first birth to the second birth across all race/ethnicity and nativity groups. Recurrence rate of infant feeding (formula or combination and breastfeeding) was greater for white mothers (70%) than for Hispanic mothers regardless of nativity (50%). However, recruitment rate of any breastfeeding was greater in foreign-born mothers (40-50%) than in white mothers (20-30%) and more particularly in foreign-born Hispanic mothers (50-60%). The authors suggest that infant feeding
in the foreign-born population may initially be influenced by the perception that formula feeding is a preferred infant feeding practice in the US where formula feeding rates are still high (50). However, the high recruitment rate suggests that a foreign-born population group whose cultural values favor breastfeeding may be prone to go back to their native infant feeding practice provided that they get culturally sensitive breastfeeding education (49).

Ancestry

Infant feeding beliefs, perception, and practice play an important role in infant feeding decisions. Such factors may vary from one country to another. Ancestry or nativity from these countries may reflect infant feeding variations within the Hispanic population.

*Mexican*

A study estimated the prevalence of breastfeeding in Mexico (51). The population was categorized by the type of insurance coverage they had. The majority (47 millions) of the population was covered by insurance obtained from employment (RO). The rest (11 millions) of the population was covered by insurance that they independently acquired (Solidaridad). The Solidaridad group is mostly rural and semi urban and includes many indigenous groups. The rates of breastfeeding initiation overall were extremely high (95-97%). However, the rates of exclusive breastfeeding at 4 and 6 months varied across the two groups. Rates of exclusive breastfeeding were lower in the RO group (24% and 18% respectively) than in the Solidaridad group (46% and 37% respectively). In the Solidaridad group, the lower the education level (none), the higher the exclusive breastfeeding rates at four and six months were (63% and 53% exclusively). Lower exclusive breastfeeding rates in the RO group are related to the Social Security law, which provides the option for the mother to request formula once a month for six months. Such law does not apply to the Solidaridad group. Employment appeared to be more of
an inhibiting factor for RO mothers than Solidaridad mothers whose occupation allows less separation with the infant.

A national cross-sectional survey was done in Mexico to assessed rates of breastfeeding initiation, exclusive breastfeeding up to four and six months of infant’s age and breastfeeding duration (52). A national probabilistic sample was collected and the sample size was 3192 infants less than two years of age. The data showed that infants from rural locality, of indigenous ethnicity, from low socio-economic level families, whose mother did not work, whose mother’s spouse was present, and whose mother had completed more than one year in school, had higher rates of breastfeeding initiation and exclusive breastfeeding, and higher median rates of breastfeeding duration (Table 4).
Table 4: Breastfeeding practices by socio-economic, demographic characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Duration of Breastfeeding (months, median)</th>
<th>Ever Breastfed (%)</th>
<th>Exclusive Breastfeeding &lt;4 Months (%)</th>
<th>Exclusive Breastfeeding &lt;6 Months (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>9</td>
<td>92.3</td>
<td>25.7</td>
<td>20.3</td>
</tr>
<tr>
<td>Locality</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>7</td>
<td>92.3</td>
<td>20.9</td>
<td>15</td>
</tr>
<tr>
<td>Rural</td>
<td>14</td>
<td>92.2</td>
<td>36.1</td>
<td>33.2</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>&gt;24</td>
<td>93.5</td>
<td>48.2</td>
<td>48.4</td>
</tr>
<tr>
<td>Non-indigenous</td>
<td>8</td>
<td>92.3</td>
<td>23.2</td>
<td>17.8</td>
</tr>
<tr>
<td>Socio-economic level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>15</td>
<td>92.3</td>
<td>39.8</td>
<td>33.8</td>
</tr>
<tr>
<td>Middle</td>
<td>8</td>
<td>91.6</td>
<td>17.3</td>
<td>14.2</td>
</tr>
<tr>
<td>High</td>
<td>6</td>
<td>93.1</td>
<td>20.7</td>
<td>14.3</td>
</tr>
<tr>
<td>Maternal Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
<td>93</td>
<td>18</td>
<td>13.4</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>92.2</td>
<td>28.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Spouse present</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td>92.9</td>
<td>26.7</td>
<td>21.2</td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td>90.4</td>
<td>19.4</td>
<td>14.1</td>
</tr>
<tr>
<td>Schooling (years completed in school)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>14</td>
<td>88.9</td>
<td>41.5</td>
<td>37.2</td>
</tr>
<tr>
<td>1 to &lt;6</td>
<td>12</td>
<td>90.8</td>
<td>29.2</td>
<td>23.9</td>
</tr>
<tr>
<td>6 to &lt;9</td>
<td>12</td>
<td>92.8</td>
<td>29.3</td>
<td>23.3</td>
</tr>
<tr>
<td>9 to 12</td>
<td>7</td>
<td>92.7</td>
<td>23.7</td>
<td>17.1</td>
</tr>
<tr>
<td>12 to &lt;14</td>
<td>6</td>
<td>93.9</td>
<td>27</td>
<td>20.2</td>
</tr>
<tr>
<td>≥ 14</td>
<td>6</td>
<td>94</td>
<td>3.7</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Adapted from the *Breast-Feeding Practices by Socio-Economic, Demographic and Anthropometric Characteristics* Table. National Nutrition Survey, Mexico, 1999 (52)

In a qualitative study, which objective was to explore breastfeeding beliefs in low income Mexican American mothers, modesty, pain, and inconvenience related to time constraint of breastfeeding were identified as reasons to not breastfeed (33). The study also highlighted
beliefs related to foods that should not be consumed. Eating healthy by consuming a lot of protein and vegetables, and drinking milk and juice were recommended for increased milk production, whereas eating beans and spicy were discouraged as they would give the mother gas and affect the milk quality.

Puerto Rican

History of breastfeeding in Puerto Rico reflects breastfeeding rate of 59% for eight months before 1960, 25% in the 1970s for 5 months, and 38% in the 1990, when exclusive breastfeeding rate at 2month was as low as 4% (53). Rates have improved since then. According to a Puerto Rico Health Department Survey (54), 91% of women intended to breastfeed, however, only 54% actually initiated breastfeeding in the hospital. Breastfeeding rates at six months and 12 months were 20% and 8.5% respectively. By 2004, rates continued to improve slightly. Initiation rate was 64% and breastfeeding rate at six months was 22%.

A study illustrates the rationale behind the decision to formula feed infant in a Puerto Rican community in the US. Themes such as convenience of formula feeding, valorization of a plump baby, and negative perception of breastfeeding, such as difficulty to produce milk or association of breastfeeding with incest, were mentioned (55). Furthermore, a study on Puerto Rican mother living in the US found that the leading reason for not breastfeeding was not enjoying breastfeeding or feeling embarrassed (56).

Length of US residence

A study which purpose was to investigate the correlation between breastfeeding attitudes and ethnic background and immigrant/nativity status used the data of a longitudinal birth cohort study collected from 4207 mothers from 15 states and 20 cities (26). 16% of the sample was foreign-born and 27% of the sample was Hispanic. The study found that US-born mothers were
less likely to ever breastfeed or breastfeed at six months. Having a US-born father also decreased those odds. In foreign-born mothers, the odds of ever breastfeeding and breastfeeding at six months decreased by 4% and 3% respectively, for every additional year spent in the US. The length of residence of the father also decreased those odds by 5% and 2% respectively, for each additional year spent in the US. Immigrant mothers as a whole breastfed significantly more (90%) than the US born mothers (50%). The rates of breastfeeding within the immigrant (Mexican, non-Mexican Hispanic, and non-Hispanic) did not differ significantly with rates approximating 90%. The rates of breastfeeding within the US born subgroups also did not vary greatly with rate approximating 50%. Foreign born mothers also breastfed more at six months than US-born mothers, and up to two to three times more in the Mexican and non-Mexican subgroups. However, there was a difference within the immigrant subgroups as the non-Hispanic breastfed significantly less (40%) at six months than the Hispanic subgroups (59%). Such findings suggest that the length of stay is negatively correlated with the rates of breastfeeding and that nativity/immigrant status has a greater impact on breastfeeding rates than ethnicity (26). The authors noted that although the Puerto Rican sample was small, they did not find any difference in the rates of ever breastfeeding between the US-born Puerto Rican mothers and the mothers born in Puerto Rico, which were very similar to the US-born mothers’ rates of ever breastfeeding.

Another study which was based on interviews of 490 mothers of Mexican origins, also found that the time spent in the US had a negative impact on initiation and duration of both exclusive and any breastfeeding (28). The sample overall met the Healthy People 2010 goal for breastfeeding initiation (81-99%). However, while the subgroups that had lived in the US for less than 11 years met the goals for breastfeeding at six months (51-55%) and 12 months (31-
32%), the subgroups that had lived in the US for their entire life consistently did not meet those goals with 23% breastfeeding at six months and 7% breastfeeding at 12 months. In this study, the main reasons given for breastfeeding cessation were insufficient milk production, maternal employment, mother and infant desire to stop breastfeeding.

Language

Language is a dimension of acculturation that can have an effect on breastfeeding rates. A study found that Mexican-American infants would be more likely to breastfeed in Spanish speaking families compared to families where English is the preferred language (57). Another study found that foreign-born mothers who only spoke their native language were more likely to breastfeed beyond six months. Also the exclusive use of native language increased the odds of breastfeeding and continuing to breastfeed beyond six months in both native and foreign-born mothers. Furthermore, Spanish speaking mothers were found to be more likely to exclusively breastfeed at hospital discharge than the highly acculturated Hispanic mothers who spoke English (46).

Cultural Factors

La cuarentena

A study indicates that during pregnancy, Mexican American women of all level of acculturation tend to go back to beliefs and practice customary to their origins (58). The study supports the importance of social network, which is reflected as familismo. The concept of la cuarentena, which relieves the new mother of her household duties to allow her to rest after the birth and focus on the newborn, is explored. Hernandez suggests that this time frame would be a suitable time to help mother initiate breastfeeding and assist her in achieving sufficient milk supply to promote exclusive breastfeeding (59).
**Infant feeding beliefs and attitudes**

A cross-sectional qualitative study investigated infant feeding decisions in low income Latinas of Mexican ancestry in Denver, CO (32). Information from health care providers was first collected before conducting focus groups and interviews of a sample consisting of mothers with newborns, exclusively breastfeeding and formula feeding mothers with infant 4-6 months old, grandmothers, and fathers of newborns. The focus groups and interviews were designed to explore different aspects of infant feeding: breastfeeding obstacles, rationale for infant feeding decisions, and cultural beliefs and practices that may affect infant feeding decisions. Four recurring themes were identified. Providing the “best of both” to guarantee adequate supply of vitamins, which breast milk may be lacking, and the “mixed message” of getting formula at the hospital, were reasons given for combination feeding. Breastfeeding difficulty was also a predominant theme where pain, modesty, breast change, and diet restriction were identified as barriers to breastfeeding. The rationale given for diet restrictions was that the mother should avoid certain foods (spicy foods, beans, soda, and caffeine), which may affect the baby. Also, eating well and drinking *atole* (cornstarch gruel) was “prescribed” to improve milk production and quality.

Factors beyond the mothers’ control (*fatalismo*) such as violation of *la cuarentena*, perception of inadequate milk supply, employment, infant breast rejection, and breast shape were also mentioned as barriers to breastfeeding. *La cuarentena* was perceived as more difficult to apply in the United States. Suggesting inadequate milk supply was identified by some breastfeeding mothers as more socially acceptable than admitting that breastfeeding was difficult. Some grandmothers associated formula feeding with the mothers’ laziness. Working mothers reported discarding the milk they pumped mostly because they pumped in bathrooms
perceived to be unsanitary. Most mothers did not ask for help from health care providers to remedy breastfeeding difficulty. Family and cultural beliefs was the last theme relating to infant feeding decisions. All participants knew about the benefits of breastfeeding. Mothers turn to their own mother for advice and support, provided that they lived in the United States. If the baby cried a lot or was not gordito (chubby), family members would recommend formula supplementation. Negative emotions such as susto (fright) and coraje (anger) were to be avoided as it could affect the milk. Such belief goes along with la cuarentena when the mom has to take care of herself to better tend to the baby.

**Perception of inefficient breastfeeding**

A cross sectional study exploring how breastfeeding attitude, perceptions, and practice differed from one ethnicity/race to another, conducted 45-minutes phone interviews with 767 WIC mothers with infants from birth to 12 months old (30). From the sample 117 were Hispanic and 83% chose to do the interview in Spanish. In this study, the majority of Hispanic mothers initiated breastfeeding (91%). Of the Hispanic mothers that did not initiate breastfeeding, they were more likely to perceive that the infant was rejecting the breast. In terms of breastfeeding duration, Hispanic mothers breastfed longer (five months) than the other mothers. However, Hispanic mothers did not differ significantly from other mothers in terms of exclusive breastfeeding duration which averaged 2.1 months. The reasons for breastfeeding cessation were different in Hispanic mothers who were more likely to perceive lower milk production and infant breast rejection. The authors suggested that the superior rate of breastfeeding initiation and duration, and difference in breastfeeding perceptions in Hispanic mothers may be related to their country of origin’s infant feeding norms (60). As for the insufficient milk production or infant breast rejection, the authors suggested that such perception from the Hispanic mother may be
related to the belief that they are not meeting their infant’s nutritional needs (30). It would be interesting to find out if infant breast rejection is related to complementary formula feeding. Would an acquired taste for formula lead babies to no longer appreciate the taste of breast milk?

**Infant body size perception**

A study investigating how parents’ perception of their child’s body size may affect infant feeding has found that parents tend to under estimate the body size of their child and to worry more about boys being underweight and not eating enough food (61). Another study found that mothers were advised by family members to feed formula not only if the baby was not gordito (chubby) (32) family members would recommend formula supplementation. As such perception exists in the Latino population, it would be interesting to find out the extent to which it may influence the use of combination feeding.

**Counseling**

Although the social network can be supportive of breastfeeding, the immigration process may shift such behavior in order to better assimilate to what is perceived as the US customs. The role of breastfeeding counseling during prenatal visits could be beneficial in counteracting any misconception of US infant feeding norms. A study showed that breastfeeding counseling during pregnancy increased the odds of breastfeeding intention in Latina mothers whereas advice to use formula increased formula feeding (23). A qualitative study found that awareness of the potential protective effect of breastfeeding against the incidence of Type 2 diabetes may increase their willingness to breastfeed (62). Also, the use of Spanish speaking lactation *promotoras* appears to improve the breastfeeding initiation as well as duration rate (63).
SUMMARY

Although continuing research needs to be conducted, the benefits of breastfeeding for mothers, infants, and society as a whole seem to be well established (36, 38). Consequently, breastfeeding recommendations have been set (37), but are yet to be met (39). Although Mexican Americans tend to have a higher breastfeeding initiation rate, they are not meeting the goals in terms of exclusive breastfeeding duration (37). Acculturation seems to play an important role in the decrease of breastfeeding initiation and duration (24). Also, social support seems to be an important factor in breastfeeding success (24, 40, 41). While socio-economic factors such as maternal age (30), employment (30), education (30, 42), income (24), and WIC participation (45) may influence infant feeding decision, combining such factors with acculturation (which includes components such as language, nativity, length of residence) may lead to opposite correlation (e.g. higher educated mothers are more likely to breastfeed whereas lower educated and lower acculturated mothers are more likely to breastfeed) (24).

Acculturation alone has been found to affect breastfeeding initiation, duration (26, 27, 31, 47, 48), and exclusive breastfeeding (46). Different aspects of acculturation such as immigrant status (49, 50), ancestry (51, 53, 55, 60), length of US residence (26, 28), and language (46, 57) also have been found to have various degrees of influence on infant feeding practice. Furthermore, cultural and health beliefs are important factors to take in consideration when trying to better understand what influences the infant feeding decision in the Mexican American population. Some beliefs such as *la cuarentena* (59) and infant weigh perception (32) stem from the Mexican American culture, while other beliefs such as the “best of both” or “*los dos*” (32), perception of inadequate milk supply (30, 32) may also be a product of the environment Mexican American live in. Many aspects of the Mexican American infant feeding beliefs are favorable to
breastfeeding promotion and should be utilized accordingly (59, 60). However, should certain beliefs need to be modified; it should be done in a culturally sensitive manner (63).

The objective of this study is to identify infant feeding practice beliefs, perceptions, and obstacles that may influence infant feeding decisions in the population of Mexican heritage and establish a pattern of thought and practice evolution across all acculturation levels.
CHAPTER III

METHODS

RESEARCH DESIGN

This qualitative research is a phenomenological study (35) that offers a better understanding of the infant feeding phenomenon experienced by Latinas mothers living in Northwest Ohio, through the expression of their beliefs, perceptions, and practice related to infant feeding. Its purpose is to describe those beliefs and perceptions, which influence their infant feeding decision and practice. At this stage in the research, the beliefs and perceptions of infant feeding will be defined as opinions and observations relating to the feeding of infant from birth to six months of age.

This qualitative study used individual semi-structured interviews to collect data. At the beginning of the interview, the participants were given an informed consent letter (Appendix A) to sign and were asked to complete a form with demographic data (Appendix B). The demographic data was used to describe the sample and determine their level of acculturation based on the adapted Acculturation Rating Scale for Mexican Americans (64). The interview was scheduled for one hour, which allowed the participant to provide in depth response. Authorization to tape record and take notes during the interview was solicited. This study was approved by the Human Subject Board of Bowling Green State University (H09T260GE7).

SETTING

The study was conducted in various community sites to accommodate participants in the Bowling Green and Toledo area. Toledo was selected, as its Latino population is one of the highest in Northwest Ohio with 18,000 Latinos. In addition, Toledo appears to consist of a Latino population, which is predominantly of Mexican origin with 78% of Latino living in
Toledo being of Mexican ancestry (5). Although Bowling Green only has 1031 Latinos (64% being of Mexican ancestry) (5), it was also selected as a site due to a potentially significant number of Latino migrant workers. Adelante, and Path Stone, were the primary sites from which the participants were recruited and where interviews were conducted. Gatekeepers of these organizations were favorable to the study. Expanding the sites to two cities also had the potential to allow recruiting participants from various socio-economic backgrounds and from various acculturation levels, which would offer a variety of perspective on infant feeding within the Latina community in Northwest Ohio.

**SAMPLE SELECTION**

Purposeful sampling was used to select participants in order to get a wealth of information from each case study. Strategies used for purposeful participant selection was homogeneous and network sampling. Homogeneous sampling allows for an in depth description of the subgroup of mothers of Mexican heritage living in Northwest Ohio. Mothers of Mexican heritage with infant(s) two year or younger were selected for this study as the infant is prone to use breast milk and/or formula as a source of nutrition. The advantage of selecting mothers of Mexican heritage with infant(s) of these ages is that it would be easier for them to recollect their infant feeding practice and the rationale behind it. Mothers with older children would be farther removed from the infant feeding practice and may have answered based on hearsay rather than actual practice. The disadvantage of selecting mothers of Mexican heritage with infant two year and younger is that they were limited in number and it was difficult to recruit a sufficient number of cases. In order to overcome any difficulty with recruitment, network sampling was used to find additional cases that met the participants’ subgroup criteria.
Because the goal was to get in depth information from the cases of study, a limited number of 11 mothers of Mexican heritage were interviewed for one hour. Once data saturation started to occur, such that the answers became repetitive from one case to another, recruitment and interviews stopped after case number 11.

**INTERVIEW QUESTIONS**

An interview guide including twelve questions (Appendix C) was used to better understand how beliefs and perceptions may influence Latina mothers’ infant feeding decisions as they acculturate. To insure that the interview questionnaire was culturally sensitive, feedback was requested from organization’s coordinators that worked with prospective participants, and questionnaire was modified accordingly.

With the interviewee consent, the interviews were tape-recorded and notes were taken simultaneously. Note taking allowed for jotting down themes mentioned by the participant. Probing followed to obtain more information about that theme.

For each interview, questions that needed to be improved, limitations that may have affected the interview, and tips for future interviews were noted. Also, brief demographic and background information of interviewee were recorded to keep track of the participants’ characteristics thus far. This information allows for seeking participants with specific characteristics (WIC, non-WIC, US-born, foreign born) that have not yet been represented.

**ANALYSIS**

First, all of the taped interviews were transcribed. Interviews were individually summarized to help identify themes within each interview, compare, and organize themes across all interviews. Once themes were retrieved from each interview, the data were reviewed as a whole to identify theme similarities differences and recurrence trend within the study sample. Then, quotes
illustrating those themes were retrieved and associated to themes accordingly. Quotes were translated from Spanish to English. The original quotes followed by its translation are presented in the results and discussion chapters. The English quotes were listed as is. Each original quote is followed by a number in parenthesis, which is referring to the participant’s assigned number (Appendix D). Demographic data was organized into a table (Appendix D). The acculturation results from the demographic questionnaire (Appendix B) was processed separately and interpreted according to the Cuellar et. al Acculturation Scale for Mexican American (64) (Figure 4). The acculturation scores were then added to the individual quantitative data table (Appendix D).

VALIDITY

To demonstrate the validity of the study, the interviews were reviewed by a health professional whose native language is Spanish. When parts of the interview were not clear due to background noise or related to participants’ enunciation, the reviewer went back to listen to the interview tapes. If reviewer could not understand what the participant said, the quotes were not used in the analysis. It was the case for each instance except for one quote which meaning changed once the correction was made. Otherwise, the reviewer mostly pointed out misspelling (i.e. accent or virgulilla/tilde above the n) which did not affect the interpretation of the opinions expressed. Finally, the reviewer looked at the quotes translation from Spanish to English to ensure that the translation was true to the original quotes. Some quotes were modified as translated literally, they did not do justice to the original quotes, and therefore had to be elaborated (e.g. no le dan tan fuerte (they don’t get it as strong (literal) vs. the symptoms are milder (elaborated)). We disagreed on the meaning of one quote. We went back and put the quotes into its context and we agreed on the initial translation.
When illustrating recurring themes in the results chapter, quotes illustrating exception cases were introduced to acknowledge that some participant’s opinions sometimes diverged from the main theme. This helped limit the investigator bias (65). Also, results were compared with the literature and similarities and differences were noted in the discussion chapter.
CHAPTER IV

RESULTS

DESCRIPTION OF SUBJECTS

Demographic

Eleven mothers participated in this qualitative study (Table 5). Participants’ mean (SD) age was 26 ± 4.4 years and ranged between 20 and 34 years old.
Table 5: Mother-related data: acculturation, demographics, living environment, and socio-economic status

<table>
<thead>
<tr>
<th>Variables</th>
<th>Participants n=11</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acculturation and preferred language</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Acculturation a</td>
<td>1.95</td>
<td>0.97</td>
</tr>
<tr>
<td><strong>Demographic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, years</td>
<td>26</td>
<td>4.36</td>
</tr>
<tr>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/living with partner/father</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Number of children</td>
<td>1.91</td>
<td>0.7</td>
</tr>
<tr>
<td>Household size, number of people</td>
<td>4.27</td>
<td>0.79</td>
</tr>
<tr>
<td><strong>Living environment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td><strong>Socio-economic status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 12 years</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>12 years</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>&gt;12 years</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stay at home</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>In workforce</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Hours worked/week</td>
<td>37.75</td>
<td>2.63</td>
</tr>
</tbody>
</table>

\(^a\) Acculturation Scale for Mexican American (Cuellar, 1980): 1 - very Mexican; 2 - Mexican-oriented bicultural; 3 - “true” bicultural, 4 - Anglo-oriented bicultural, 5 - very Anglicized.

**Acculturation**

The majority of the mothers’ primary language was Spanish. Only a few (two) preferred to do the interview in English. Also, the majority of the mothers rated low on the acculturation scale.
Based on the Cuellar et. al Acculturation Scale for Mexican American (64) (Figure 1), which is divided in five types (Type one, very Mexican; Type two, Mexican-oriented bicultural; Type three, “true” bicultural, Type four, Anglo-oriented bicultural; and Type five, very Anglicized), all of the Spanish speaking participants rated between one and two while the English speaking participants rated between three and five on the scale.

<table>
<thead>
<tr>
<th>(Culture)</th>
<th>Mexican</th>
<th>Bicultural</th>
<th>Anglo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(Language)</td>
<td>Spanish</td>
<td>Bilingual</td>
<td>English</td>
</tr>
</tbody>
</table>

Figure 1: Acculturation scale for Mexican American (64)

**Household**

Half of the mothers lived in a rural area while the other half were from urban areas. The mothers interviewed had from one to three children, the majority having two children at home (six out of 11). Six of the mothers had a baby boy and the remaining five had a girl. The infants were from one to 17 months old. The mothers lived in a households of three to six people; the majority living in a four people household (seven out of 11). The majority of the mothers were married or living with a partner who also was the baby’s father. Only two participants were single.

**Education and Employment**

Four participants had high school level education. Two of them achieved undergraduate studies. The majority of the mothers did not work (seven out of 11). Of the mothers that were employed, four worked 35 to 40 hours per week outside of the home.

**Delivery**

The majority of the mothers interviewed had given birth vaginally (nine out of 11). Two of 11 had the child’s birth by cesarean section (Table 6).
Table 6: Participants’ infant related data: delivery, demographics, feeding

<table>
<thead>
<tr>
<th>Variables</th>
<th>Infants n=11</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Delivery</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vaginal</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Cesarean</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Age (months)</strong></td>
<td></td>
<td>8.36</td>
</tr>
<tr>
<td><strong>Infant Feeding</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WIC recipient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ever breastfed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Breastfeeding duration (months)</td>
<td>5.75</td>
<td>5.06</td>
</tr>
<tr>
<td>Ongoing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ever formula fed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Timing of formula (months)</td>
<td></td>
<td>2.68</td>
</tr>
<tr>
<td>Timing water intake (months)</td>
<td></td>
<td>4.22</td>
</tr>
<tr>
<td>Not yet taken</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Manzanilla intake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Infant Feeding**

All mothers interviewed received WIC benefits. The majority of the participants (10 out of 11) breastfed their babies. Of the 10 participants that breastfed, three participants were still in the process of breastfeeding (baby’s age: one, two, and seven months old). Of the seven other participants that no longer breastfed, three breastfed less than three months, one breastfed three months, one breastfed beyond six months (nine months) and two breastfed a year. Three out of
four working mothers had breastfed their children (two out of three breastfed less than three months, one mother was still breastfeeding her seven month old) and all stay at home moms had breastfed their children (two ongoing, two for 12 months, one for nine months, and two for three months or less.

All participants had given formula to their babies. Four gave formula while breastfeeding (two while going out, others to complement). Two mothers had given formula to their infants in the hospital but then breastfed exclusively. One mother gave formula exclusively from birth. The other mothers gave formula while transitioning from breast milk to formula.

After excluding participants whose infants had not reached the relevant age, participants’ breastfeeding initiation, breastfeeding at six months, and breastfeeding at 12 months were 91%, 44%, and 25% respectively. Exclusive breastfeeding rate at three and six months were 18% and 9% respectively (including all participants since ongoing breast feeders had been given formula before three months).

Five out of the 11 participants had given manzanilla to their babies. Manzanilla is a chamomile tea sometimes used in the Mexican culture in order to treat or prevent colic (66). Six out nine women gave water to their babies before six months of age. Two mothers, whose baby had not yet reached six months of age, had not yet given water to them.

MAJOR THEMES AND MAJOR CONCEPTS WITH THEMES

Breastfeeding and Infant Health and Development

All participants associated breastfeeding with physical and mental health of the infant and appeared to have an extensive understanding of its benefits (Table 7).
Table 7: Breastfeeding major themes and concepts within themes

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>Major Concepts Within Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breastfeeding and infant health and development</td>
<td>Stronger immune system, less infection and gastrointestinal issues</td>
</tr>
<tr>
<td></td>
<td>Source of vitamins and nutrients</td>
</tr>
<tr>
<td></td>
<td>Better growth development</td>
</tr>
<tr>
<td></td>
<td>Enhanced behavioral health and better learning skills</td>
</tr>
<tr>
<td>Perceived risk of not breastfeeding</td>
<td>None for both infant and mother</td>
</tr>
<tr>
<td></td>
<td>Chronic sickness in infant</td>
</tr>
<tr>
<td></td>
<td>Breast cancer in mother</td>
</tr>
<tr>
<td>Tradition of breastfeeding</td>
<td>Family tradition, benefits passed by mothers</td>
</tr>
<tr>
<td>Advantages of breastfeeding</td>
<td>Infant-mother bond</td>
</tr>
<tr>
<td></td>
<td>Easy</td>
</tr>
<tr>
<td></td>
<td>Enjoyable</td>
</tr>
<tr>
<td></td>
<td>Provide infant with safety feeling</td>
</tr>
<tr>
<td>Instinctive process of breastfeeding</td>
<td>Fullness cues from infant behavior</td>
</tr>
<tr>
<td></td>
<td>Breast milk: unprocessed and customized</td>
</tr>
<tr>
<td>Inconvenience of breastfeeding</td>
<td>Time consuming</td>
</tr>
<tr>
<td></td>
<td>Requires patience and perseverance</td>
</tr>
<tr>
<td></td>
<td>Painful</td>
</tr>
<tr>
<td>Obstacles to breastfeeding</td>
<td>Modesty</td>
</tr>
<tr>
<td></td>
<td>Milk production/intake uncertainty</td>
</tr>
<tr>
<td></td>
<td>Employment: lack of time and pumping/storage</td>
</tr>
<tr>
<td></td>
<td>Nature of employment: office vs. factory or field workers</td>
</tr>
</tbody>
</table>

Breastfeeding was considered by all participants as better and healthier for the child because infants do not get sick as much, they get less infection (7 out of 11), and have a stronger immune system as breast milk was perceived to be a shield protecting against sickness that gives immunologic defense (5 out of 11), and provides vitamins and nutrients that the infant needs (4 out of 11).

*Y le da a los bebes más vitaminas y son más fuertes en sus defensas (2) It gives babies more vitamins and they have stronger defenses.*

*hay más vitamina en la leche materna…si tiene una enfermedad de lo que sea, no le da tan fuerte. Le da menos (3). there are vitamins in mother’s milk…if they have whatever disease, they don’t get it as much.*
crece más sano y que la leche materna le hace bien… tiene defensas para no enfermarse tanto. 
(6). they grow healthier and the mother’s milk agrees with them…they have defenses to not get 
sick as much.

Es mejor darle pecho (porque) no se enferma seguido (7). It’s better to breastfeed (because) 
they don’t get sick often.

I always heard that it’s healthier, it builds up their immune system (10).

me han dicho que (la leche materna) tiene toda las vitaminas y propiedades que el bebe necesita 
para crecer (8). they have told me that it has all the vitamins and properties that the baby needs 
to grow.

In addition, participants stated that breastfed infants had less gastrointestinal issues (5 out of 11) 
such as constipation, throwing up, and colic.

Muchas veces la leche (de formula) hace que el baby se estriña o repita mucho la leche, o... no 
les cae bien. Y la leche de uno siempre les cae bien (9). Often the (formula) milk constipates the 
baby or makes him/her spit up a lot...or it does not sit well. And one’s breast milk always sits 
well.

Yo siento que la leche de pecho es mejor porque la de formula siempre traen cólicos y están 
malitos (7). I feel that breast milk is better because formula always causes colic and they 
(babies) do not feel well.

El biberón agarra mucho aire y le dan cólicos y el pecho no (8). The bottle holds a lot of air and 
gives colic whereas the breast does not.

In the same line, participants stated that to grow strong and healthy a baby should consume 
breast milk (7 out of 11) and colostrum (1 out of 11).

La mejor alimentación del bebé es el pecho... es la mejor manera...de que el crezca sano y fuerte 
los primeros seis meses (3). Breast is the best way to feed a baby...for him to grow healthy and 
strong the first six months.

en el hospital...te dicen la primer leche, el colostro, es la más importante... todo lo que el bebe 
necesita está en esa primer leche (2). At the hospital, they tell you that the first milk, the 
colostrum is the most important ...everything the baby needs is in that first milk.
Breastfeeding was also associated with better growth development (7 out of 11) and increased behavioral health (4 out of 11) with breastfed infant described as alert, active, interactive, confident, independent, with better learning skills.

La ventaja de la leche materna es que tu hijo se desarrolla más... se pone más vivo, su mente está más abierta (3). The advantage of breast milk is that your child develops more...is more alert, his mind is more open.

les ayuda desarrollarse más fácilmente, su inteligencia... más fuertes (6). it helps them develop more easily, their intellect... (be) stronger.

It (breast milk) is good for the mind... and development of the baby (4).

Son más despiertos, son más inteligentes, más interactivos... son más seguros de sí mismo, son más independientes, se asustan menos (1). They are more alert, more intelligent, more interactive... more confident, they get scared less.
	hey’re more intelligent, they tend to catch on to things quicker... they learn things quicker (10).

Some participants also stated that infants are less likely to become overweight with breast milk (3 out of 11).

Los niños crecen con menos probabilidades que sean gordos u obesos (8). Children grow up with less probability to be fat or obese.

Also one of the perceived reasons for breastfeeding trends in Mexico was infant health (5 out of 11).

Cuando uno les da pecho ellos no están tan enfermizos de chicos (1). When one breastfeeds, they do not get sick as a child.

Siempre han (gente, los doctores) dicho de todos modos en México que es mejor dar pecho, que los niños menos se enferman (7). In Mexico, they always said (people, doctors) that no matter what, it is better to breastfeed that children get sick less often.

Es bueno para los niños (8). It’s good for the children.

I’ve always read and heard about the benefits of it. Children tend to be healthier; they have a better immune system (10).
**Perceived Risk of Not Breastfeeding**

Although participants associated breastfeeding with healthier children, they did not identify any increased life threatening consequences for infants not breastfeeding. Some did not see any negative health effect in children (5 out of 11) while others thought non-breastfed children simply get sick more often (5 out of 11) or tend to be more plump (1 out of 11). Breast cancer (4 out of 11) and post-partum depression (1 out of 11) were risks associated to the mother for not breastfeeding. The rest of the participants did not see any negative health effect of not breastfeeding for the mother (6 out of 11).

>*Breast milk and Formula* they measure up pretty good (4).

*They’re less likely to resist things that may be their own family is able to resist* (10).

*(los bebes) se enferman mucho* (7). *(babies) they get sick often.*

*Siento que no hay* (7). *I think that there isn’t* *(for the mom).*

**Tradition of breastfeeding**

Breastfeeding was also associated with tradition in the family (5 out of 11),

*más que nada la tradición que nos inculca nuestros padres y nuestras familias* (1). *more than anything, the tradition that our parents and our family instill in us.*

*Es algo que es como tradición y para el beneficio del niño* (1). *It’s something that is like tradition and for the children’s benefits.*

Sometimes the tradition was because participants were told by their mother the benefits of breastfeeding (6 out of 11),

*Ella (madre) siempre dijo que crecen más sanos. Es mejor amantar al bebe. Tal vez por tradición...* (2). *She (mother) always said that they grow up healthier. It is better to breastfeed the baby. Maybe by tradition...*

*ella me decía... era mejor dar pecho que estar dando la formula* (5). *she would tell me that it is better to breastfeed than to give formula.*

*pero creo que mis hermanos sean alimentados por el pecho fue algo muy importante porque si no como hubiéramos crecido saludable porque realmente ninguno de mis hermanos se enfermó*
(2). The fact that my siblings were breastfed was very important because otherwise, how would we have grown up healthy because really none of my siblings got sick. 

or because they had already breastfed other siblings (6 out of 11).

amamanté a mi primer niña y toda mi familia a amamantado (9). I breastfed my first daughter and all my family has breastfed.

I did the same thing with my daughter (10).

A mi niña, la mayor, le di (pecho) 2 años (11). I breastfed my oldest daughter for two years.

Breastfeeding in Mexico was also perceived as a tradition (6 out of 11) passed from generations to generations.

mi abuelita, mis bisabuelita, mi mamá, mis hermanas (dieron leche) (1). my dear grandmother, great-grandmother, my mom, my siblings (breastfed).

Es más que nada por generación (9). It is more than anything a generation thing.

that it’s more of a traditional type of thing...for them it’s just a thing that one mother passes down to her daughter that it’s better to do (10).

saben que es mejor para ellos y va de familia a familia (11). they know that it is better for them and it passes from one family to another.

Es algo que te toca por el seguimiento de tu vida para que... inculques a tus hijos o tus hijas (1). It’s something that touches you for the rest of your life so that...you instill it into your sons and daughters.

**Advantages of Breastfeeding**

Enjoyment and gratification from breastfeeding was also expressed throughout the interviews.

Many participants described breastfeeding as a way to create a better connection between mother and baby (8 out of 11).

Es un lazo de amor...es lo más natural y lo más bonito que puede haber de una madre a un hijo... es un lazo que si tu no lo haces nadie lo va hacer por ti. Nada puede sustituirse... Eso es una gran ventaja (1). It’s a loving bond...it’s the most natural and the most beautiful thing that you can see between a mother and son...it’s a bond that if you don’t do it, nobody will do it for you. Nothing can substitute... That’s a big advantage.
tiene uno más contacto con los hijos y cosas bonitas estar ahí con ellos (5). One has more contact with the children and beautiful things being there with them.

un contacto físico entre madre e hijo...es especial (2). A physical contact between mother and son...it is special.

the bond as well between the mom and the baby...so a lot of people would tell me about that (4)

fue algo muy bonito estar con ella y viendo como come y que te miran a ti, que estás dando le pecho y todo. (9). It was something very beautiful being with her and seeing how she eats and they look at you, that you are breastfeeding them and everything.

every woman should take the opportunity at least first few months to breastfeed their child. Just because of all the benefits from it,...the actual bonding that happens (10).

lo siente uno más cerca que cuando les da uno la formula. Está uno más apegado con ellos (11). One feels closer that when giving formula. One feels more attached to them.

Some participants describe breastfeeding as a product of love (2 out of 11) that provides a safety feeling to the infant (4 out of 11).

lo hizo con mucho cariño y con mucho amor (1). She did it with a lot of care and a lot of love.

Ella (madre) me decía que le diera pecho...se va a sentir seguro conmigo (6). She (mother) used to tell me to breastfeed...he is going to feel safe with me.

Participants also stated that breastfeeding was enjoyable (4 out of 11) for both infant and mother.

Me sentía bien con el, porque siempre estaba cerca de mi (7). I felt good with him because he was always close to me.

Sentía que estaba conectada con el bebe...Ahora que le deje de dar pecho me sentí triste (6). I felt that I was connected with the baby...Now that I stopped breastfeeding I felt sad.

One mother stated that it is an honor to breastfeed because the baby’s life depends on it.

me sentía muy halagada porque yo sé que la vida de el depende de lo que yo lo cuide, lo proteja porque es mi hijo y porque lo amo (1). I felt honored because I know that his life depends on me taking care of him, protecting him, because he is my son and I love him.

Breastfeeding was also referred to as a feeding method that is easy (6 out of 11) as many participants appreciated not having to carry or prepare formula, or get up in the middle of the night.
para mi es más fácil, nada más me levantaba y le daba pecho y ya (9). for me it is easier, I would just get up and would breastfeed him and that was it.

si salgo no tengo que andar preparando biberones, solo le doy pecho (8). if I go out, I don’t have to prepare bottles, I just breastfeed him.

no tenía que levantarme a hacer formula (6). I did not have to get up to prepare formula.

**Instinctive Process of Breastfeeding**

Instinct in breastfeeding was also a recurring theme throughout the interviews. Infant instinct seem to play an important role in giving fullness cues when breastfeeding (9 out of 11) such as baby pulling away or putting a hand in front of the mouth when full, not crying for a while after breastfeeding, falling asleep, or looking happy. Participants would also get cues that their babies were not satisfied when they would cry after breastfeeding.

los niños no tienen hambre... ya empiezan a llevarse la mano en la boca, y es una señal que queda satisfecha (con formula) (11). When children bring their hand to their mouth, they are not hungry. It is a sign that they are satisfied (with formula).

A veces si ella me demostraba que ya no quería porque rechazaba el pecho (2). Sometimes she would show me that she did not want anymore because she rejected the breast.

me decían que cuando lloraba...es porque no estará agarrando la leche, no tomaba, no salía. Pero después ya tomaba el bien, porque ya se me dormía, o ya no lloraba (7). They would tell me that when he would cry...it was because he could not grasp the milk, he would not drink it, it would not come out. But after he would drink well because he would fall asleep or he would not cry.

le daba (pecho) por mucho tiempo, para que el estuviera lleno... no lloraba dentro de cuatro horas entonces yo sentía que era suficiente. Nunca sentí la necesidad de darle leche de polvo, porque mi leche era suficiente (1). I would breastfeed for a long time so that he would be full...he would not cry for four hours, therefore, I felt that it was sufficient I never felt the need to give him powder milk, because my milk was sufficient.

Cuando el niño ya no quiere... ya está lleno... Si se queda dormido es que está tranquilo, o sea no tiene hambre (8). When the child does not want anymore...he is already full...if he stays asleep, it is that he is peaceful in other words he is not hungry.

le daba la teta y se la tomaba y se quedaba dormida (5). I would give her the breast and she would drink and she would stay asleep.
se dormía o lo veía contento (6). He would fall asleep or I would see him happy.

Cuando ya está lleno el suelta el pecho... si lo suelta y llora y lo pones para atrás es que todavía no está lleno (9) When he is full, he let’s go of the breast...if I let go of him and he cries and you (have to) put him back, it’s that he is not full

...how he would act...(if) he was still hungry he would let me know. He would look for it (10).

ya le quitaba el pecho y seguía llorando (5). I would just take away the breast and he would continue crying.

Mothers also relied on physical cues to assess their milk production adequacy such as sensation

(2 out of 11)

un mes antes (del parto)... ya tenía mucha leche (1). a month before giving birth I already had a lot of milk.

los pechos llenos se me ponen duritos, por eso sabia de que si me estaba saliendo leche. Porque cuando el tomaba, se me ponía flojos, cuando se me llenaba de leche otra vez se me ponían duritos (7). My breasts get hard when they are full, that’s how I knew that milk was coming out. Because when he would drink, they would get flask, when the breast would get full once again they will get hard again.

as well as infant stool or frequency and appearance, and urination frequency (2 out of 11).

Si tiene que estar haciendo del baño seguido y muchas veces... el color de la popo era diferente...cuando siguió tomando pecho, cambio...por lo amarillo. Es lo que dice el doctor que debe de salir más o menos amarillo o cafecito claro. Si sale verde o de otro color es que el baby no está teniendo suficiente comida...es que le hace falta comida (9). If he has to use the bathroom often...the poops color was different...when he kept on breastfeeding, it changed...to yellow. It’s what the Doctor says that it has to come out, sort of yellow or light coffee. If it comes out green or another color it’s that the baby’s not getting enough food...that he is lacking something.

they always told me if he had enough wet diapers, if he did not have enough wet diapers, then that he wasn’t getting enough (10).

Also, breast milk was described as something natural (3 out of 11), unprocessed, made especially for the child, and that cannot be substituted.

Tiene menos cosas procesadas, más natural (11). It is less processed, more natural.
Es mejor porque es producida por la propia madre. It is better because it is made by the mother herself.

es algo que yo sigue como instinto. It’s something that I follow instinctively.

No hay una formula capaz de sustituir la leche materna. There is no formula able to substitute mother’s milk.

**Inconvenience of Breastfeeding**

Although breastfeeding was described as a valued feeding method, many participants shared how inconvenient it can be. Time consuming (5 out of 11) leaving little time to do other things such as house or child care. Also, one participant mentioned that it required patience as baby can have difficulty latching on (7 out of 11).

Desde chiquitito son como una hora y media y cada alimentada. Muchas mujeres no quieren hacer eso. From the time they are very small, each feeding takes an hour and a half. A lot of women do not want to do that.

If people would have more of the patience to want to try (breastfeeding)...people should take the time to actually think about all the benefits.

Breastfeeding takes a lot more dedication and time.

El tardaba casi una hora y yo a veces decía “ahí en ese rato a lo mejor podría hacer otras cosas”... estaba sola en mi casa, que tenía que estar limpiando y como tengo otros 2 niños más grandes...se me hacía difícil quitar me al niño. It would take him almost an hour and sometimes I would say “during this time I could do other things”. I was alone in my house that I had to clean, and since I have two older kids...It was difficult to detach myself from the baby.

No es fácil porque cada rato quiere estar tomando leche, y a veces tengo cosas que hacer pero no me deja porque está llorando llorando llorando y no más quiere estar pegado en mi pecho. It is not easy because every so often he wants to have milk, and sometimes I have things to do but he does not let me because he is crying crying crying and he just wants to be latched onto my breast.

Al principio cuando nacen, que no saben agarrarlo bien el pecho...tiene que tener uno paciencia cuando ellos no puede agarrar el pecho. At the beginning when they are born, that they do not know well how to latch onto the breast...One has to be patient when they cannot latch onto the breast.
whether you pump or sit there with baby, and let the baby latch on…it’s still time consuming…it takes time and effort out of your day (4).

batallaba bastante No quería agarrar el pezón (5). I struggled quite a bit. She did not want to grasp the nipple.

...batallé mucho para darle porque a veces no me agarraba bien. Como fue…la primera niña, no tenía idea de cómo darle (8). I struggled a lot to breastfeed her because sometimes she would not latch on well. Since she was the first daughter, I did not know how to breastfeed her.

Batallé un poquito para que el se pegara (1). I struggle for him to latch on.

la niña se desesperaba que no podía sacar leche (2). the girl would get frustrated that she could not get milk out.

Breastfeeding was also described as painful (6 out of 11) and tiring (2 out of 11).

no es fácil. Es mucho dolor…en tus pechos porque ellos están succionando….y tus pechos se agrieta y sangras y es mucho dolor, en los primeros ocho días es un dolor insoportable pero ya después se va acostumbrando el pecho y el niño empieza a agarrar el pezón de una forma que ya no te lastima (1). it’s not easy. It is a lot of pain…in your breasts because they are suckling…and your breast crack and bleed and it is a lot of pain, the first eight days it is an unbearable pain but afterwards the breast gets used to it and the baby start latching on the nipple in such way that it does not hurt anymore.

Al principio fue difícil porque el dolor en los pechos es grande, especialmente cuando ellos están succionando. Me sangraba los pezones. Esa parte fue difícil aguantar el dolor (2). At the beginning it was difficult because the pain in the breasts is great, especially when they are suckling. My nipples were bleeding. It was difficult to endure the pain.

al principio si me dolía (6). at the beginning, yes it hurt.

porque la primera vez le duele a uno cuando ellos toman la leche (7). because the first time it hurts when they breastfeed.

Al principio me dolían los pezones,…y (los) tenías poquito sangrado. Pero me puse pomada y se me quito (8). At first my nipples hurt…and they were bleeding a Little. But I put ointment and it went away.

les duele el pezón (a amistades) (9). It hurt their nipples (friends).

He took a big wear on my body and I was just overwhelmed with it (4).

it was just tiring. I did not want to do it, it was easier to give her the bottle (4).

His labor was really hard and I was exhausted so did not breastfeed long with him (4).
es muy cansado…pero me gusta (8). it is very tiring…but I like it.

Two participants mentioned that although their mother did not breastfeed her or her siblings they still chose to breastfeed (2 out of 11)

my mother never did it, my sister never did it (breastfeeding)…, but you know I chose to breastfeed and my sister did not (10).

Also although one of the participants encountered the same challenge (pain) that discouraged her mother to breastfeed, it was important for her to breastfeed her child

mi mamá no nos dio a nosotros. Yo le pregunte a mi mamá... “¿porque?”... dijo... “intente darte y me mordiste y me dolió y ya no te di, ya no quise darte”. Entonces le dije “a mi también me duele cuando recién le di a la niña me dolía y me mordía” le dije, pero no se porque, o sea yo seguí seguí.” (8). my mom did not breastfeed us. I asked my mom “why?”...she said... “I tried to breastfeed you and you bit me and I did not breastfeed you anymore, I no longer wanted to breastfeed you”. So I told her “It also hurt when I breastfed my newborn and she would bite me” I told her, but I don’t know why, I mean I kept on going, and going, and going.

Obstacles to Breastfeeding

Modesty was also a recurring theme as mothers pointed out that it could be uncomfortable to breastfeed in public (7 out of 11). As a result, a few chose to feed formula when going out (3 out of 11). Discomfort was related to shyness, to community and family negative perception of breastfeeding, and to work environment. Modesty was also brought up when discussing the perception of infant feeding in the United States. One participant offered a solution to the issue by suggesting more family rooms in public places.

a veces iba a lugares públicos y no podía alimentarlo... Se me hacia difícil... trataba de tapar con una sabanita y él levantaba la sabana o se enojaba si no tapaba (6). sometimes I would go to public places and I could not feed him...It was difficult...I would try to cover with a little blanket and he would lift it or he would get angry if it would not cover.

(dio formula) desde recién nacido. Pero solo cuando tenía que salir (6). (gave formula) since first born. But only when I had to go out.

Casi nunca le llegue a dar en frente del publico asi...si me tocaba darle más bien me retiraba para que no me miraba la gente. Porque no me gustaba estarle dando porque me desespero. Si
el empieza a llorar yo me pongo nerviosa... a mi me da vergüenza... Siempre he sido tímida (7).
I almost never was able to breastfeed in public...If I had to give him, I would walk out so that
people would not look at me. Because I did not like to breastfeed him because I would get
frustrate. If he starts to cry I get nervous...I get embarrassed...I have always been shy.

des de estar cubriéndolos o estar viendo que nadie te vea (11). to be covering them or making sure
that nobody sees you.

para algunas personas que son muy tímidas, yo no me considera tímida,... es avergüenzoso dar
pecho, para mi no (1). For some people that are very shy...it embarrassing to breastfeed, For
me it is not, I don’t consider myself shy.

a lot of people don’t like to do that (breastfeeding/pumping) publicly (10).

I think I might have done it (breastfeed in public) once...I think that’s part of the reason why
people don’t want to breastfeed. Because they look at it as a taboo, it’s wrong, it’s wrong to do
it (10).

people are embarrassed to sit down and do it (breastfeeding) (10).

none of us would take our food and go to the bathroom to eat, right? Because that would be
wrong. But yet, women are expected to breastfeed in the bathroom (10).

when I decided to breastfeed my daughter...I could see how uncomfortable it made them (family
members) feel (10).

if there were more ...places where you could go and sit, it would look more like a living room vs.
an actual bathroom, it would have made me more comfortable to do it (breastfeeding) in public
(10).

en un lugar público no puedes nada más sacarle y darle pecho...tienes que cubrirte y sentar te
para estar cómoda para que él pueda tomar bien... hay mucha gente lo mira mal o mucha gente
se te quedan viendo... Si no hay algún lugar me salgo y me voy a mi carro y le doy de comer en
el carro. Pero, a veces si es un poquito difícil porque se te quedan viendo (9). in a public place,
you cannot just breastfeed him, you have to cover yourself and sit down to be comfortable so that
he can breastfeed well...Lots of people frown upon it or stare. If there is nowhere to go, I go to
my car and I feed him in the car. But sometimes it’s a little difficult because they can still see
you.

Breastfeeding also brought up the theme of uncertainty (4 out of 11) regarding not knowing how
much milk to give or if one is producing enough milk. A few participants referred to pumping
the milk as a solution to these obstacles (2 out of 11). One participant related insufficient milk production to bad eating habits due to unemployment and lack of money to buy food.

my own judgment wasn’t good to me...I never knew if they were full (4).

(pumping milk) you could measure out just with the bottle (4).

lo que me guio un poco a saber cuánto era lo que yo estaba sacando (2). what guided me a little was knowing how much I was pumping.

La verdad que no se (si la producción de leche era adecuada) (8). The truth is I don’t know (if the milk production was adequate).

no llenaba y tenía medio yo que se me fuera a bajar de peso en vez de subir por eso preferí darle formula y pecho (5). he would not get full and I was afraid that he was going to lose weight instead of gaining weight therefore I preferred giving formula and breastfeeding.

yo me desesperaba, lloraba porque no sacaba leche de un lado y del otro lado... no me salia mucha (leche). Pero pienso influyo mucho la alimentación...no me estaba alimentando bien. ...solo tenia una comida al día. No tomaba tanto liquido. Perdi mucho peso en ese tiempo (2). I would get frustrated, I cried because milk was not coming out from either side...not much was coming out. But I think the nutrition had a lot to do with it...I was not eating well...I would only have one meal a day. I did not drink a lot. I lost a lot of weight during that time.

Another major obstacle to breastfeeding appeared to be employment. Some participants stated that it can be more difficult to breastfeed when working (7 out of 11). Challenges were related to pumping or milk storage (4 out of 11) and the lack of time (6 out of 11) to breastfeed, pump, or even take care of the child (2 out of 11).

da veces es muy dificil en el trabajo ir hacerte pump, no te dan suficiente tiempo para terminarlo (9). sometimes it is very difficult to pump at work, they don’t give you enough time to finish.

I always had to make sure that there was enough milk for him ahead of time (10).

I’m not easily able to pull myself away and plug in the actual breast pump and then collect it, and then where was I gonna store it... are you gonna have access to a refrigerator (10).

I was working 2 jobs ... I never pumped my milk so it would be a lot more time consuming to do that and store it, and give it to the day care center(4).

si... tuviera más tiempo... aunque no le diera pecho, yo me sacaría la leche, y se la dejaría en refrigerador para que se alimentara si no soy (2). if I had more time...even though I would not
breastfeed her, I would pump the milk, and I would leave it in the fridge so that she would get fed if I am not there.

Sería más fácil para una persona de oficina (vs. en una fábrica). Te daría más tiempo de poder sacarte tu leche y refrigerarla (2). it would be easier for someone working in an office (v. in a factory). They would give you more time to be able to pump your milk and refrigerate it.

las personas que tienen bastante dinero no tienen suficiente tiempo para cuidar a sus hijos. Porque la mayoría... trabajan (1). people that have plenty of money don’t have enough time to take care of their children. Because most...work.

Si allá (in México) una mamá trabaja...si ella tiene un bebé de seis meses, lo descuida mucho. El niño siempre va estar enfermo (3). If over there (in Mexico) a mom works... if she has a six month baby, she neglects him a lot. The child is always going to be sick.

One mother talked about how difficult it is to choose between being a mother, breastfeed, or have a career.

Tener una carrera o un diploma te ayuda mucho, te abre muchas puertas, pero también te cierra una que yo pienso que es la más importante... tu hijo, tu vida (1). Having a career or a diploma helps you a lot, it opens a lot of doors, but also it closes a door that I think is the most important...your child, your life.

Si decide dar el pecho, no puede solo por la noche, tiene que dar la formula durante el día (11). If you decide to breastfeed, you can only at night; you have to give formula during the day.

Many participants also stated that working mother were more likely to feed formula (8 out of 11), to ensure baby eats during the day, while breastfeeding at night.

un porciento de las personas que trabajan prefieren mejor comprar formula (1). a percentage of people that work prefer to buy formula.

(Giving formula while working) You don’t have to worry about pumping or breastfeeding or taking time out of your job to go breastfeed your son or daughter (4).

Porque no gastar el tiempo suficiente con él. Prefiere dar formula (5). They prefer to give formula to not waste the time necessary.

siempre les dan más bien formula. Las que he mirado siempre son por lo que trabaja (7). they always rather give formula. The ones that I have seen are because they work.

ella no le daba pecho porque estaba trabajando (8). she did not breastfeed him because she was working.
(la formula) Es fácil para mí para los que trabajan, que están más seguros que su niño va a comer a las horas y con el pecho pues no puede hasta que llegan en la noche (11). In my opinion, (formula) is easy for those that work, they are more confident that their child is going to eat at the right time and with breast milk, they cannot until they arrive at night.

A few participants pointed out that feeding practice could be influenced by the nature of employment (3 out of 11). For instance, office workers can pump and store their milk at work unlike factory or migrant/field workers. In addition, office workers start later than the factory workers, and therefore have more time to extract milk and refrigerate it.

in my case who work in an office ..., who may be able to take ten minutes break here and there when they do need to breastfeed...the migrant families, ...they have that baby they can’t them on the field, to want to... drive home, and actually breastfeed them. I think that’s where sometimes, that stops them (10).

Porque si es una persona que... trabaja en la oficina,... empiezan a las 9 de la mañana... La mayoría de las fábricas empiezan a las 6 de la mañana. ... sería más fácil para una persona de oficina. Te daría más tiempo de poder sacarte tu leche y refrigerarla (2). Someone that works in an office...starts at nine in the morning...The majority of factories start at 6 in the morning...it would be easier for an office person. It would give more time to pump the milk and refrigerate it.

Also, one participant commented on migrant/field workers needing to wash off pesticides before they breastfeed.

I’ve seen women who actually will leave the field and will go home and of course they have to shower because they’re covered in pesticides and they will feed their baby (10).

Another participant talked about family members discouraging breastfeeding because working under the sun would changes milk’s consistency and temperature.

si tu trabajas en sol y si ella toma la leche o algo, le puede hacer mal...uno anda sudando y la leche cuando se calienta...se cuaja (3). if you work in the sun and she drinks the milk, it can do the baby harm...one is sweating and when the milk heats up...it curdles.

Perception of mother’s employment in the US was different from Mexico’s. In the US, both men and women were perceived to work (5 out of 11),

Aquí es la mujer y el hombre trabajando por igual (2). Here men and women work equally.
hay muchas que trabajan (6). there are a lot (of women) that work.

están siempre trabajando (7). they are always working.

porque muchas mamás trabajan (8). because a lot of moms work.

whereas in Mexico, women were perceived to stay at home while man work (2 out of 11).

En Méjico… El hombre es el que va a trabajar…La mujeres se quedan en casa a cuidar la familia (2). In Mexico…The man is the one that goes to work...Women stay at home to take care of the family.

A few participants thought that employment would not affect infant feeding practice (3 out of 11) if they gave formula in the first place or managed to pump their milk, or mother had a strong desire to continue breastfeeding.

si está dando formula no afecta al bebe en nada (9). if you give formula, it (work) does not affect the baby in any way.

Muchas se las saca. No creo que afecte (6). Many pump their milk. I don’t think it affects it (infant feeding).

in an office ... (mothers) may be able to take ten minutes break here and there when they do need to breastfeed (10).

a lot of it has to do with the dedication and the want to do it (breastfeeding) that way (10).

Formula, an Alternative to Breastfeeding Challenges

Breastfeeding challenges such as inadequate milk production, and modesty, often led participants to complement breastfeeding with formula or feed formula exclusively (8 out of 11) (Table 8).
Table 8: Formula major themes and concepts within themes

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Some participants would give formula if their breast milk production was insufficient or if they were not sure that their milk production was adequate (4 out of 11).

Una de las grandes razones por las que yo decidí también darle la formula, porque no estaba segura si estaba sacando suficiente (2). One of the reasons I decided to give her formula is because I was not sure if enough (milk) was coming out.

Formula would also be given if one could not breastfeed, stopped lactating, or if baby rejected the breast (4 out of 11).

no quería el pecho y no tenía para darle después. Se me seco como quien…le tuve que dar formula (11). she did not want to breastfeed, and afterwards I did not have any to give. It dried out…I had to give her formula.

La formula, ya que no le pude dar pecho, pensé que era la mejor manera de que ella se desarrollara un poquito bien (3). Since I could not give her formula, I thought that formula was the best way for her to develop.

cuando no quiso el pecho (5). when she did not want to breastfeed.

Formula would ease concern about baby not getting enough milk, losing weight (1 out of 11), or not developing well (1 out of 11).
Also, as mentioned earlier, some participants expressed feeling uncomfortable when breastfeeding in public or at work, and resorted to feeding formula when going out (3 out of 11).

Pain was another reason for using formula (2 out of 11) or stop breastfeeding altogether

Porque me mordía muy seguido...y pues un año es lo que el doctor te recomienda (1). Because he would bite me often...and anyway one year is what the Doctor recommends.

**Formula, an Adequate Feeding Solution**

Apart from breastfeeding challenges leading to formula use, many participants found formula to be an adequate form of feeding (health and nutrition wise), sometimes described as a second best (4 out of 11).

(Breast milk and formula) measure up pretty good (4).

if you can’t breastfeed, it’s the second best way for a baby (10).

Como segunda opción de dar el pecho si no puedes (11). As an alternative to breastfeeding if you can’t.

si a él se le da desde que nace la formula no va a notar la diferencia al pecho (11). if you give him formula since he is born, he is not going to notice the difference from breastfeeding

no tenía otra opción más que darle la formula, fue como una segunda opción (11). I did not have any other option than to give her formula, it was like a second option.

Participants found formula fed infant to be healthy (3 out of 11)

hay mucha gente alrededor que me decía que...haya niños que tomaba leche líquida de formula y crecían muy sanos (2). there are a lot of people around that would tell me that ...there were kids that drank formula and grew up very healthy.

(Formula) tiene vitamina... la ventaja que tiene es que, la fórmula solamente le va a ayudar para que no se enferme tanto... (3). it has vitamins...the advantage is that formula is only going to help so that she does not get sick as much.
There was never a doubt that it’s not healthy... My three kids are healthy and they used it, got off of it, and there functioning and everything is working well ... There was never a doubt that it’s not healthy (4).

and not to have adverse reaction to formula (2 out of 11).

None of my 3 kids, they hardly ever spit up. They took it down very well. They burped healthy (4)

Porque al bebe le ha resultado bien (6). Because it has been good for the baby.

Also, participants talked about advantages of formula nutritionally as providing what the baby needs (3 out of 11), being more consistent than mother’s milk that can be affected by her diet (2 out of 11), and providing insurance when combined with breast milk (1 out of 11).

Para estar segura si estaba recibiendo el alimento...agarre la opción de la formula (2). To make sure that she was getting food...I grabbed the formula alternative.

the only thing that might be beneficial is the fact that formula is made by men...So they put in the actual vitamins that may be a baby might need...if the mother is not eating that healthy the child is not gonna get most of the vitamins he needs (breastfeeding) (10.)

Formula’s Side Effects

On the other hand, formula was often associated with negative side effects such as gastrointestinal side effects (5 out of 11) like constipation, vomiting, and colic.

a veces no pueden hacer del baño (6). sometimes they cannot go to the bathroom.

muchas veces la leche (de formula) hace que el baby se estriña o repita mucho la leche, o... no les cae bien (9). often the (formula) milk constipates the baby or makes him/her spit up a lot...or it does not sit well.

la (leche) de formula siempre traen cólicos y están malitos (7). I feel that breast milk is better because formula always causes colic and they (babies) do not feel well.

el biberón agarra mucho aire y le dan cólicos (8). The bottle holds a lot of air and gives colic.

Also, formula feeding was perceived to affect the infant well-being relating it to more illness (5 out of 11),
sería un riesgo de que tu hijo si no le estás dando...nada de leche materna es pura formula tal vez será propenso a...estar más enfermo (2). If you were not giving any breast milk but formula, it would be a risk that he will be prone to be more sick.

porque le estoy dando formula se me enferma más (5). Because I am giving her formula, she gets sick more.

propensity for infant to be overweight (1 out of 11),

la mayoría de los niños que toman formula están más gorditos... se ponen más llenitos (9). The majority of children that drink formula are chubbier... they get plumper.

and greater distance between mother and infant (2 out of 11).

cuando le di la formula, ya fue más distante (11). When I gave him formula, he was already more distant.

Also, while breastfeeding was described as natural, formula was sometimes described as tempered with, not as pure, not customized like breast milk (4 out of 11).

(una tía) Me dijo que la fórmula solamente era más agua que leche (3). (An Aunt) She told me that formula was more water than milk.

the breast milk, it’s more of a purity thing than... nothing is been tempered with (compared to formula) (4).

(la leche materna) es hecha especialmente para el bebe, está a la temperatura que lo necesita... está lista cuando el quiere. Cuando el tiene hambre está lista (9). (Breast milk) it is made especially for the baby, it is at the temperature that he needs... it is ready when he wants it. When he is hungry, it is ready.

Convenience of Formula

While breastfeeding was described as an easy feeding method, formula was often given the same attribute (9 out of 11). Participants described formula as convenient, practical because portable (3 out of 11), and time efficient (3 out of 11).

I want the easy way with the formula ... easier for the formula to be sent (to daycare) (4).

es más fácil de transportar (1). It is easier to carry around.

So the formula is just ready and go... I had little packets and you could just... through it in the bottle (4).
you grab the bottle, you grab the water, and the formula and you can just take off wherever you’re at, at the last minute (10).

Una botella lo haces en un minuto y ya (2). You prepare a bottle in a minute and that’s it.

no más se la preparaba y se lo daba (5). I would just prepare it and give it to her.

tengo tiempo de hacer las cosas (6). I have time to do things.

On the other hand, formula feeding was sometimes described as inconvenient when going out (4 out of 11) or preparing bottles at night (2 out of 11)

Para mi es más difícil...como ahorita que salimos de la casa, que si está fría, que si no se la toma bien por eso mismo (11). For me it’s more difficult...like earlier that we got out of the house, you wonder: is it cold enough, did he get enough.

en las noches cuando despierta, que me tengo ya que levantar a prepararle su biberón (6). at night, when he wakes up, that I have to get up to prepare the bottle

no tengo que andar preparando biberones (8). I don’t have to go around preparing bottles.

**Effect of Economic Status on Infant Feeding**

Although a majority of participants did not perceive a difference in infant feeding based on economic status (10 out of 11) if one breastfed (1 out of 11),

pero cuando da uno pecho yo pienso que no (5). when one breastfeed, I don’t think so.

or because mother with less money benefit from **WIC** assistance in the US (5 out of 11) (Table 9).

with the WIC too a lot of people who are lower income, they know they don’t have to buy the formula (4).

aquí es igual...el WIC les provee la leche, el cereal, los jugos, huevos... (11). here it’s the same...**WIC** provides milk, cereal, juices, eggs.
Table 9: Perception of infant feeding environment major themes and concepts within themes

<table>
<thead>
<tr>
<th>Major Themes</th>
<th>Major Concepts Within Themes</th>
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<tr>
<td>Effect of economic status on infant feeding</td>
<td>No difference in the first six months: when breastfeeding or receiving WIC</td>
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<tr>
<td></td>
<td>Affluence allows to buy a variety of prepared food (formula, Gerber, other)</td>
</tr>
<tr>
<td></td>
<td>Formula is expensive</td>
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<tr>
<td>Perception of infant feeding in Mexico</td>
<td>Breastfeeding part of Mexican culture and tradition</td>
</tr>
<tr>
<td></td>
<td>Breastfeeding, only option related to financial and governmental help limitations</td>
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<td>Breastfeeding healthier for infant</td>
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<tr>
<td>Perception of infant feeding in the United</td>
<td>Busy lifestyle: men and women in the work force</td>
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<tr>
<td>States</td>
<td>Formula feeding preferred by choice</td>
</tr>
<tr>
<td></td>
<td>Formula feeding related to convenience: time efficiency, absence of struggle or pain, modesty</td>
</tr>
<tr>
<td></td>
<td>Formula feeding to preserve beauty</td>
</tr>
</tbody>
</table>

Having more money was associated with the variety and amount of items that one can buy (8 out of 11).

For instance, people with more money can buy and would rather give formula (3 out of 11).

\[
\text{si tienen dinero pues compran su fórmula (8). if they have money, they buy formula.}
\]

\[
yo he visto familias en Méjico que cuando tienen más dinero compran cierta fórmula...Les dan nada más unos meses pecho y ya después les dan fórmula...pienso que también porque trabajan o tienen negocios (6). I have seen families in Mexico that have more money that buy certain formula...they breastfeed for no more than a few months and that’s it and afterwards they give them formula...I also think because they work or run businesses.
\]

In fact, many participants mentioned how expensive formula can be (7 out of 11).

\[
\text{la leche en polvo es cara (1). formula is expensive.}
\]

\[
\text{Cuando das pecho tienes el des-alivio de que ya no tienes que comprar la leche (1). When you breastfeed you are relieved that you do not have to buy milk.}
\]

\[
\text{formula is an expensive thing (4).}
\]

Also, some participants perceived people with more money to give Gerber foods to their infant (4 out of 11).
Those that have more money have options to buy Gerber instead to buy fruits and cook them and blend them.

they buy more stuff like Gerber or I imagine all those things that are already prepared.

Actually, many participants gave Gerber to their baby (6 out of 11). Having more money also meant being able to buy a variety of foods for the baby (3 out of 11),

they can buy things that a person with low income cannot buy.

Families with more resources give of everything.

In Mexico...if someone has more...they will buy...juices, yogurt, and ham.

or have access to a breast pump (1 out of 11)

they probably had equipment...the convenience of pumping the milk may be easier on them to keep it, store it, freeze it (4).

One participant suggested that having more money was associated with holding a job which as a result would influence the overall infant care.

people that have money don’t have enough time to take care of their children because the majority...works.

On the other hand, having less money suggested infant feeding practices in Mexico such as giving beverages (e.g. water with sugar, tea, juice, boiled milk), or food instead of formula (2 out of 11).

there are a lot of people that give water with sugar to their baby because there is no money or they give them tea or a little bit of orange juice, because they cannot make ends meet...We suffered. My mom says that she raised us with just water, a lot different from here.
(a los) 2 o 3 meses,… le empiezan a dar comida o leche de galón, la ponen hervir y ya se la dan a bebe (8). at 2 or 3 months,…they start giving them food, or cow’s milk, they boil it and give it to the baby.

A few participants shared that they gave natural homemade food (4 out of 11),

Darle comidas siempre 100% naturales y de toda (1). Giving them food 100% natural and of everything.

Trato darle más cosas naturales como bananas, pera, fruta que yo pueda moler (2). I try to give her more natural things such as bananas, pear, fruits that I can blend.

nosotros las hacemos (9). we make it.

some because it was more economical (2 out of 11),

a mi se me hace más fácil comprar la fruta cocerla y hacerla porque los gerber están un poquito más caros que la fruta o las verduras (1). to me it is easier to by the fruits and cook and make them because Gerber is a little more expensive than fruits and vegetables.

no tienes las posibilidades de comprarle todo. Lo que las demás personas les compra entonces tú lo haces en tu casa (9). you do not have the possibility to buy everything. What other people buy, you make it at home.

and also breastfeed to prevent child from being sick and save on hospital bills (1 out of 11)

Mejor se preocupa uno por estar que ellos coman bien que se alimenten bien que la leche que uno les produzca sea buena y así no gastas tanto en el hospital (1). It’s best to worry about them eating well, getting well nourished, that the milk that one produce is good, and that way, you do not waste as much money in the hospital.

Perception of Infant Feeding in Mexico: Breastfeeding, Homemade Food, Tradition, and Financial Limitations

Perception of infant feeding between Mexico and the US was considerably different. Perception of preferred infant feeding in Mexico was breastfeeding (9 out of 11),

allá en Méjico si tú no puedes comprar la leche pues dale pecho porque no hay otra solución (1). in Mexico, if you cannot buy milk, then you breastfeed because there is no other solution.

rara la que da fórmula (3). rare are the ones that give formula.

En Méjico...son alimentados más que nada por leche materna... Leche materna...es más fácil...Es gratis (se rie), no te cuesta (9). In Mexico...they are more than anything breastfed...It’s easier...It’s free...it does not cost you anything.
se les da, el pecho solamente (11). they only breastfeed.

and homemade food (5 out of 11).

En México nosotros nos acostumbramos a cocer verduras y molerla en la licuadora (1). In Mexico, we are used to cook vegetables and blend them.

nosotros hacemos las comidas (9). we make the food.

Perception of breastfeeding trends in Mexico were related to culture and tradition (6 out of 11) as mentioned in earlier paragraph as well as financial and governmental help limitations in Mexico (10 out of 11).

Many participants suggested that many people do not have money to buy formula (10 out of 11).

en México... somos personas que a veces no tenemos lo necesario para poder darle más de lo que los bebes necesitan, y por eso muchas dan su pecho (3). in Mexico...we are people that sometimes do not have what is necessary to be able to give more than the babies need, for that reason, a lot breastfeed.

porque a veces no había para comprar leche (5). because sometimes there would not be money to buy milk.

hay mucha pobreza en México a veces por no comprar la leche o por falta de dinero prefieren amamantarla (6). there is a lot of poverty in Mexico. Sometimes to not buy the milk or for lack of money, they prefer to breastfeed.

Dan pecho en México en los primeros 6 meses porque la gente es muy pobre. No tiene para estar comprando leche (7). They breastfeed in the first 6 months because people are very poor...they don’t have money to buy milk.

Although they have the organization DIF in Mexico, it is not equivalent to WIC (5 out of 11).

Por lo económico también. Porque en México...Si aquí es difícil económicamente, acá es peor (2). For economic reason as well. Because in Mexico...if here it is difficult economically, over there it is worst.

es muy difícil en México. Difícil encontrar trabajo. Aquí es más fácil encontrar trabajo.... hay muchas oportunidades que te...que hay para que te ayuden con los bebes... el WIC, te dan Medicaid para que puedas curar a los bebes, allá no. Si no tienes dinero, no te lo curan (3). it is very difficult in Mexico to find work. Here it is easier to find work...there are a lot of opportunities to help babies...WIC, they give you Medicaid to cure babies, over there no. If you do not have money, they do not cure them.
It might be also that they don’t have programs like they have here (WIC) (10).

la verdad no hay mucho dinero para comprar formula. Allá no la dan como aquí...el WIC le ayuda a uno y se la dan y allá no hay esa ayuda que dan aquí (8). the truth is that there is not a lot of money to buy formula. Over there, they do not give it like here...WIC helps and give formula and over there they do not provide the help they do here.

la leche en polvo o leche... es cara porque nadie te la da... Casi en México es muy poco donde te ayudan con cosas así (9). formula ...is expensive because no one gives it to you...In Mexico, there are few places that help you with things like that.

For instance, one participant said that it does not help with food, and it is only available in big cities.

it seems like everything is in the big cities and nothing really reaches out to the neighboring little communities (10).

So in participants’ opinion, there is no other choice than to breastfeed (3 out of 11) or give beverages or food instead of milk (2 out of 11). One participant suggested that some believe that baby grows healthier with vitamins in food.

“ya debe de comer, para que crezca sano” eso lo dicen...Porque las vitaminas del caldo de frijoles, del caldo de pollo, que pollito, que verdura... dicen que es saludable. Yo sé que es saludable pero no tan temprano (8). they say: “he/she should already eat to grow healthy”... that the vitamins in the bean broth, chicken broth, chicken, and vegetables, are healthy. I know that it is healthy, but not so early.

Also, as mentioned in previous paragraph, participants explained the perceived breastfeeding trend in Mexico because it is considered to be healthier for the infant (4 out of 11)

Perception of Infant Feeding in the United States: Formula Feeding, Store Bought Foods, Busy Lifestyle

Perception of preferred infant feeding in the US was formula feeding (9 out of 11).

Yo creo que aquí la mayoría dan formula, que no amamantan (5). I think that the majority here give formula, that they do not breastfeed.

One participant pointed out that Hispanic born in the US breastfeed less because of their American upbringing.
muchas crecen con la mentalidad de que son nacidas aquí...como gente americanas, y también eso influye en ellas. ...la mayoría de ellas dicen que “es difícil” (dar pecho) tienen malas experiencias (9). many grow up with the mentality that they were born here...like American people and that influence them...The majority says that it is difficult (to breastfeed), they have bad experiences.

Another participant suggested that mothers either breastfeed or formula feed, alimenta bien con pecho que con formula (3). they feed with breast milk as much as with formula.

and one participant perceived that the majority breastfeed as they are able to pump their milk when going to work.

Muchas...dan pecho y algunas no porque hay muchas que trabajan...Hay mujeres que se la sacan para irse a trabajar (6). A lot breastfeed and some don’t because many of them work...There are women that pump milk to go to work.

Store bought food such as Gerber and inadequate feeding choices (frequency of meals and type of food) were also associated with infant feeding in the US (2 out of 11).

les dan un poquito de comida muy fuerte a un bebe. Todavía su organismo no está preparado para una comida tan fuerte...para que les des 3 veces a comer al día (1). they give babies a little bit of very strong food. Their body is not ready yet for such strong foods...for being fed three meals a day.

comen muchas cosas procesada para su edad (11). they eat a lot of processed things for their age.

Many participants associated formula feeding with a busier lifestyle in the US related to both men and women working (5 out of 11).

Aquí la mayoría usa la formula... Por cultura y el estilo de vida de aquí. La vida aquí es más rápida (2). Here the majority use formula...For cultural reason and the lifestyle here. Life here is faster.

he visto que más con formula... porque muchas mamás trabajan (8). I have seen that more (feed) formula...because a lot of moms work.

they’re bottle fed with formula...especially if the moms work or they have other kids around the house...they’re gonna look for the easiest the fastest way of doing something (10).
A few participants suggested that breastfeeding is not a tradition or part of the culture (2 out of 11). Participants also perceived convenience as an incentive for mothers in the US to feed formula. Participants thought that mothers in the US used formula because it is more practical, easier and faster (8 out of 11) and because there is no need to battle (4 out of 11).

le dan mucho formula... que a lo mejor alguien les dijo que duele muchísimo o porque es una forma más práctica de mover la leche (1). they give them formula a lot...maybe someone told them that it hurts a lot or because it’s more practical way to move milk around.

el dar pecho implica dolor...algunos casos están sangrando los pezones...muchos jóvenes... no quieren...es práctico. No les quita tanto tiempo...es más rápido... les da pena sacar el pecho cuando están en la calle. Te ahorras trabajo. La leche de liquida...no batalla con el bebe (2). breastfeeding implies pain...sometimes nipples bleed...lots of young people...don’t want...it is convenient. It does not take too much of their time...it’s faster...They feel embarrassed to breastfeed outside. It’s less work. With formula...you don’t struggle with the baby.

in the same day care center...out of these 3-4 years I’ve seen maybe 1 child that got breast milk... it didn’t take long for that mom to stop doing it. ...that’s just the convenience of the formula that a lot of the kids do get the formula (4).

la mayoría dan formula...es más fácil hacer la teta y dársela que estar ahí donde sea a darle pecho...así no batallan (5). the majority give formula...it is easier to prepare the bottle and give it to them rather than to breastfeed where ever...that way they don’t struggle.

he visto que más con formula... porque muchas mamás trabajan...porque dice que batalla mucho...otra porque le dolía (8). I have seen more feed with formula...because a lot of moms work...because they say they struggle a lot...others because it hurts.

A few participants suggested that negative experience breastfeeding such as pain may also motivate mothers to give formula (4 out of 11). Preserving physical appearance was also mentioned as a reason why women may choose not to breastfeed (5 out of 11). Not wanting to give up a vice (such as drinking or smoking) was also brought up by one participant as a reason for not breastfeeding.

la juventud no quiera dar pecho también por belleza (2). young people don’t want to breastfeed for beauty reasons.
muchas personas lo hacen por eso porque no queda uno igual (después de que le da a uno pecho) y prefieren la formula (7). a lot of people do it because they do not look the same and they prefer formula for that reason.

la forma en que después de que das pecho quedan tus pechos (9). the way the breast become after breastfeeding.

personas que piensan mucho en el cuerpo...no están casadas ni tienen hijos (decían que) me iba a desfigurar (3). people that think a lot about their body...that are not married or do not have children...(they would tell me) that I was going to get disfigured.

no quieren que les pase nada...(que los pechos) Se hacen flojos (5). they don’t want anything to happen to them (that breasts) get loose.

I’ve also known a lot of people who’d do those things, so they don’t want to give up their vices so they prefer to just bottle feed (10).

Modesty was also identified to explain the greater use of formula in the US as many participants expressed how challenging it can be to breastfeed in public (4 out of 11).

Grandmothers: Primary Reference, Breastfeeding Advocates

Grandmothers were identified as the number one source of breastfeeding support (benefits and useful tips). Grandmothers were portrayed as encouraging breastfeeding (8 out of 11) (Table 10).

Table 10. Infant feeding reference major themes and concepts within themes.

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<tr>
<th>Major Themes</th>
<th>Major Concepts Within Themes</th>
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<td>Grandmothers: primary reference, breastfeeding advocates</td>
<td>Breastfeeding advocates, trusted reference, primary technical support</td>
</tr>
<tr>
<td></td>
<td>Primary reference for other feeding (formula, solid foods)</td>
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<tr>
<td>WIC: major source of breastfeeding/feeding information</td>
<td>Breastfeeding benefits</td>
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<td></td>
<td>Timing of solid food</td>
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<tr>
<td>Doctors: reference for infant weight adequacy</td>
<td>Main reference for infant weight adequacy</td>
</tr>
<tr>
<td></td>
<td>Favorable to breastfeeding</td>
</tr>
<tr>
<td>Hospital: preliminary breastfeeding techniques</td>
<td>Breastfeeding techniques and practical tips</td>
</tr>
<tr>
<td>Importance of feeding experience on perception</td>
<td>Family members and personal experience influencing infant feeding decision</td>
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</tbody>
</table>
Grandmothers seemed to provide information on the benefits of breastfeeding (6 out of 11) such as infant health, mother-infant bond, and convenience.

el pecho, que es más saludable, más para ellos y más practico también para uno, tanto para ayudar a recuperarse uno, bajar de peso..., que no hay que traer mamila..., simplemente se la da y eso es todo (11). breast, is healthier, it’s more for them, and also more convenient for you, not only to help you recover, but also lose weight..., there’s no need to bring bottles..., you just breastfeed and that’s it.

mi mamá me decía que ellos nos conocen por el olor (1). my mom told me that they recognize us by smell.

lo haces porque tu mamá te he dicho que es muy bueno que le des pecho porque no se enferman (1). you do it because your mom told you that it’s very good that your breastfeed, because they don’t get sick.

mi mamá fue a visitarme en el hospital y ella me dijo…que los primeros 8 días cuando uno lacta al bebé no es leche sino son los colostros que es lo más importante que el bebe tiene que tomar. Entre más colostro tome mejor (1). my mom came to see me at the hospital and she told me…that the first 8 days, when you produce milk, it is no milk but colostrum which is the most important thing that the baby needs to consume.

Mi mamá siempre nos dijo que era mejor la leche materna… Ella me regañó cuando deje de darle… me decía que tenía que batallar, que no iba a ser fácil, que si no lo hacía, tal vez la niña iba a ser más propensa a estar enferma. Me regañaba porque no me alimentaba (2). My mom always told us that breast milk is better…She scolded me when I stopped breastfeeding…she told me that I had to fight, that it was not going to be easy, that if I did not do it the girl was going to be more prone to be sick. She scolded me because I did not eat.

que le diera pecho… yo no podía y ella dijo que entonces lo tratara con la fórmula (3). (mother said) to breastfeed…I could not and she told me to try formula then.

Me decía que le diera pecho que era mejor amamantar…Está uno más cerca, pegados a ellos. (5). She told me to breastfeed, that it was better…You are closer, more attached to them.

Ella me decía que le diera pecho, que era bueno para el bebe. Que así no se va enfermando, iba a tener defensas y va a crecer más sano, y…se va a sentir seguro conmigo (6). She told me to breastfeed, that is was good for the baby. That way he doesn’t get sick, he was going to have more defenses and he was going to grow up healthier, and…he’s going to feel safe with me.

me aconsejo darle el pecho…tiene todos los nutrientes que ellos necesitan y te acercas de esa forma más de tu bebe también (9). She advised me to breastfeed…it has all the nutrients that they need and that way you also get closer to your baby.
Grandmothers were also a primary source of practical breastfeeding tips (5 out of 11) such as positioning, frequency, duration troubleshooting.

*mi mamá me dio consejos de cómo hacerle para dar el pecho (1)*. My mom advised me on what to do to breastfeed.

*ella me dijo yo a todas mis hijas les di un año pecho porque está... suficiente (1)*. She told me I breastfed all my daughters one year because it is...sufficient.

*cuando...se me agrietaron los pechos, me dio una solución para que se dejaran de agrietar (1)*. When...my breasts got fissured, she gave me a solution so they would stop getting fissured.

*Holding them was a big deal...making sure that the formula wasn’t too hot or too cold... the right amount, when to burp him (4)*.

*(Suegra) Me dio consejos de cómo alimentar al bebe y todo...Me decía... de que formas posiciones para alimentarla y más o menos a qué horas para saber cuándo tiene hambre (6)*. (Mother in law) She gave me advice on how to feed the baby and everything...She told me...positions to feed her and more or less at what time to know when she is hungry.

*me decía que cuando el baby abriera bien la boca le... se la pegara más y...que no me desesperaba, que a veces pasa hasta que él se acostumbre a dar que...es diferente la mamila del pecho (9)*. She would tell me to latch him on when the baby would open wide his mouth...not to get frustrated, that sometimes it happens until he gets used to it...that the bottle is different from the breast.

In regards to feeding formula and solid foods, grandmothers also played an important role. For some participants that formula fed, grandmothers guided them (2 out of 11) on formula type, quantity, timing, and temperature. In terms of solid foods, grandmothers advised on the type of food to give and timing (6 out of 11).

*mi mamá me dijo que el niño estaba muy chiquito para que yo le diera de comer tan temprano (1)*. My mom told me that he was very small to give him food so early.

*Mi mamá decía que no necesitaba tanta comida, que lo más importante era la leche porque la leche le daba vitaminas y energía suficiente (1)*. My mom said that he did not need so much food, that the most important was the breast milk, because the milk would give him enough vitamins and energy.

*mi mamá siempre nos dijo las lentejas son muy buenas (2)*. My mom always told me that lentils are very good.
ella me ha ayudado mucho...que le diera, que no le diera... cuando le diera su leche la parara y le golpeara su espaldita para que eructara... que no le diera comida,... que le diera Gerber o comida de bebé... que le tratará de dar poquito cuando tuviera tres meses... Que tratará de darle agua,...jugo, pero que no se lo diera muy dulce (3). she has helped me a lot...what to give or not give her...when I would give her milk (formula) to stand her up and to tap her Little back to burp her...to not give her food, ...to give her Gerber or baby foods...to try to give her a little when she would be 3 months old...to try to give her water, ...juice, but not to give it to her to sweet.

le preguntaba a mi mamá “que le puedo dar” y ella me decía “dale esto...” (5). I asked my mom “what can I give her” and she would tell me “give her that”.

Me dice que tiene que comer a cada ratito y que si está dormido y yo sé que ya paso un buen rato lo despierte para que coma...que no darle... porque está muy chiquito. Me aconsejo darle el pecho... darle pecho es más fácil (9). She tells me that he needs to eat every so often and that if he is asleep and I know that a long time has passed, to wake him up to feed him...what not to give him...because he is very Little. She advised me to breastfeed...breastfeeding is easier.

She would always tell me “he needs more because he’s growing”. (She was) making sure also that we would feed him at the same hours of the day everyday so that he would get used to it. (10).

my mom started giving him water when he was 4 months old (10).

While grandmothers play an important role in terms of infant feeding support, a few participants mentioned how distance would sometimes attenuate the extent of their participation (2 out of 11)

cuando yo tuve el niño yo estaba acá. Y mi mamá no podía venir para acá (1). when I had the baby, I was here, and my mom could not come here.

A veces no puedo tener la comunicación con mi mamá como quisiera que ella está en Méjico (2). Sometimes I cannot communicate with my mom since she is in Mexico.

**WIC: Major Source of Breastfeeding/Feeding Information**

Many participants also identified WIC as a major source of breastfeeding information (benefits), as well as timing of food introduction. Many participants were encouraged to breastfeed by WIC (5 out of 11) who offered information and helped participants better understand those benefits (6 out of 11) such as infant health as a whole.
El objetivo era que yo le diera leche materna. Era lo que ellas querían...que era mejor (2). The objective was that I breastfeed. It was what they wanted...that it was better.

En el WIC, me dieron información...me han dicho que es lo mejor para el bebe (6). At WIC, they gave me information...they told me that it is best for the baby.

me ayudaron con volver a dar el pecho al niño (7). they helped me to breastfeed the boy again.

Me aconsejaron que para que el pudiera agarrar el pecho, usar a la breast pump más seguido... Me dijeron que si estaba bien si darle de los dos formula y pecho, pero que me recomendaron más darle pecho (9). They advised me so that he could latch on, use the breast pump often...They told me that it was okay to both breastfeed and give formula, but they recommended breastfeeding more.

...midwives...WIC ... healthcare centers ... the hospital, they would just school you as to why breastfeeding was so good for the baby, brain function and everything like that, and the bond as well between the mom and the baby...so a lot of people would tell me about that (4).

era mejor alimentar con leche materna que con formula porque se enfermaba menos (5). it was better to breastfeed than to feed formula because they get less sick.

me han dicho que tiene toda las vitaminas y propiedades que el bebe necesita para crecer (8). they told me that it has all of the vitamins and properties that the baby needs to grow.

ayuda tanto a mantenerse menos enfermos, menos infecciones, y es más práctica para ellos que la formula. No batalla uno andar cargando mamilas (11). it helps so much to keep them less sick, to get fewer infections, and it is more convenient for them than formula. You don’t struggle carrying bottles around.

A few participants also said they received some breastfeeding advice on positioning (2 out of 11), what to do to increase milk production (1 out of 11), or the use of rubber nipples (2 out of 11), or pump when baby has difficulty latching on (1 out of 11).

trataron de decirme que hiciera para que saliera...que me diera masajes, que tomara muchos líquidos...trataron de comenzar de que regresara a darle la leche materna (2). they tried to tell me what to do so that it would come out...to give myself massages, to drink a lot...they try to get me to breastfeed again.

WIC que se encarga como de ayudarte a acomodársela. Me dieron... para ayudar para que tome...bien el pezón, un plasticito (pezón de goma) (11). WIC that helps you position her gave me a rubber thing so that she would latch on the nipple.
me dieron un pezón de goma. Y ese yo me lo ponía, y ella lo agarraba (5). they gave me rubber nipples. I would put them on and she would latch onto them.

Participants seemed to also take into account advice on solid food feeding (5 out of 11) such as timing, quantity, and forbidden foods.

ellos te dicen lo que es conveniente para los bebes a tal edad a comer (2). they tell you what is convenient for the babies at certain age to eat.

they always had these little brochures that say the different stages (4).

Me dijeron WIC ya le podía empezar (dar de comer)... Gerber a los 5 meses. Cereal a los 6 meses. (Participante empezó dar) caldito de pollo o de los frijoles... a los 4-5 meses. Aunque (WIC) me decia que no le debería de dar (5). WIC told me that I could start (giving food)...Gerber at five months, cereals at six months. (Participant started giving) chicken or bean broth...at four-five month, Even though WIC told me that I should not.

WIC gave me what I should and should not be feeding him. When to introduce the actual juice, when I should actually start feeding him, what I should be feeding, how much I should be feeding (10).

**Doctors, Reference for Infant Weight Adequacy**

Although doctors were acknowledged as favorable to breastfeeding (5 out of 11),

me dijo que estaba muy bien dándole (pecho)...un año es lo que el doctor te recomienda (1). he told me that it was very good to breastfeed...a year is what the doctor recommends.

como dice el doctor, la mejor alimentación del bebé es el pecho (3). as the doctor says the best form of feeding is breastfeeding.

**it’s so imbedded in your head...from the hospital and your midwives and doctors that breastfeeding is so much better for the baby and health wise so...you probably would want to do breastfeeding (4).**

por lo que me dijo la doctora que es mejor ...la doctora (told participant) “dale pecho, dale pecho”... cuando le dije que le daba por 3 años, y me dijo que estaba muy bien (8). because the doctor told me that it’s better...the doctor (said) “breastfeed”...when I told her that I breastfed for three years, and she told me it was very good.

**Es lo que dice el doctor, que es mejor (9). It’s what the doctor says, that it’s better.**

they were mostly identified as the main reference for infant weight adequacy (7 out of 11).
todo está bien, porque el Dr. siempre me dice que está bien (1). everything is good because the
doctor always says that he is good.

I usually go by what the doctor says (4).

Cuando voy al doctor me dice (5). When I go to the doctor’s office, he tells me.

pregunto a la doctora (si las medidas están adecuadas) (8). I ask the doctor (if the
measurements are adequate).

Other than that, a variety of advice stemmed from the Doctor’s office, such as using formula
instead of cow’s milk after 12 months (1 out of 11), giving formula to complements mothers’
milk as they are equivalent in protein (1 out of 11), start giving food at four months (1 out of 11),
or not to give manzanilla tea to the baby (2 out of 11).

(la participante uso formula) Porque el doctor me dijo que la leche de galón estaba muy pesada
para el (1). (participant gave formula at 12 months) Because the doctor told me that cow’s milk
is very heavy for him.

el doctor me había dicho que era bueno, si no me salía mucha leche, pues estarle dando la
fórmula... porque cierta fórmula tienen casi las proteínas que tiene la leche materna. No
completamente pero es muy cerca (2). the doctor told me that it was good, if not a lot of milk
was coming out, to give her formula...because some formula have almost the same proteins than
the breast milk. Not completely, but close enough.

cuando cumplió cuatro meses el doctor me dijo que ya podía empezar a dar más (comida) (1).
when he turned four months old, the doctor told me that he could start getting more (food).

pregunte al Dr. de la manzanilla y él me dijo que no la necesitaba (2). I asked the doctor about
chamomile and he told me that he did not need it.

En México, en parte de los países que... le dicen a uno darle té de manzanilla... y la doctora aquí
dice que no le debe dar uno nada (8). In Mexico, in some parts of the country...they tell you to
give chamomile tea...and the doctor here say that you should not give anything.

Hospital, Preliminary Breastfeeding Techniques

Information obtained from the hospital appeared to be mostly technical. Participants were given
advice on positioning techniques to help baby better latch on (3 out of 11). Also they were
recommended to use a breast pump (2 out of 11) when baby had difficulty latching on or to
better assess their production. One participant was told that breastfeeding frequency will
increase production.

*una enfermera me enseño dos técnicas de cómo hacer para que el agarrara el pecho (1).* a nurse
showed me two techniques so that he could latch on.

 Una enfermera era la que me acomodaba la niña, porque a veces no podía o me desesperaba
(2). A nurse would position the girl, because sometimes she could not and I would get frustrated.

*en el hospital, la doctora no más me ayudó, me enseño como y ya (8).* at the hospital, the doctor
only helped me, she showed me how, and that’s it.

*en el hospital me dijieron que ella tenía que tomar 2 oz diarias (2).* at the hospital, they told me
that she should consume two ounces a day.

*me dieron la breast pump y me dijieron como usarla y lo que debería de hacer para que él podia
agarrar de pecho (9).* they gave me a pump and told me how to use it and what I should do so
that he could latch on.

*(to be able to better judge milk production)* The advice they gave me was if I was comfortable
with pumping the milk *(4).*

*me dijeron las enfermeras entre más succiona ella, más produce la leche (2).* nurses told me the
more she suckles, the more milk gets produced.

**Importance of Feeding Experience on Perception**

Overall, feeding experience seemed to have an important influence on participants’ perception of
infant feeding *(9 out of 11).* Infant health and feeding tolerance validated the participants’ infant
feeding choice whether it was a negative perception of family member’s experience

*breastfeeding for three years (1 out of 11),

*vivi la experiencia con una de mis hermanas... dando tres años pecho a su “baby”, y la niña no
puede estar sin ella...dándole a un niño más tiempo no se ve feo pero que si es algo grotesco...Y
entre más chico les quita el pecho menos dependiente a ti seas. Un año para mi es fundamental
(1).* I experienced it with one of my sisters...breastfeeding her baby for three years, and the girl
cannot be without her...breastfeeding a child for more time does not look ugly but it does look
grotesque...the earlier you wean them the less dependent they are. In my opinion, a year is
fundamental.

*formula feeding (3 out of 11),

*formula feeding (3 out of 11),*
That it (formula)’s healthy. My three kids are healthy and they used it...None of my 3 kids, they hardly ever spit up. They took it down very well. They burped healthy (4).

Porque al bebe le ha resultado bien (6). Because it has benefited the baby.

or breastfeeding (7 out of 11).

uno vea, a tu mamá, ves a tus hermanas, ves a tus amigas dando pecho y entonces se hace algo de tradición (1). you see you mom, your sisters, your friends breastfeeding and then it becomes a tradition.

con la experiencia que yo tuve de mi niña decidí darle a mi niño (1). with the experience I had with my daughter, I decided to breastfeed my son.

si tuviera otro hijo, otra vez le daría el pecho, porque es muy bonito (1). If I had another child, I would breastfeed again, because it is very beautiful.

creo que mis hermanos sean alimentados por el pecho fue algo muy importante porque si no como hubiéramos crecido saludable porque realmente ninguno de mis hermanos se enfermó.... Mi hija no se enfermaba ninguna vez desde que nació (2). I think that the fact that brothers were breastfed was something very important because otherwise how would have grown up healthy because none of my brothers really ever got sick...My son never got sick since he was born.

los míos nunca se han enfermado (7). Mine never got sick.

Mi otra hija le di tres años pecho y gracias a Dios nunca se me ha enfermado (8). I breastfed my other daughter for three years and thank God she never got sick.

Mi experiencia, la primera vez que lo hice con mi otra hija, estuvo bien fácil (9). My experience, the first time I did it with my other daughter, it was really easy.

My kids are never sick. So I think that’s one of the best things that I could have done for them (10).
Although the participants’ breastfeeding initiation rate (91%) exceeded the 1998 baseline data used by NHANES for Hispanic (66%, 28%, and 19% respectively), and the Healthy People 2010 target goals for breastfeeding initiation (75%), there is still room for improvement to reach the Healthy People 2010 target goals for breastfeeding at six months (44% rate vs. 50% goal) and breastfeeding exclusively at three months and six months (9% rate vs. 40% goal and 9% rate vs. 17% goal respectively) (37).

As the majority of the participants were born in Mexico, some may have left their extended family/social network which seems to perceive breastfeeding as a norm in studies (21, 22, 60) or as a tradition as often described by participants in this study. As seen in this study and in the literature, a grandmother’s support seems to positively influence the initiation of breastfeeding (41). However, even though grandmothers were portrayed as advocate of breastfeeding, they did not always manage to help participants overcome challenges that often led them to discontinue breastfeeding and/or introduce formula as evidenced by breastfeeding duration and exclusive breastfeeding rates in this study (Table 6 and Appendix D). The extent of the grandmother’s influence was sometimes limited due to the fact that they were abroad, which may have restricted hands on assistance such as latching techniques which can be detrimental in breastfeeding longevity, diminishing pain, and improving breastfeeding efficiency, thereby reducing mothers’ insecurities about milk production.

A study has found that two weeks of daily breastfeeding telephone support did not help increase the breastfeeding duration, and instead formula was used to resolve breastfeeding issues
Such findings reinforce the evident need for hands on support in the early breastfeeding phase, beyond the hospital setting. Instead, the hospital was identified as the main reference for breastfeeding techniques, but after discharge, rather than getting hands on follow up education, at WIC and doctors’ offices, participants were provided infant feeding information and reference for weight adequacy. Breastfeeding is a team effort from mother and baby, and they need coaching beyond the hospital setting. As demonstrated in previous studies, women that were not confident in their breastfeeding ability were more likely to discontinue breastfeeding early on, which reinforces the importance of resolving mother’s breastfeeding issues in order to increase the mother’s sense of breastfeeding self-efficacy (68, 69). As suggested in a literature review, studies have found such strategies to be more effective than increasing breastfeeding knowledge (70). More specifically, counseling should focus on first assessing the mothers comfort with breastfeeding using tools such as the Breastfeeding Self-Efficacy Scale – Short Form (71) and customize counseling based on her needs using methods such as role playing and problem solving (72, 73)between mother and baby to resolve breastfeeding issues and increase the mother and baby’s breastfeeding confidence. Weekly pediatrician’s visit in the infant first month of life would be a great opportunity for such early intervention.

In this study, the percentage of working participants (37%) was the same as for Mexican-American population in the workforce according to the US department of labor (43). A Mexican study found that breastfeeding rates were lower for infants whose mother worked in comparison to stay at home mothers (Table 4) (52) Although employment was low in this study, it was perceived as a major obstacle to breastfeeding (30) especially for individuals working in factories and in the field, which limited the use of breast pump and consequently added an additional hurdle to breastfeeding longevity. Also, one wonders if in an effort to assimilate to
the American culture, women of Mexican heritage may feel like they “cannot have it all”, that they have to make a choice between entering the work force to improve their families’ economic and social status, or preserving their Mexican infant feeding heritage of breastfeeding to insure infant well-being.

_Y en la vida no se puede tener todo._ In life, you cannot have it all.

_A veces nosotros batallamos por cosas materiales porque no tenemos sillones, porque no tenemos una cama, porque no tenemos esto, pero tenemos a nuestros hijos y nuestros hijos valen más que un sillón o una cama._ Sometimes we struggle for material things, because we don’t have chairs, we don’t have a bed, because we don’t have that, but we have our children and our children are worth more than chairs or a bed.

_A una cosa por otra porque tener una carrera o un diploma te ayuda mucho, te abre muchas puertas, pero también te cierra una que yo pienso que es la más importante...tu hijo tu vida._ It’s a tradeoff, because having a diploma or a career helps you a lot, it opens a lot of doors, but also it closes one that I think is the most important...your child, your life.

A study found that affluence had a negative impact on breastfeeding practices in newly immigrants and that lower income had the opposite effect (24). Another study found that breastfeeding rates were greater in the low socio-economic level in Mexico (Table 4) (52). On one hand, in this study, most participants did not perceive affluence as a factor in infant feeding decision in the first six months but rather in the food given thereafter. On the other hand, some participants associated affluence with mother’s employment, which was perceived as an obstacle to breastfeeding. Also, in this study, although all participants had lower income as they all benefited from WIC which requires an income between 100% and 185% of poverty level, it did not seem to positively impact breastfeeding practices, as suggested in the Singh et al. study, since the breastfeeding rate in this study were comparable (Appendix D) to the breastfeeding rate for affluent immigrant parents with a US-born child (income ≥ 400% of poverty level) in the Singh et al. study (93.6% breastfeeding initiation and 53.3% breastfeeding at six months).
In a study estimating the prevalence of exclusive breastfeeding in Mexico (51), the rates at four and six months were lower in the RO group (Urban) which had access to formula once a month for six months thanks to social security laws (24% and 18% respectively) than in the Solidaridad group (Rural) which did not have access to formula (46% and 37% respectively). In this study were all participants had access to formula through WIC, regardless of living environment (Urban vs. Rural) the rates of exclusive breastfeeding was even lower at four and six months (9% and 9% respectively) as nine out of 10 participants chose to introduce formula before four months either when going out or when milk production was perceived to be inadequate. In this study, one wonders if the even lower exclusive breastfeeding rates could be attributed not only to WIC participation, which has been associated in a previous study to lower breastfeeding rates (45), but also to the participants’ perception that formula is more socially acceptable in the United States than in Mexico. As Ryan et. al suggest in their study, infant feeding in the foreign-born population may initially be influenced by the perception that formula feeding is a preferred infant feeding practice in the US where formula feeding rates are still high(50). Actually, participants in this study perceived formula feeding as a norm by choice in the United States. Participants considered that mothers in the United States chose to give formula because it is convenient, as their busy lifestyle requires convenience, and because they can thanks to WIC. Whereas, participants considered breastfeeding to be a norm in Mexico, not only because of tradition, but due to economic hardship which makes breastfeeding the only option. Such perception was somewhat consistent with the 1999 National Nutrition Survey in Mexico (52) which indicates rates of breastfeeding initiation (92.3%), breastfeeding at six months (52%) and 12 months (41%), above the Healthy People 2010 goals (75%, 50%, and 25% respectively) (37). Also the perception of formula being a norm in the United States may be
related to the breastfeeding rates in Ohio at the time according to the CDC 2009 Breastfeeding Report Card in Ohio which shows breastfeeding rates (initiation, duration, and exclusive) below the national average (74). However, the perception of breastfeeding being the only option in Mexico also somewhat contrasted with the 1999 National Nutrition Survey in Mexico indicating low exclusive breastfeeding rates at three and six month (16% and 6% respectively) (52), although, it was not specified in that survey whether exclusive breastfeeding was interrupted by formula or other type of nutrition. It was quite surprising to find out that the participants’ perception of familiar infant feeding environments did not necessarily correspond to actual national infant feeding data.

Unlike studies that found that the time spent in the US had a negative impact on initiation and duration of both exclusive and any breastfeeding (28) and suggested that culturally driven breastfeeding attitudes and practice in Hispanic might change with acculturation (46), we could not establish such pattern as the negative correlation found between acculturation and breastfeeding longevity was weak (-0.38 after excluding participants that were still breastfeeding) and this was a very small, convenience sample. Also, regardless of acculturation score, participants in this study all introduced formula in their infant diet. Such feeding pattern was actually found in a previous study conducted in four different regions of Mexico, where 59-73% of infant were fed formula during the first week of life (75), although reasons were not explored. Cultural factors, which may inhibit exclusive breastfeeding in the Hispanic community were identified in this study and have been discussed in this chapter (i.e. modesty, perception of insufficient milk production, etc.)

For the women in our study, experience appeared to be a determining factor in infant feeding choices. If a participant had been breastfed or had breastfed a sibling, most
breastfeeding experience, despite the disadvantages perceived, compelled participants to breastfeed their child(ren). Such pattern was seen in a study where recruitment rate of any breastfeeding was greatest in foreign-born Hispanic mothers (50-60%) which was suggested to be related to the propensity to go back to cultural infant feeding value favoring breastfeeding along with culturally sensitive breastfeeding education (49). Also another study found that experience tends to benefit breastfeeding self-efficacy (69).

Although a study found that parents tend to underestimate the body size of their child and to worry more about boys being underweight and not eating enough food (61), such perception did not appear in this study, as participants seemed for the most part to base their opinion on objective data provided at Doctor’s or WIC office.

Comparable obstacles to breastfeeding were perceived as in other studies, including modesty, pain, (32, 33) time constraint (33), insufficient milk production (28, 30), maternal employment (28), breast change, and diet restriction (32) but not so much the mother or infant desire to stop breastfeeding (28), although it was the case for one of our participant.

The addition of formula to breastfeeding was often justified by the uneasiness to breastfeed in public and the insecurity about breast milk adequacy (volume and quality) which is described in another study as providing the “best of both” to ensure adequate supply of vitamins, which breast milk may be lacking (30). Although participants perceived others to use formula for reasons such as preserving physical appearance, wanting convenience, and not wanting to struggle (batallar), they justified their own use of formula because of pain, modesty, and inadequate milk production which was described in the Bunik et al. study as a more socially acceptable than admitting that it was difficult. While it is considered inappropriate for a health professional or a social worker to make a mother feel guilty (38) about introducing formula in
order to not struggle with breastfeeding, some grandmothers seem to not hesitate to speak their mind as seen in the Bunik et al study, where some grandmothers associated formula feeding with the mothers’ laziness (32), and with one of our participants’ mother who reprimanded her daughter when she considered giving up breastfeeding while also giving her the means to overcome this hurdle, essentially taking care of her so that she could in turn succeed to breastfeed her baby. This example illustrates the potential benefits of *la cuarentena* (time when the new mother is relieved of her household duties to allow her to rest after the birth and focus on the newborn). It seems like it would be appropriate to use *la cuarentena* to help the mother reach sufficient milk supply during this period and promote exclusive breastfeeding as suggested in a prior study (59).

A surprising finding in this study was the participants’ uneasiness to breastfeed in public when, for the majority, breastfeeding was perceived as a norm in their native country, and laws protecting breastfeeding in public exists in 96% of the U. S. including the state of Ohio (74). It is important to note that some participants’ modesty led them to feed formula to their baby, when they would not have used formula otherwise. One participant seemed to strongly dislike the idea of having to breastfeed her child in the restroom when we would not consider a restroom as a sanitary place to eat for ourselves. In another study, working mothers seemed to feel the same way, as they would report discarding the milk they pumped mostly because they pumped in bathrooms which were perceived unsanitary (32). Part of infant feeding education should emphasize the civil rights of a mother to breastfeed their infant in public as well as providing mothers civil response to critics that may make them feel obligated to hide in the restroom to breastfeed or pump. However, for non-English speaking mothers who may not be comfortable communicating their rights due to the language barrier, it might be easier to avoid confrontation
and hide in a restroom or ultimately resort to formula. Therefore, increased public awareness of breastfeeding rights seems to be the ultimate solution to this problem and would benefit mothers of all cultures. Such strategy may be promising as seen from the 2004 National Breastfeeding Awareness Campaign Results (76), which indicate that men and women appeared more comfortable seeing a child being breastfed as well as having their own child breastfeed in public after seeing the Public Service Announcement.

**PRACTICE RECOMMENDATION**

While all mothers in this study seemed to consistently have a good understanding of breastfeeding benefits as demonstrated in other studies (32, 66, 75), they did not often identified life threatening effects of not breastfeeding for both mothers and infants. A few identified reduced risk of breast cancer in breastfeeding mothers, but none identified reduced life-threatening events in infant such as SIDS. The absence of awareness of life-threatening risk for an infant not breastfed was another surprising finding which leads to wonder the reasons for such omission. When formula was combined to breastfeeding, it was described more as a safety net rather than a threat to exclusive breastfeeding. As suggested by Cattaneo and Stuebe (77, 78), counseling should not only focus on the benefits of breastfeeding, but also on the health risks of not breastfeeding exclusively or formula feeding, as evidenced by the Agency for Healthcare Research and Quality meta-analysis review (79). Such strategy may have potential as a study suggests that awareness of the possible protective effect of breastfeeding against the incidence of Type 2 diabetes, which is prevalent in the Latino population, may increase their willingness to breastfeed (62).

Using mother’s concern for her infant to motivate exclusive breastfeeding may be necessary, but could also be perceived as inadequate. According to The Academy of Nutrition
and Dietetic guilt should not be used in infant feeding educational strategies, as they describe breastfeeding as a “personal decision” (38). In this study, mother’s concern about the infant well-being seemed to influence infant feeding practices as some used formula fearing that their infant was not getting what they needed. Emphasis on the risk of not exclusively breastfeeding may instead increase mother’s concern about giving formula and discourage its use. Also such strategy may help establish the image of breastfeeding as a norm rather than an alternative.

In this study, formula feeding was often perceived as an acceptable alternative to breastfeeding limitations. Such perception may have been influenced by the breastfeeding propaganda portraying the breastfeeding as best, implying that formula is a second best, as suggested in the Berry et. al study (80). Therefore, changing the breastfeeding message in such a way that it’s perceived as a requirement rather than an ideal option seems necessary. When seeing the extent to which grandmother’s advice influence infant feeding as well as its hands on limitations due to the long distance relationship, the use of Spanish speaking lactation promotoras may help complement the grandmothers’ positive influence on breastfeeding duration rate as seen in previous studies (63).

LIMITATIONS AND RECOMMENDATION FOR RESEARCH

With the small set of participant we could not possibly establish correlation between participants’ quantitative data, emerging themes that appear to influence infant feeding choices, perceptions, and beliefs. Recommendation would be to test the themes found to influence infant feeding practice in a quantitative study with a larger sample to assess the validity and measure the prevalence of the identified themes have on infant feeding.

The sample size of the study also limited the access to acculturated mothers of Mexican heritage as the majority of the participants spoke Spanish and were less acculturated (nine out of
11). Recommendation would be to conduct a qualitative study recruiting a larger sample that would be more representative of the Mexican-American population across all acculturation levels.

Follow up interview would have provided the participants’ in depth insight in regards to unique themes identified after the first interviews. It would have been interesting to further explore what solution would participants suggest in regards to modesty, and improving breastfeeding efficacy. Further studies could focus on these breastfeeding obstacles and solicit mothers of Mexican heritage suggested solutions to further understand their thought process when making infant feeding decisions.

Many factors interfere with breastfeeding success in the US and many actions have been identified by the General Surgeon to improve support for breastfeeding. Further breastfeeding research and surveillance are a few of the key actions identified (81). Surveillance of the health risk of not breastfeeding should continue to help reinforce the status of breastfeeding as fundamental. Also, further research should better establish the socio-economic impact of a society not breastfeeding vs. breastfeeding (e.g. health, economic, environmental effects). For instance would an employer be eager to support breastfeeding employees if they had access to evidence that shows that a breastfeeding friendly work environment results in reduced absenteeism related to the employee’s healthier child (82)? Also, increasing awareness regarding the breastfeeding economic benefits of breastfeeding (i.e. if 90 to 80% percent of US families breastfed exclusively for six months, per year, the United States would save in direct and indirect medical cost $13 to 10.5 billion respectively) (83) may help change breastfeeding perception and environment, thereby benefiting mothers of all cultures living in the US.
Therefore, finding out what would motivate our society to support breastfeeding would help tailor research to find compelling reasons to support and practice exclusive breastfeeding.

**CONCLUSION**

Thanks to different source (mainly experience, grandmothers, and WIC), participants appeared to have a great understanding of breastfeeding benefits. Although participants had high breastfeeding initiation rate, they all offered formula to their infant. The reasons for the introduction of formula were consistent with the literature. Also, this study provided some insight not only on infant feeding beliefs in mothers of Mexican heritage but also provided a fresh look at the infant feeding environment in the US as it was presented from a different angle, the Mexican American perspective. Since formula use was perceived as a preferred form of feeding in the US, the acculturation process may also be accountable for the formula use in Mexican Americans. Furthermore, as having more money was associated with the ability to buy more food and in greater variety, economic advancement may influence the infant feeding choice of future generations.

The contrast between the perception between the Mexican and American infant feeding environment highlights the gap there is between both perceived infant feeding cultures. Helping the mother of Mexican heritage bridge the gap to practice the best of both worlds, is the health care provider’s responsibility, as the mother’s support group may not be available, recognizing formula feeding predictors, and remedying to them early on, while involving the mother and baby in the problem-solving process. The lack of follow up and support addressing obstacles and insecurities may lead participants to introduce formula in their infant feeding. As a result, some participants end up perceiving formula as an acceptable form of feeding. Therefore, increased awareness regarding risks of not exclusively breastfeeding seems necessary to modify
perception of breastfeeding from alternative to norm. Finally, educating mothers of Mexican heritage on laws supporting breastfeeding in public, which exists in 96% of the states (74) and increasing the number of state that have legislation requiring employer to have lactation support programs in the work place, which is currently low (29% of the states), may also be helpful in bringing down breastfeeding mothers’ insecurities.
REFERENCES


APPENDIX A
CONSENT LETTER
Informed Consent Letter

Hello my name is Sabrina Pardo and I am a Food and Nutrition Graduate student at Bowling Green State University’s Family and Consumer Sciences department. You are invited to participate in a study that will focus on early infant feeding in Mexican and Mexican-American families.

The purpose of this study is to explore different aspects of infant feeding that may influence mothers on how they feed their baby. We will talk about aspects like methods of infant feeding, beliefs about infant feeding, and observation of infant feeding in the community.

The study will benefit research on infant feeding in Mexican and Mexican-American families, and help health care professionals that work with these families better understand their patients’ point of view. Only people that are Mexican or Mexican-American mothers, are at least 18 years old, and have child/children that are two years or younger can participate in the study.

I will ask you to do two interviews. We can do both interviews in English or Spanish (whichever language is more comfortable for you). The first interview will be around 90 minutes. During the first interview, I will ask you to complete a short demographic survey (also available in English or Spanish). This survey will help me better describe you as a participant. After, I will ask you questions on:

- How you have been feeding your baby since birth
- Your opinion on infant feeding practices
- How you perceive babies are being fed around you

The second interview will be around 45 minutes. During the second interview, I will ask you to read a summary of the first interview, or I will read it to you. The goal of the second interview is to make sure that the summary reflects what you meant. Also I may ask you additional questions about a topic(s) that you mentioned during the first interview. At the end of the second interview, to thank you for your participation in the study, I will give you a ten-dollar gift card that you will be able to use in a local supermarket.

I would appreciate it if you would allow me to audio record your interview and take notes during the interview. I will type and translate the recorded interviews so that I can use the data to write part of the thesis and for other work related to the research.
You do not have to be in this research study. Your participation in the study is voluntary. You can agree to be in the study now and change your mind later. You have the option of skipping any questions that you choose not to answer. Your decision to participate or not participate will not affect your relationship with Bowling Green State University or the organizations that referred you to us (Adelante or Path Stones). The risks of this study are no greater than those normally encountered in everyday life.

Also, I will make every effort to preserve your confidentiality. I will keep the notes and the recording from your interviews in a locked filing cabinet in my office. Only members of the research team will have access to the information you provide. I will use the information from this research only for the purpose of this study and any presentation or work that may result from it. I will destroy all the notes and the recording from your interviews at the end of the study. Your name will not be used in the study or any other work related to the study.

If you have any questions about the research, please contact me at (419) 372-0290 or by email at spardo@bgsu.edu or my advisor Rebecca Pobocik at (419) 372-7849 or by email at pobocik@bgsu.edu. If you have questions about the conduct of this study or rights as a research participant you may contact the Chair of Bowling Green State University’s Human Subject Review Board (hsrb@bgsu.edu, 419.372.7716).

Thank you for your time. If you agree to participate in this study, please write your name and sign on the lines below.

Participant’s Printed Name

Date

Participant’s Signature

Date
Carta de consentimiento

Hola, mi nombre es Sabrina C. Pardo y soy estudiante graduada de nutrición en la Universidad Estatal de Bowling Green en el Departamento de Estudios de Familias y del Desarrollo Humano. Usted está cordialmente invitada a participar en una investigación que se va a enfocar en la alimentación de los bebés en las familias Mexicanas o Mexico-Americanas.

El propósito de este estudio es explorar diferentes aspectos que pueden influenciar a las madres Mexicanas o Mexico-Americanas cuando alimentan a sus bebés. Hablaremos de aspectos como el método de alimentación del bebé, creencias relacionadas con la alimentación del bebé y percepción de la alimentación del bebé en la comunidad.

El estudio será de gran beneficio a las investigaciones sobre la nutrición de los bebés en las familias Mexicanas o Mexico-Americanas. También podrá ayudar a los profesionales de la salud que se dedican a trabajar con estas familias a entender mejor el punto de vista de sus pacientes.

Solo las personas que sean mayores de dieciocho años, que se identifiquen como Mexicanas o Mexico-Americanas, y que sean madre de un/a hijo/a(s) de dos años o menos, pueden participar en este estudio.

Les pediré hacer dos entrevistas. Usted puede escoger que la entrevista sea en Español o Inglés, (el idioma con el que usted se sienta mejor). La primera entrevista durará mas o menos una hora y media. Durante la primera entrevista, le voy a dar un questionario demográfico que me ayudará a identificarla a usted como participante.

Después, le haré algunas preguntas acerca de:

- Cómo ha alimentado a su bebé desde su nacimiento
- Su opinión sobre la alimentación del bebé
- Cómo cree que están alimentados los bebés a su alrededor

La segunda entrevista durará mas o menos cuarenta y cinco minutos. Durante la segunda entrevista, usted va a leer o yo le puedo leer un resumen de la primera entrevista. El propósito de la segunda entrevista será para asegurarme que el resumen refleja lo que usted quiso decir. También, puede ser que le haga algunas preguntas adicionales relacionadas a temas que usted menciono durante la primera entrevista. Al final de la segunda entrevista, para agradecerle por su participación en este estudio, usted recibirá una tarjeta de regalo de diez dólares ($10) que usted podrá usar en el supermercado.
Le agradeceré si usted me da permiso de grabar sus entrevistas y tomar notas durante las entrevistas. Transcribiré y traduciré las entrevistas para poder usar la información en el estudio.

Usted no está obligada a participar en este estudio. Su participación en la investigación es voluntaria y en cualquier momento usted puede retirar su participación. Usted tiene la opción de no contestar cualquier pregunta que no desee contestar. Su decisión para participar o no participar en este estudio no afectará su relación con la Universidad Estatal de Bowling Green u organizaciones por quien usted fue referida (Adelante o Path Stones). Los riesgos asociados con este estudio no son más grandes que los que encuentra en la vida cotidiana.

Hare todo lo posible por mantener su información confidencial. Toda la información recolectada durante sus entrevistas (escrita y grabada), se guardará en un mueble cerrado en mi oficina. Los únicos que tendrán acceso a la información serán los miembros de mi equipo de estudio y yo. Usaré la información adquirida en esta investigación solo para este estudio y cualquier presentación o estudio que surja en el futuro. Su nombre no será usado en este estudio o cualquier otro trabajo relacionado a este estudio. Toda la información recolectada durante sus entrevistas (escrita y grabada), será destruida una vez termine la investigación.

Si tiene alguna pregunta sobre la investigación, por favor comuníquese conmigo, Sabrina Pardo al número (419) 372-0290 o mi correo electrónico spardo@bgsu.edu o con mi consejera, la señora Rebecca Pobocik al número (419) 372-7849 o su correo electrónico pobocik@bgsu.edu. Si tiene preguntas sobre cómo se conduce esta investigación o sobre sus derechos como participante, se puede comunicar con el presidente del consejo que se encarga de los derechos humanos en la Universidad Estatal de Bowling Green al número (419) 372 – 7716 o su correo electrónico hsrb@bgnet.bgsu.edu.

Gracias por su tiempo y si decide participar en la investigación por favor escriba su nombre y firme en las líneas.

Escriba su nombre en letra de molde _______________________________ Fecha _______________________________

Firma del participante _______________________________ Fecha _______________________________
APPENDIX B

DEMOGRAPHIC QUESTIONNAIRE
Mother’s Information

Age: ______

Marital status:
  o Married
  o Single
  o Living with a partner

Are you living with the baby’s father?
  o Yes
  o No

Years of education: ______

Household income:
  o Less than $20,000
  o $20,000- $36,000
  o $37,000- $54,000
  o $55,000- $73,000
  o Over $73,000

Employment: # of hours/week ______

Number of children: ______

Number of people living in the household: _____

Do you receive WIC benefits?
  o Yes
  o No

Baby’s Information

Age: _____  Birth Weight: _____#_____oz  Height: _____inches

Gender:
  o Male
  o Female

Current Weight: _____#_____oz  Height: _____inches

Birth Place: _______________

Delivery:
  o Cesarean
  o Vaginal
1. What language do you speak?
   o Spanish only
   o Mostly Spanish, some English
   o Spanish and English about equally (bilingual)
   o Mostly English, some Spanish
   o English only

2. What language do you prefer?
   o Spanish only
   o Mostly Spanish, some English
   o Spanish and English about equally (bilingual)
   o Mostly English, some Spanish
   o English only

3. How do you identify yourself?
   o Mexican
   o Chicano
   o Mexican American
   o Spanish American, Latin American, Hispanic American, American
   o Anglo American or other

4. Which ethnic identification does your mother use?
   o Mexican
   o Chicano
   o Mexican American
   o Spanish American, Latin American, Hispanic American, American
   o Anglo American or other

5. Which ethnic identification does your father use?
   o Mexican
   o Chicano
   o Mexican American
   o Spanish American, Latin American, Hispanic American, American
   o Anglo American or other

6. Which ethnic identification does your husband/partner use? (Addendum)
   o Mexican
   o Chicano
   o Mexican American
   o Spanish American, Latin American, Hispanic American, American
   o Anglo American or other
   o Not applicable

7. What was the ethnic origin of the friends and peers you had, as a child up to age 6?
   o Almost exclusively Mexicans, Chicanos, Mexican Americans
   o Most Mexicans, Chicanos, Mexican Americans (La Raza)
   o About equally Raza (Mexicans, Chicanos, or Mexican Americans) and Anglos or other ethnic groups
   o Mostly Anglos, Blacks, or other ethnic groups
   o Almost exclusively Anglos, Blacks, or other ethnic groups
8. What was the ethnic origin of the friends and peers you had, as a child from 6 to 18?
   o Almost exclusively Mexicans, Chicanos, Mexican Americans
   o Most Mexicans, Chicanos, Mexican Americans (La Raza)
   o About equally Raza (Mexicans, Chicanos, or Mexican Americans) and Anglos or other ethnic groups
   o Mostly Anglos, Blacks, or other ethnic groups
   o Almost exclusively Anglos, Blacks, or other ethnic groups

9. Whom do you now associate with in the outside community
   o Almost exclusively Mexicans, Chicanos, Mexican Americans
   o Most Mexicans, Chicanos, Mexican Americans (La Raza)
   o About equally Raza (Mexicans, Chicanos, or Mexican Americans) and Anglos or other ethnic groups
   o Mostly Anglos, Blacks, or other ethnic groups
   o Almost exclusively Anglos, Blacks, or other ethnic groups

10. What is your music preference?
    o Only Spanish
    o Mostly Spanish
    o Equally Spanish and English
    o Mostly English
    o English only

11. What is your TV viewing preference
    o Only programs in Spanish
    o Mostly programs in Spanish
    o Equally Spanish and English programs
    o Mostly programs in English
    o Only programs in English

12. What is your movie preference?
    o Spanish-language movies only
    o Spanish-language movies mostly
    o Equally Spanish/English
    o English-language movies mostly
    o English-language movies only

13. a. Where were you born?
    o Mexico
    o U.S.
    o Other

   b. Where were your mother born?
    o Mexico
    o U.S.
    o Other

   c. Where were your father born?
    o Mexico
    o U.S.
    o Other
d. Where were your partner born? (Addendum)
   - Mexico
   - U.S.
   - Other

e. Where were your father’s mother born?
   - Mexico
   - U.S.
   - Other

f. Where were your father’s father born?
   - Mexico
   - U.S.
   - Other

g. Where were your mother’s mother born?
   - Mexico
   - U.S.
   - Other

h. Where were your mother’s father born?
   - Mexico
   - U.S.
   - Other

14. Where were you raised?
   - In Mexico only
   - Mostly in Mexico, some in the U.S.
   - Equally in Mexico
   - Mostly in U.S., some in Mexico
   - In U.S. only

15. What contact have you had with Mexico?
   - Raised for 1 year or more in Mexico
   - Lived for less than 1 year in Mexico
   - Occasional visits to Mexico
   - Occasional communications (letters, phone calls, emails) with people in Mexico
   - No exposure or communications with people in Mexico

16. What is your food preference?
   - Exclusively Mexican food
   - Mostly Mexican food, some American
   - About equally Mexican and American
   - Mostly American food
   - Exclusively American food

17. In what language do you think?
   - Only in Spanish
   - Mostly in Spanish
   - Equally in English and Spanish
   - Mostly in English
   - Only in English
18. Can you read in Spanish?
   - Yes
   - No

Can you read in English?
   - Yes
   - No

What do you read better?
   - I read only Spanish
   - I read Spanish better than English
   - I read both Spanish and English equally well
   - I read English better than Spanish
   - I read only English

19. Can you write English?
   - Yes
   - No

Can you write Spanish?
   - Yes
   - No

Which do you write better?
   - I write only in Spanish
   - I write in Spanish better than in English
   - I write in both Spanish and English equally well
   - I write in English better than in Spanish
   - I write only in English

20. If you consider yourself a Mexican, Chicano, Mexican American, member of La Raza, or however you identify this group, how much pride do you have in this group?
   - Extremely proud
   - Moderately proud
   - Little pride
   - No pride but does not feel negative toward group
   - No pride and feel negative towards la Raza

21. How would you rate yourself?
   - Very Mexican
   - Mostly Mexican
   - Bicultural
   - Mostly Anglicized
   - Very Anglicized
APPENDIX C

INTERVIEW GUIDE
1. **How are you feeding your baby?**
   Probe:
   - BF; Formula; Water; Tea; Other foods/liquids:
   - Anything else? Do you put something in the tea?

2. **When did you introduce the following in your infant diet?**

   BF: Neverpostpartum
   Formula: Never _____ months
   Water: _____ months
   Tea: Never______ months
   Other foods/liquids: _____ months

   **a. If has breastfed:**
   - How long?

   **b. Breastfed/breastfeeding:**
   - Why did you choose to breastfeed?
   - How is/was your experience with breastfeeding?
   - How do you know if breast milk production is insufficient? What are your points of reference?

   **c. If formula fed:**
   - How long?

   **d. Formula fed/feeding**
   - Why did you choose to feed your infant formula?
   - How is/was your experience with formula feeding?

3. **Where/Who did your get infant feeding information/advice from?**
   Probe:
   - What infant feeding advice did you get from it/him/her?

4. **In the US, how do you think infants are most likely to be fed during the first six months?**

5. **In Mexico, how do you think infants are most likely to be fed during the first six months?**

6. **In your opinion, when people have a lot of money, how do they usually feed their infant during the first six months?**

7. **Based on your observations/experience, how do working mothers usually feed their infant?**
8. Based on your observations/experience, how do college graduates usually feed their infant?

9. How do you know if an infant’s weight is adequate? What are your points of reference?

10. In general, what do you think about formula and formula feeding?
    Probe:
    o What characterizes it? What do you associate this mode of feeding with?
    o What qualities/faults do you perceive from it? Advantage/disadvantage?

11. In general, what do you think about breast milk and breastfeeding?
    Probe:
    o What characterizes it? What do you associate this mode of feeding with?
    o What qualities/faults do you perceive from it? Advantage/disadvantage?

12. In your opinion, what are, if any, the negative health outcomes of not breastfeeding
    o for the baby
    o for the mother
APPENDIX D

INDIVIDUAL QUANTITATIVE DATA TABLE
<table>
<thead>
<tr>
<th>Participants' Number</th>
<th>Urban/Rural</th>
<th>Language</th>
<th>Acculturation</th>
<th>Age</th>
<th>Marital Status</th>
<th>Living with Father</th>
<th>Education</th>
<th>Income ($1000)</th>
<th>Employment</th>
<th>Hours of Work</th>
<th># of Children</th>
<th>Household</th>
<th>WIC</th>
<th>Gender</th>
<th>Age</th>
<th>Delivery</th>
<th>Ever Breastfed</th>
<th>Duration</th>
<th>Ever Formula Fed</th>
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<th>Water Given (months)</th>
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