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CULTURAL INFANT FEEDING PRACTICES AMONG LATINA IMMIGRANTS: A  
PROGRAM EVALUATION

by

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### **Abstract**

Many children in Guatemala are malnourished and food security is a critical problem (Davis, Fischer, Rohloff, & Heimburger, 2014). In some Mayan communities in Guatemala, malnutrition is now viewed as the norm (Chary, Messmer, & Rohloff, 2011). One of the national nursing science priorities for 2017 is global health, which includes caring for populations living in resource poor countries, such as Guatemala (Eckardt et al., 2017). As a result of widespread political oppression and corruption, many Guatemalans have immigrated to the United States (US) to work and establish a better life. Guatemalans are now the sixth leading Latino sub-group in the US (Motel & Patten, 2012). Cultural infant feeding practices may be altered by relocation to a new environment or may remain unchanged. When Guatemalan mothers and children immigrate to the US, they usually become eligible for the supplemental nutrition program for Women, Infants and Children (WIC).

The purpose of this senior honors project was to explore cultural infant feeding practices among Latina mothers following immigration to the US. This project was conducted at a rural health department in eastern North Carolina in collaboration with a public health nurse and a bilingual WIC nutritionist. Data were evaluated on ten Latina women enrolled in the WIC program. Primary cultural feeding practices reported were: use of milk-based formula into the child's second year of life, a combination of breast milk and formula for children one year and younger, and the use of home remedies for infants. Implications for practice may include early assessment of cultural infant feeding practices and the development of short health messages that clearly delineate the benefits of exclusive breastfeeding for the first six months of life and the introduction of solid foods at 6 months. Further research is needed on the use of milk-based formulas among Latino children.

### **Introduction**

Infant nutrition plays an important role in long term quality of life. In order to save the lives of millions of children worldwide, the World Health Organization (WHO) recommends breastfeeding initiation within the first hour of life and exclusive breastfeeding for the first six months of life (World Health Organization [WHO], 2016). Although breastfeeding has saved the lives of many infants, only 39 percent of infants less than 6 months of age are exclusively breastfed in the developing world (Smith, 2016).

Inadequate infant nutrition contributes to inadequate brain growth with lasting cognitive and behavioral effects (Smith, 2016). The public health message on exclusive breastfeeding in developing countries has been so strong that some mothers have limited complementary feedings at six months, which has contributed to infant malnutrition (Davis, Fischer, Rohloff, & Heimburger, 2014). Further, gender inequalities contribute to inadequate infant and child nutrition (WHO, 2016). For example, Guatemalan women have been criticized for failure to provide adequate nutrition even though finances and infant feeding decisions may be controlled by husbands or paternal grandmothers (Chary, Messmer, & Rohloff, 2011). These mothers have been viewed as “bad mothers” by health professionals for not exercising autonomy, while they may incur criticism from their community for going against traditional gender roles (Wehr, Chary, Webb, & Rohloff, 2014).

As a result of widespread corruption and oppression, many Guatemalans have immigrated to the United States to work and establish a better life for their families. Guatemalans are now the sixth leading Latino sub-group in the US (Motel & Patten, 2012). Infant feeding practices may be altered by relocation to a new environment or they may remain unchanged. When Guatemalan mothers and their children immigrate to the US, they are eligible for the

Women, Infants and Children (WIC) Program, which strongly supports exclusive breastfeeding for six months. However, when the WIC program provides free milk formula for immigrant women with limited resources, breastfeeding practices may change in favor of formula feeding (Hohl, Thompson, Escareño, & Duggan, 2016). While the WIC program provides nutritious foods, nutrition education, and referrals to other health services, it is important to evaluate the cultural feeding practices that could limit the success of the program. This topic is relevant to nursing practice because nurses make up over 50 percent of the health care workforce worldwide and are positioned to play a vital role in infant feeding decisions of new mothers (All-Party Parliamentary Group on Global Health, 2016).

### **Review of Literature**

A review of the literature was conducted using PsycINFO, PubMed, and CINAHL databases. The search terms used were Guatemalan, Mayan, Latina, breastfeeding, infant nutrition, and feeding. For clarity throughout this paper, the target population of women from Central America and Mexico will be described as Latina, except when the literature specifically refers to Guatemalans or Mayans. This review is organized into three categories: gender inequality, cultural influences and political factors.

#### **Gender Inequality**

Husbands and paternal grandmothers may have an influence over breastfeeding practices of Latina women. Three studies explored familial influence on Latina mothers' breastfeeding and food purchasing decisions (Chary et al., 2011; Joshi, Trout, Aguirre, & Wilhelm, 2014; Wehr et al., 2014). A husband's unemployment, mental illness, financial indifference or alcoholism may cause mothers to prolong exclusive breastfeeding or revert to breastfeeding if complementary foods become unavailable (Chary et al., 2011). In a study of household-level gender roles, men

considered their role as educator about nutrition, whereas women reported that men only had a financial role (Wehr et al., 2014). Furthermore, neither male nor female participants believed that women contributed to household earnings, yet women reported selling clothes, food, or wares at the market to supplement household finances (Wehr et al., 2014).

Paternal grandmothers also had control over food purchasing decisions (Brown et al., 2016). Guatemalan mothers reported that they usually adhere to paternal grandmothers' advice even when the mothers themselves had differing opinions (Wehr et al., 2014). Family interference was identified by mothers in rural Guatemala suggesting the entire family may benefit from health teaching of infant feeding practices (Joshi et al., 2014). In this study, mothers (83%) reported that family was the main source of breastfeeding information. One mother reported her grandma providing herbal teas for her son when she was not producing enough breast milk, while other mothers reported receiving help from their family in continuing to breastfeed (Joshi et al., 2014). In some cases, the cultural value of *familismo*, the importance of family, reinforced women's decisions about infant feeding. Women's decisions were influenced by maternal role models and supportive husbands (Hohl et al., 2016).

### **Cultural Influences**

Numerous investigators identified cultural practices of Guatemalan mothers that were related to infant feeding decisions (Atyeo, Frank, Vail, Sperduto & Boyd, 2017; Bunik, et al., 2006; Doak, van der Starre, van Beusekom, Ponce, Vossenaar, & Solomons, 2013; Greder, Romero de Slowing, & Doudna, 2012; Hohl et al., 2016; Wren, Solomons, Chomat, Scott, & Koski, 2014). Wren et al. (2014) found four primary cultural practices related to breastfeeding were: giving ritual fluids (*agüitas*), using sauna baths (*temascals*), transmission of emotions through breast milk, and insufficient milk syndrome. Other investigators cite cultural beliefs

about the use of colostrum, a mother's first milk, as affecting the initiation of breastfeeding. In addition to these primary cultural beliefs, the phenomenon of *los dos*, feeding infants both breast milk and milk formula, was also prevalent (Bunik et al., 2006). Finally, beliefs among Latina mothers regarding infant feeding practices are greatly influenced by familial expectations to breastfeed. Participants in one study reported that breastfeeding is passed down from generations of women in the family, influenced by the husband's wishes (Hohl et al., 2016).

In one Mayan village, 74% of 6-12-month-old infants were given *agüitas* (a sweetened water, herbal infusion) because of insufficient milk as well as to suppress colic, crying, stomach pain, and bloating (Wren et al., 2014). Mothers who choose not to give *agüitas* were more likely to breastfeed exclusively (Wren et al., 2014). Another group of investigators found that infants given *agüitas* before 2.9 weeks of age were 1.8 times more likely to be stunted in growth in comparison to all other infants (Doak et al., 2013). In this study, mothers reported giving *agüitas* to their infants for gastrointestinal complaints, fever, maintenance of lung health or maintenance of the hot-cold balance. Many mothers describe *agüitas* as helpful in maintaining health. Public health officials support traditions, such as the use of *agüitas*, out of cultural respect and to retain credibility with the community, even though the use of *agüitas* early in life puts children at a higher risk of growth stunting (Doak et al., 2013).

The Mayan cultural practice of using *temascals*, traditional saunas, comes from the humoral theory that disease occurs when there is an imbalance in the body between hot and cold (Wren et al., 2014). Lactation is a "cold" condition, and many mothers use a *temascal* throughout the postpartum period to restore balance and increase milk flow. More than 83% of indigenous households in the Western Highlands of Guatemala used a wood-fired *temascal* to promote milk production (Wren et al., 2014). Yet, *temascals* are a potentially dangerous source

of carbon monoxide poisoning, and a negative relationship has been reported between wood smoke exposure and infant birth weight (Wren et al., 2014).

The transmission of maternal emotions through breast milk, known as *susto* (scare or frightening experience) and *enojo* (anger), was found among Mayan women (Wren et al., 2014). Mothers reported limiting breastfeeding during times of high emotion because they did not want to cause their child harm or illness (Wren et al., 2014). In a study of 190 breastfeeding mother-infant dyads in Guatemala, many mothers believed that *susto* and *enojo* might be transferred through breast milk. Mothers who initiated breastfeeding within 1 hour and practiced exclusive breastfeeding were less likely to believe that *enojo* or *susto* were transferred through their breast milk (Wren et al., 2014).

Insufficient milk syndrome occurs when mothers lack an understanding of the stages of milk production and lose confidence in their ability to breastfeed, thus reverting to bottle feeding (Wren et al., 2014). This has led to the cultural phenomenon known as *los dos* is when mothers chose to give their baby the “best of both” by giving formula in addition to breast milk. Latina mothers do not routinely pump their breast milk; therefore, formula supplementation may be necessary when mothers are separated from their babies (Bunik et al., 2006).

Colostrum has been thought of as “dirty milk” or “bad luck” (Wren et al., 2014, p. 173) and some mothers described negative feelings, citing a fear of the color of the liquid (Ayteo et al., 2017). Yet, when mothers believed that colostrum was good for her infant, by providing vitamins or having a cleansing effect, mothers were more likely to initiate breastfeeding (Ayteo et al., 2017). Further, mothers have expressed the belief about colostrum that if you do not give the first milk there is nothing else to feed the baby (Ayteo et al., 2017).

Investigators found feeding practices and beliefs of Latino parents following immigration (Greder et al., 2012). A study exploring first-generation Latina immigrant mothers' attempt at ensuring nutritious foods for their children suggested that mothers questioned whether they could influence their child's eating patterns (Greder et al., 2012). Mothers reported that foods in the U.S. to be more artificial than in her home country, and that children acquired bad eating habits at school. In this study, mothers did not have enough money to buy the healthy foods (Greder et al., 2012).

Infant feeding practices of immigrant Latino parents included the use of two specific milk-related products (Luna, Polk, & Thompson, 2017). In this study, almost half of the participants (44%) reported ever giving the fortified whole milk product NIDO (a product of Central America) to their child and 71% of participants reported using Nesquik. The most frequent responses as to why NIDO was given were 1) my child did not like or tolerate milk, 2) it is healthy, and 3) my family encouraged its use. Reasons for using Nesquik were 1) my child likes it or asks for it, 2) to add or change the flavor of my child's milk, and 3) my family's encouragement (Luna et al., 2017). Findings of this study suggest that young low-income Latino children from immigrant families are more at risk of excess fat and sugar intake because of consumption of these milk products (Luna et al., 2017).

Hendrick and Potter (2017) found that that country of education may be a predictor of a woman's breastfeeding practices. Women born and educated in Mexico (MX-MX) were 2.8 times more likely to breastfeed when compared to women born and educated in the US (US-US). Women born in Mexico with education in the US (MX-US) had lower rates of exclusive breastfeeding than MX-MX and US-US women (Hendrick & Potter, 2017).

### **Political Factors**

Four studies explored the relationship between political factors and infant feeding practices of Guatemalan mothers (Davis et al., 2014; Greder et al., 2012; Gibson-Davis, & Brooks-Gunn, 2006; Hohl et al., 2016). Community health promoters, such as Wuqu' Kawoq in Guatemala, promote breast milk as the healthiest food for a child, a message that coincides with cultural beliefs about breastfeeding (Davis et al., 2014). Yet, Guatemalan mothers who participated in this study chose breastfeeding over complementary feedings subsequently limiting nutrients for the child (Davis et al., 2014).

In addition to problems with breastfeeding messages in developing countries, Latina immigrants in Washington State, identified WIC program workers as influential in their infant feeding decisions, often encouraging the use of free formula. Mexican women indicated that friends in Mexico continued to breastfeed while friends in the US used free formula (Hohl et al., 2016). The availability of free formula from WIC may send a mixed message to these mothers. Coming from Guatemala, a country with fewer resources than the US, mothers may be eager to accept any resource available to them and their child. Access to WIC Farmers' Market Nutrition Coupons may encourage the consumption of fresh produce (Greder et al., 2012).

Several studies suggest that immigration to the US affects breastfeeding practices among Latina mothers. People immigrate to the United States for financial reasons, family reunification, or both. Every additional year living in the US was associated with a decrease in the likelihood of breastfeeding and a decrease in the chance of breastfeeding at six months (Gibson-Davis & Brooks-Gunn, 2006; Hohl et al., 2016). In this study, lower socioeconomic and educational status, young maternal age, low birth weight, and participation in the WIC program were negatively associated with breastfeeding for all ethnic groups. Many women experience

difficulties while breastfeeding such as pain or lack of milk production, but immigrant Latina mothers face additional challenges in cultural norms, language barriers and limited financial resources (Hohl et al., 2016). Latina women perceived people in the US to be offended by breastfeeding mothers, resulting combination feeding or exclusive formula feeding to avoid embarrassment (Hohl et al., 2016). Latina women in the US reported facing economic pressure to work, and that some jobs were are not supportive of breastfeeding (Hohl et al., 2016).

This literature suggests multiple factors influence infant feeding practices from family and cultural norms to economic and political factors. Immigration to a new environment is an additional challenge for immigrant women. In the summer of 2016, I had the opportunity to volunteer at a nutrition rehabilitation center in Guatemala. This experience prompted me to further consider the infant feeding practices of immigrant women. The purpose of this senior honors project was to evaluate cultural infant feeding practices of newly arrived immigrant Latina mothers attending a local health department.

### **Methods**

A program evaluation was performed in collaboration with a public health nurse and a bilingual WIC nutritionist at a rural health department in eastern North Carolina (NC). This region has a significant Latino population that is more than twice the state average. Latinos make up 21.9% of the total population in this county (United States Census Bureau, 2017). Among the 3,215 households that speak a language other than English, 95% speak Spanish and among those households, 55% would be considered “limited English speaking” (Duplin County, 2016).

The target population was Latina women enrolled in the WIC program, with children less than one year of age. We evaluated the WIC program records of the first 13 Latina mothers who came for a WIC visit with their infant during a seven-week period, between January and

February 2018. Information gathered from the WIC program records included the mother's age in years, the child's age in years, breastfeeding status, marital status and timing of introduction of solid foods. The WIC nutritionist then queried these mothers on the following: presence of family support, length of time living in the United States (US), and any cultural feeding practices from the mother's home country. This program evaluation was intended to inform nursing and nutrition staff of how infant feeding practices may continue or be altered upon immigration to the US. We created an audit tool to collect this data and used a matrix format to compare difference and similarities among the participants.

### **Findings**

A total of 13 Latina women enrolled in the WIC program were asked about cultural infant feeding practices used in their home county that they still currently practice. Three women were excluded because they did not report any infant feeding practices. Therefore, this program evaluation includes the 10 women that reported cultural infant feeding practices (see Table 1). Of the 10 women, the age range was 20 to 27 years, with an average age of 28.5 years. Each mother had lived in the United States for an average of 7 years, with a range of 5 months to 18 years. Six of the women were single, yet family support was reported by most women (n=8). They all preferred to speak Spanish and these findings were confirmed by the WIC nutritionist. The age range of the children was between 6 days and 2 years.

The most common cultural infant feeding practice reported by women (n=8) was *los dos*, a combination of formula and breast milk. Among the women that practiced *los dos*, six were Guatemalan. Three women reported use of herbal teas, Chamomile and Anise, to relieve infant colic or gastrointestinal upset. One women reported using a mixture of garlic, onion and pepper that had been boiled in water and strained to relieve intestinal gas.

Table 1. Characteristics of Women and Infants in Program Evaluation (2018)

<b>Ethnicity</b>	<b>Breastfeeding Status</b>	<b>Introduction of solid foods</b>	<b>Infant feeding practices from home country</b>
<b>Guatemalan (n=7)</b> Mother 1 (infant 6 mo.) Mother 2 (infant 1 yr.) Mother 3 (infant 6 days) Mother 4 (infant 2 mo.) Mother 5 (infant 5 mo.) Mother 6 (infant 11 mo.) Mother 7 (infant 9 mo.)	BF for 4 mo. BF for 4 mo. Currently BF Currently BF Currently BF BF for 3 mo. BF for 9 mo.	4 mo. 5 mo. 4 mo. none yet 4 mo. 6 mo. 5 mo.	<i>Los dos; Mora</i> <i>Los dos; Anise</i> <i>Los dos</i> <i>Los dos; Onion/pepper mixture</i> <i>Los dos</i> <i>Los dos; Chamomile tea</i> <i>Corn atole; temascal</i>
<b>Mexican (n=2)</b> Mother 8 (infant 1 yr.) Mother 9 (child 2 yr.)	BF for 6 mo. BF for 2.5 mo.	5 mo. 4 mo.	<i>Los dos; Susto; Chamomile tea</i> <i>Nido</i>
<b>Honduran (n=1)</b> Mother 10 (infant 3 mo.)	Currently BF	3 mo.	<i>Los dos; Dormilona</i>

Family influences were noted. Breastfeeding advice was given to these mothers by their mother (n=2), mother in law (n=1), and maternal grandmother (n=1). One maternal grandmother believed in *susto* being transferred through breast milk and discouraged breastfeeding when feeling emotional. Most mothers introduced solids earlier than six months of age (n=8). One mother reported that families with lower incomes introduced solid foods earlier, and another said that she knows mothers in Guatemala that do not incorporate formula since it is expensive. This mother used formula in the US because she can get it through the WIC program.

Reasons for stopping exclusive breastfeeding included: difficulty latching-on, child not getting full with breast milk, child not wanting breast milk anymore, insufficient milk production, and child not wanting either formula and breast milk. Other cultural feeding practices varied. One mother gave her child a taste of the food she was eating before she

breastfed to determine if the baby would tolerate the milk. Another mother recalled being taught that colostrum was important for the baby, and another recalled that breastfeeding was good for the child to make them healthy and grow quickly. One cultural practice was using *mora* (blackberry) when the baby is sick.

An interesting finding was the practice by one mother of using Nestlé *NIDO*, a milk-based formula manufactured in Mexico, for children aged 1-5 years that can be bought at the grocery store. Another mother bathed her child with a plant, called *dormilona*, to promote sleep at night and stay awake for feedings through the day. One mother drank *atole*, a warm corn beverage, to increase breast milk production and she also believed that *temascals* would heat the lungs and further increase milk production.

### **Discussion**

This program evaluation intended to provide the local health department, specifically the WIC program, with a better understanding of cultural feeding practices that may interfere with the WIC program's recommendation of exclusive breastfeeding for the first six months of life. The program evaluation involved a sample of 10 mothers and was the first time that immigrant Latina mothers had been asked about cultural feeding practices at this health department.

Several infant feeding practices suggested the potential early over-consumption of both formula and solid foods in the first year of life. A phenomenon known as *los dos*, infant feeding both by breast and formula, was prevalent among this sample of Latina mothers. The use of *los dos* may exacerbate childhood obesity, depending on the quantity of supplemental formula. This information can alert the WIC staff to query mothers on the quantity of formula when engaged in *los dos*. While the WIC program encourages breastfeeding through education and support, free formula is provided to mothers in the program. Perhaps greater incentives for exclusive

breastfeeding are needed to reach the goal of exclusive breastfeeding for the first six months of life. On average, solid foods were introduced at 4 months of age, even though best practice guidelines support initiating complementary feeding (solids) at 6 months of age (World Health Organization, 2016). Because breast milk provides all the nutrients that the infant needs before six months of age, introducing solid foods is adding unnecessary calories into the infant's diet. While only one mother in this evaluation reported the use of milk-based formula past the second year of life, there is reason to believe other mothers may be purchasing this formula for toddlers. Further education may be needed regarding the excess fat and sugar content of these formulas and how to introduce solid foods into the infant's diet.

In this evaluation, several women reported the use of herbal teas (Chamomile and Anise) or garlic, onions and peppers that had been steeped in boiling water, to soothe infant colic or gastrointestinal upset. The cultural feeding practice of giving infants sweetened water or herbal infusions was supported in the literature, and this practice remains a concern because of the possibility of growth stunting. Giving these liquids to infants does not promote exclusive breastfeeding and may have a negative impact the health of the infant.

Many of these mothers were single and did not have any family support in the US, but the term 'family support' was not specific to monetary or emotional support. However, many women did mention receiving breastfeeding advice from a specific member of their family. Influential family members, such as mother or grandmother, are likely to contribute to decisions about infant feeding practices. Therefore, it is necessary to know where Latina mothers receive support and advice. While traditional gender roles play a role in infant feeding decisions, gender inequalities were not apparent in this program evaluation.

A major goal of the WIC program is to improve nutritional status of infants and encourage mothers to exclusively breastfeed their infants for the first six weeks of life. The WIC program offers women free-of-charge breastfeeding classes and lactation consultations, yet exclusive breastfeeding for six months of life has not been achieved in this sample. When promoting breastfeeding to Latina immigrant mothers, it is important to question the use of feeding practices from their home country that may interfere with the WIC breastfeeding goals.

### **Implications**

#### **Implications for Practice and Research**

In order to understand how cultural infant feeding practices contribute to childhood obesity, a cultural assessment may be useful to nursing and WIC program staff. This information could alert health care providers to barriers to the exclusive breastfeeding recommendation. Promoting breastfeeding through short health education messages that explain best practices for infant feeding could be beneficial to this population, ensuring information is in their native language and accounting for health literacy. Information regarding the importance of exclusive breastfeeding as well as the negative effects of introducing solid foods into the infant's diet too early should be included. Developing these messages may require native speakers that are familiar with Mayan dialects. If the goal is to get more women to breastfeed exclusively, it may be beneficial to highlight the maternal benefits of breastfeeding as a greater incentive to these Latina immigrant mothers.

Research on formula feeding beyond the second year of life in this population is necessary. Formulas add sugar and fat to the child's diet and understanding this practice might determine the prevalence and long-term impact on child health. Further research on how incentives are used to reach the goal of exclusive breastfeeding may be warranted.

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