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Hospital Adhering to the Ten Steps to Successful Breastfeeding Predicts Exclusive Breastfeeding in Latinx Mothers

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Abstract

Introduction: Assessing how well a hospital adheres to the Ten Steps to Successful Breastfeeding is the key to outlining necessary modifications in mother breastfeeding support. This study aimed to assess Latinx mothers' perception of how well a hospital adheres to the Ten Steps to Successful Breastfeeding and its influence on exclusive breastfeeding (EBF) rates at hospital discharge.

Methods: Secondary analysis of two longitudinal studies. The combined sample ($N=74$) of Latinx pregnant women residing in the US. We modified, translated, and evaluated reliability of the Questionnaire for the Breastfeeding Mother (QBFM), which was applied to evaluate mothers' perception of how well a hospital adheres to the Ten Steps to Successful Breastfeeding.

Results: The QBFM obtained a standardized KR-20 of 0.77. Mothers who EBF had higher scores of the QBFM than mothers who used formula during hospitalization. For each point that the QBFM score increased, the likelihood that the mother was EBF at discharge increased by 1.30 times.

Conclusion: Mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding were the only significant variable associated with EBF at discharge. The QBFM Spanish version is a valuable instrument that can be used to obtain measurable outcomes and outlines necessary changes after implementing the Ten Steps to Successful Breastfeeding.

Keywords

exclusive breastfeeding; Latinx; questionnaire for the breastfeeding mother; Ten Steps to Successful Breastfeeding

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Introduction

Current breastfeeding (BF) rates worldwide are inadequate and contribute to high medical costs and preventable infant deaths. The World Health Organization (WHO) reports that three out of every five infants worldwide are not breastfed within the first hour of life (WHO, 2021a), which is critical to saving the life of the new infant (Walters et al., 2019). Exclusive breastfeeding (EBF), defined as sole infant feeding with breast milk without any additional food or drink, is the feeding option engendering greatest nutrition and health (Meek et al., 2022). WHO/UNICEF, the American Academy of Pediatrics (AAP), and the United States Breastfeeding Committee (USBC) recommend EBF for a minimum of 6 months after birth, followed by BF for a minimum of 1 year along with the introduction of complementary foods (Meek et al., 2022; WHO, 2021b).

The benefits of BF go far beyond economic savings; it is evidence that BF impacts the health of both mothers and babies. Direct health benefits to the mother include reduced risk of breast and uterine cancer, gestational diabetes or diabetes type II, cardiovascular disease and postpartum depression, and risk of postpartum hemorrhage (Lara-Cinisomo et al., 2017; Meek et al., 2022; Unar-Munguia et al., 2017). Infants exclusively breastfed experience reduced risk of otitis media, respiratory infections, gastrointestinal infections, sudden unexplained infant death, and childhood obesity (Horta et al., 2023; Meek et al., 2022).

The specific BF care mothers receive from their pre- and post-partum healthcare providers is critical to successful and long-lasting BF. During prenatal care, the pregnant woman should be educated about the benefits of EBF and the potential situations she will face during the establishment and maintenance of BF. Studies have shown that women who received direct BF education from their healthcare providers significantly increased their knowledge of BF, positively impacting BF practice (Senghore et al., 2018; Tomori et al., 2022; Wang et al., 2020). In addition, women who perceived positive BF care and support during their hospitalization were more likely to practice EBF (Monroe et al., 2021). It is evidence that hospital practices during the first hours and days after birth affect the initiation and duration of BF (Centers for Disease Control and Prevention [CDC], 2022; CDC, 2021; Segura-Pérez et al., 2021). It is critical that the mother has a positive experience during her postpartum hospitalization that supports exclusive BF and avoids early introduction of formula supplementation that interferes with the physiology of BF (CDC, 2021; Monroe et al., 2021). Compared to Caucasian and African American mothers in the US, Latinx mothers are more likely to choose infant formula supplementation for their infants during their first 2 days of life (Cartagena et al., 2018; Linares et al., 2019). The main reason for formula introduction is related to Latinx women's fatalistic attitude about the insufficient amount of milk they are producing (Gaffney et al., 2018; Linares et al., 2019).

In 1991, UNICEF/WHO launched the Baby-Friendly Hospital Initiative (BFHI), a worldwide program to encourage large-scale implementation of the Ten Steps to Successful Breastfeeding, and warned against promoting the marketing of breast milk substitutes (UNICEF/WHO, 2009). Evidence shows that breastfeeding rates at discharge in BFHI-accredited birthing hospitals are better than in non-certified hospitals (Hernández-Cordero &

Pérez-Escamilla, 2022; Tomori et al., 2022). Any birthing hospital or health facility which wants to become or is BFH should evaluate current practices concerning the Ten Steps to Successful Breastfeeding (UNICEF/WHO, 2009). Despite UNICEF/WHO offering several tools for monitoring BFHI by self-appraisal and assessing mothers' experiences during hospitalization on the practice of the Ten Steps, a search among current literature showed no evidence of its use. This study aimed to assess Latinx mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding during the hospital stay in an accredited BFH and its influence on EBF rates at hospital discharge.

For this study, we modified, translated, and evaluated the reliability of the Questionnaire for the Breastfeeding Mother (QBFM) developed by the UNICEF/WHO, Spanish version (UNICEF/WHO, 2009). Additionally, we examine the association of mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding with mothers' breastfeeding knowledge and intention to breastfeed.

The specific aims of this study are:

1. To assess internal consistency/reliability of the QBFM, Spanish version.
2. To examine the correlation of the QBFM with breastfeeding knowledge, intention to breastfeed, and acculturation.
3. To determine if mothers' perception of how well a hospital adheres to the Ten Steps to Successful Breastfeeding during hospitalization predicts EBF at hospital discharge.

Methodology

This study is a secondary analysis of two longitudinal pilot studies of immigrant Latinx women living in the state of Kentucky, USA. Both studies were approved by the Institutional Review Board protocols #15-0995-P6 K, and #16-0164-P2H. Detailed information about the original studies has been previously published (Linares et al., 2019; Monroe, 2020).

Sampling

The combined samples for both studies consisted of $N = 74$ women who self-identified as Latinx at the time they were invited to participate. Inclusion criteria were being pregnant at 30 weeks or more of gestation, intending to deliver in a local accredited BFH, and planning to stay in their residence for at least 1 month after delivery. Exclusion criteria included being pregnant with twins, having a history of breast surgery, having contraindications to breastfeeding, and anticipating a baby's health condition that would prevent or hinder breastfeeding. All participants' first language was Spanish.

Procedures

Participants were recruited from a local primary health care clinic that provides prenatal care to most Latinx women in central Kentucky area. Women were contacted individually while waiting in the room reserved exclusively for pregnant patients by trained bilingual and bicultural research staff who explained the objectives of the study, verified eligibility, and

invited them to participate. Women who agreed to participate and met the inclusion criteria signed the written informed consent form. Data collected during recruitment and at hospital discharge after birth are considered for this analysis.

Instrumentation

Sociodemographic and Reproductive Characteristics.—These variables were collected through a baseline questionnaire that included age (in years), place of birth, length of stay in the US, education, and a series of yes/no items, including whether they lived with a partner or spouse, were working, had health insurance, and income. Mode of delivery, gestation, sex at birth, and anthropometric data from the infant were recorded from the medical record. Previous experience with BF was collected through a dichotomous question “Have you ever seen or had anyone close to you breastfeeding?”

Acculturation.—The short 7-item version of the Hispanic Acculturation Scale (Marin et al., 1987), which assesses the likelihood of using Spanish or English in different situations, was used. This scale scores responses with a five-point option: *Spanish only; Spanish better than English; Both equally; English better than Spanish; and English only*. Responses are summed, with a total score ranging from 5 to 35, with higher scores indicating greater acculturation. The standardized Cronbach’s alpha was 0.91 for this sample.

Breastfeeding Knowledge Questionnaire (BKQ).—We used a Spanish version adapted by Wambach et al. (2011), who developed the instrument from two original versions created in the mid-1980s: the *Knowledge of Breastfeeding Scale* (Cusson, 1985) and the *Breastfeeding Knowledge Questionnaire* (Hill, 1987). The version adapted by Wambach et al. contained 20 questions, including multiple-choice and true-false questions on knowledge of breast milk components, colostrum, weaning, and breastfeeding technique; the reported reliability using the Kuder–Richardson 20 (KR-20) was 0.70 (Wambach et al., 2011). Dr. Wambach authorized the adaptation and translation of this new version of the BKQ. The BKQ was translated by two accredited bilingual translators who worked independently to translate the original instrument into Spanish. A consensus version was then created and back-translated into English by a different translator unfamiliar with the original instrument in the English version. The first author led a group of experts to review the BKQ, Spanish version for linguistic and cultural concordance and to establish semantic equivalence. The review committee decided that in order to adjust the questions to third-grade educational level to facilitate responses, it was necessary to modify the responses from multiple choices to dichotomous with *True = 1* and *False = 0*. The final Spanish version of BKQ has 26 items; the total score is obtained by first inverting eight items by assigning a value = 1 for each correct “False” answer and then adding all the items together. The range of scores is from 0 to 26, with higher scores indicating greater knowledge about BF. The BKQ, Spanish version, was administered to Latinx women during the prenatal period. The standardized KR-20 was 0.80.

The Questionnaire for the Breastfeeding Mother (QBFM).—QBFM is based on the Ten Steps to Successful Breastfeeding (UNICEF/WHO, 2009). The QBFM was designed for self-monitoring of hospitals that have received BFH designation. This survey aims to

measure patients' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding. The Ten Steps to Successful Breastfeeding is a list of criteria developed by the BFHI, designed to promote exclusive and sustained breastfeeding (UNICEF/WHO, 2009). Hospital adherence to the BFHI encourages optimal maternal support to promote EBF during the early postpartum period. The QBFM survey has 16 questions, with a maximum possible score of 17. Most questions required a dichotomous response of *Yes = 1 or No = 0*, except for items 9 and 12, the score must be reversed (*Yes = 0 or No = 1*). Additionally, one question measures the time from birth to first breastfeeding: *mothers reporting > 1 hour were scored as 0, >30 minutes to 1 hour were scored as 1, and 0 to 30 minutes scored as 2* (see Appendix 1). A high score on this survey indicates that a mother perceives her hospital experience as more adherent to the BFHI criteria. According to the survey's authors, a 0–12 indicates very low adherence to the Ten Steps to Successful Breastfeeding and a need for improvement in hospital strategies. The QBFM was translated by two accredited bilingual translators who worked independently to translate the original instrument into Spanish. A consensus version was then created and back-translated into English by a different translator who was not familiar with the original instrument in the English version. After translation, two bilingual, bicultural health care providers reviewed the English and Spanish versions. They conducted a content review to ensure that the translated version included all major items relevant to the constructs being measured and had congruence with the original English version to establish semantic equivalence. The QBFM, Spanish version, was administered post-discharge to participants around 2 weeks postpartum.

Infant Feeding Intention (IFI).—The Spanish version (Nommsen-Rivers et al., 2010) was applied at baseline (prenatal period) to assess the mother's plan to feed the infant and the potential breastfeeding goal. The scale has five items, with response options ranging from *0 = Strongly disagree to 4 = Strongly agree*. The total score is obtained by averaging the first two items (which include planning to give breast milk or infant formula), and adding the remaining three items to this average. Scores range from 0 to 16, with higher scores indicating a stronger intention to EBF for 6 months. The standardized Cronbach's alpha was 0.83 for this sample.

Infant Feeding Status.—It was determined at hospital discharge by reviewing the infant's medical record, and accuracy was compared with the mother's medical record notes made by the physician, lactation consultant, nurse, or other health care personnel. Three possible options for infant feeding status at hospital discharge were recorded in the medical chart: exclusive breastmilk (infant getting only breast milk), mixed feeding (infant getting breast milk but supplemented with formula), and exclusive formula milk (infant getting only formula milk).

Data analysis

Descriptive and inferential statistics were used to assess participant characteristics. KR-20 was used to determine the internal consistency of the Spanish version of QBFM. Correlation analysis was used to explore QBFM score association with knowledge, intention to breastfeed, and acculturation. Bivariate analysis was used to determine variables associated

with EBF at discharge. To do this, we dichotomized the dependent variable infant feeding with option $EBF = 1$ and $Formula\ feeding\ or\ mixed\ feeding = 0$. The final logistic regression model established predictors of EBF at discharge. All analyses were conducted using SPSS version 27, with a significance level = 0.05.

Results

The women's mean age was 27 (SD 6.3). Most were born in Mexico (76%), had completed high school education (65%), and lived with their partner (77%). The women generally did not work outside the home (73%), lacked health insurance (65%), and agreed that their income was only sufficient for basic needs (76%) (Table 1). Regarding reproductive characteristics, 78% of the participants were multiparous and had a vaginal delivery (77%). The average gestational age at delivery was 38.5 weeks, with an average birth weight of 3,329 (SD 535) grams (Table 1). The acculturation level was low among most participants, with an average score of 9 points (SD = 5.9) out of a maximum of 35 points. Breastfeeding intention was high, with an average score of 12 (SD 3.4) out of 16 points that could be obtained on the IFI scale. Breastfeeding knowledge was adequate, with an average score of 18 points (26 maximum); and mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding was rated with an average of 12 (17 points maximum, Table 1). Only 34% of the mothers were EBF at hospital discharge. Most of the mothers mixed breastfeeding with infant formula supplementation (n = 46), of those 40% (n = 17) were due to NICU hospitalization; we were unable to find information in the medical chart why 60% (n = 29) of infants got supplementation before hospital discharge.

To evaluate the homogeneity of the sample, the relationship of sociodemographic and reproductive characteristics with the final BKQ and QBFM scores was examined. No significant difference was found associated with sociodemographic or reproductive variables, except for type of delivery (table not included). Latinx women with cesarean deliveries obtained lower scores in QBFM than their counterparts who had a vaginal delivery (mean score of 10 vs. 12 points, respectively, p = .02).

Reliability characteristic of QBFM

Reliability was measured using KR-20 due to dichotomous responses to items. The QBFM, Spanish version, obtained a standardized KR-20 of 0.77. No significant variation was observed in the KR-20 if any item was eliminated.

A correlation analysis was performed to assess if mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding was associated with knowledge, acculturation, and infant feeding intention (Table 2). Mothers' perception was not significantly associated with any of these variables. BF knowledge correlated positively and moderately with feeding intention (r = 0.29, p < .05).

Predictors of exclusive breastfeeding at hospital discharge

Bivariate analysis to determine differences between women who EBF versus those who used formula either mixed with breastfeeding or exclusively formula feeding at hospital discharge showed that type of delivery was significantly associated with EBF; 77% of women with

vaginal delivery were EBF at their hospital discharge compared with only 23% of cesarean deliveries ($p = .02$, table not included). Mother parity and previous experience with BF were not significantly associated with EBF. In general, women who practiced EBF had higher scores on all scales. A significant difference ($p < .05$) was observed in the IFI and QBFM scores for mothers who EBF versus those who did not (Table 3).

A predictive model of EBF at discharge was run using backward logistic regression analysis (Wald), including the previous significant variable such IFI score, QBFM score, and controlled by type of delivery. The model was significant ($X^2 = 12.74$, $p = .002$) with a correct classification of 69%. QBFM score ($OR 1.3$, 95% $CI = 1.06-1.59$) was a significant predictor for EBF at hospital discharge, while the IFI score was not. The Hosmer–Lemeshow goodness-of-fit test ($X^2 = 2.22$, $df = 7$, $p = .94$) showed a good fit for the logistic regression model (Table 4). Figure 1 shows how the probability of EBF at hospital discharge increases as the participant's QBFM score increases.

Discussion

This article assessed the mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding during the postpartum period in a group of Latinx women living in the US and its association with EBF at discharge. Two instruments were adapted and tested: the BKQ and the QBFM. Both Spanish version questionnaires showed adequate reliability through the KR-20 test.

Most of the participants in this study were first-generation immigrants and reported a household income insufficient or just enough to cover basic things, an education no higher than high school, and a lack of health insurance. The characteristics identified in this study have been mentioned as key social determinants of health linked to health disparities (CDC, 2023). It has been reported that the Latinx population, especially immigrants, have less access to quality medical care due to a lack of insurance, transportation, and language barriers (Pew Hispanic Center, 2022).

Our findings showed that BF knowledge was significant and positively associated with the intention to breastfeed. Women more knowledgeable about BF during the prenatal period had a stronger intention to practice EBF. Many prenatal interventions seek to increase breastfeeding knowledge in pregnant women as a way to promote EBF. Although it is known that knowledge must be accompanied by high BF intention and consistency in the support received from family and health personnel for successful breastfeeding (Bich et al., 2019; Hernández-Cordero et al., 2020; Tomori et al., 2022; Wang et al., 2020), findings suggest that maternal knowledge regarding the importance of breastfeeding is essential to improve lactation outcomes among Latinx women (Linares et al., 2019).

Most mothers initiated breastfeeding during their hospital stay; however, only 34% were EBF their infant compared with 62% that were mixing breastfeeding with formula at discharge. This rate of EBF differs compared to Latinx countries; for example, it was reported that EBF in Mexico was 91% at three weeks of life, in Brazil 57.8% at two months old infants, and in Nicaragua was close to 100% at hospital discharge (Ávila-Ortiz et al.,

2020; Machado et al., 2020; Nabower et al., 2020). Even though it is evident that the Latinx women participating in this study wanted to feed their babies with their breast milk, as shown by the mean score on the IFI scale (12 over a total of 16), most of them supplemented with formula when they were hospitalized, which jeopardizes exclusive BF and may produce overfeeding in Latinx babies increasing their risk of obesity (Cartagena et al., 2018; Horta et al., 2023; Vazquez & Cubbin, 2019). We found that 60% of mothers who supplemented with formula had no specific reported reason for supplementation in their medical records. It is the policy of the BFHs where these mothers gave birth to facilitate an informed decision regarding supplementation, meaning when a mother requests supplementation, the nurse and/or health provider will educate the mother about the physiology of milk production and risk of supplementation, but if the mother decides to supplement her baby after the information is given, she will get the breast milk substitute as requested. It is essential to highlight that the US is not part of the WHO Code for Marketing of Breastfeeding Substitutes (UNICEF/WHO, 2009), which differ from all countries in South America, that consent to the Code and have policies other than BFHI to enforce the restriction of advertisement for breast milk substitutes.

Previous researchers have studied the unique phenomenon that is particularly strong in the Latinx community living in the US, and it is known as “*las dos cosas*” meaning breast milk supplemented with infant formula (Gaffney et al., 2018; Gallo et al., 2019; Linares et al., 2019). In a previous study from this team, we found that Latinx women’s perception of low milk supply was one of the significant reasons to supplement their infants (Linares et al., 2019), which has also been described by researchers either in the US and in Latinx countries (Ávila-Ortiz et al., 2020; Galipeau et al., 2018; Nabower et al., 2020; Safon et al., 2017). This complex yet common feeding practice must be further studied, especially in Latin American countries where the WHO Code for Marketing of Breast Milk Substitutes is enforced, but researchers are reporting abandoning of EBF with an early introduction of formula (Ávila-Ortiz et al., 2020; Safon et al., 2017). Active BF support during the hospital stay is vital in this at-risk population, particularly since government agencies have warned of the risk of formula supplementation at an early stage, which is a detriment to both mothers and infants, compared with the health benefits of EBF (Meek et al., 2022).

Women who had a vaginal delivery were significantly more likely to EBF their infants at hospital discharge than their counterparts who had cesareans. Cesareans can delay breastfeeding initiation during hospital stay, which shortens the duration and EBF (Li et al., 2021; Linares et al., 2017). Our findings showed that Latinx women who EBF at hospital discharge had higher scores in the intention to breastfeed and reported a better perception of the hospital adhering to the Ten Steps to Successful Breastfeeding during hospitalization compared to women who supplemented with formula or were exclusively formula feeding at hospital discharge. In the final regression model, it was observed that women with higher intention to BF during pregnancy were more likely to EBF; however, the difference was not significant. Mothers’ perception of how well a hospital adheres to the Ten Steps to Successful Breastfeeding was the only predictor of EBF at discharge. Mothers with 13 points or more in the QBFN were significantly more likely to EBF; it was described that lower than 12 points indicate very low adherence to the Ten Steps to Successful Breastfeeding and a need for improvement in hospital strategies (UNICEF/WHO,

2009). Our results showed that for each point that the QBFM score increased, the likelihood that the mother was EBF at discharge increased by 1.30 times. This finding is significant and suggests that mothers' perceptions of good adherence to the Ten Steps to Successful Breastfeeding during their short hospital stay appear to play a role in their ability to maintain EBF at discharge. This finding is congruent with other results from the literature (Monroe et al., 2021).

UNICEF/WHO (2009) and other researchers have promoted the importance of mothers receiving adequate breastfeeding support during their hospitalization in all maternity hospitals honoring the Ten Steps to Successful Breastfeeding (Monroe et al., 2021). The translated QBFM is a valuable instrument that institutions in Latin American countries can use to obtain relevant information and measure outcomes after implementing the Ten Steps to Successful BF. The QBFM, Spanish version, could be used in quality improvement initiatives seeking to meet UNICEF/WHO guidelines so every mother served in the institution can succeed in her effort to breastfeed. Results from QBFM assessment could be shared with maternity administrators and health personnel who work in maternity hospitals to improve service to laboring mothers.

Limitations

Some limitation of this study to consider is the small sample size which could vary results. We could not identify the causes of high supplementation rates among some Latinx mothers during hospital stay. Yet, we encourage an appropriate report in the infant's medical record of reasons for supplementation, including if it is the mother's preference. The acculturation tool was not applied to all participants, which could potentially bias the results of this study. Generalizing the results must be cautious since the participants were mainly Latinx immigrants living in the US. Therefore, cultural differences with other Latino populations may require testing and modification of the instruments used in this study, especially when applied to Spanish-speaking populations outside the US. It is suggested that the reliability of these instruments continue to be tested in other Spanish-speaking populations.

Conclusion

In conclusion, the mothers' perceptions of how well a hospital adheres to the Ten Steps to Successful Breastfeeding was the only significant variable associated with EBF at discharge in this sample of Latinx women living in central area. To run the study, it was required to translate, adapt, and test two instruments to measure breastfeeding knowledge and the quality of breastfeeding care. Both Spanish version questionnaires showed adequate reliability through the KR-20 test; they were easy to apply and were written at a third-grade school level, which increases their application in the Latinx population. Both instruments can be valuable tools for researchers and health personnel to continue improving BF rates in the Latinx population and evaluating BFHI.

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Appendix 1: Questionnaire for the Breastfeeding Mother (QBFM), Spanish Version

Por favor cuéntenos como fue su experiencia en el hospital durante el nacimiento de su bebe, y su percepción de apoyo que recibió.

1. Antes de que mi bebe naciera, alguien del hospital hablo conmigo sobre cómo dar pecho y porque.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
2. El personal del hospital son expertos en el tema del amamantamiento y apoyan a las madres que quieren lactar	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
3. Alguien en el hospital me mostro diferente tácticas de cómo dar pecho a mi bebe	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
4. El personal del Hospital me alentó a que le diera leche materna a mi bebe sin substituir con otros líquidos, biberones o chupetes.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
5. Al menos una vez durante mi estadía, alguien del hospital superviso el amamantamiento de mi bebe.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
6. El personal del hospital recomendó que yo le diera pecho a mi bebe cada vez que el/ella me lo pidiera.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
7. Inmediatamente después del parto, mi bebe y yo tuvimos contacto de piel a piel.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0) <input type="checkbox"/> No se (00)
8. Yo le di pecho a mi bebe por primera vez:	<input type="checkbox"/> < 30 min de nacido (2) <input type="checkbox"/> 30 min a 1 hora de nacido (1) <input type="checkbox"/> > 1 hora de nacido (0)
9. El personal del hospital le dio formula a mi bebe	<input type="checkbox"/> Si (0) <input type="checkbox"/> No (1)
10. Mi bebe y yo estuvimos en el mismo cuarto durante mi estadía en el hospital y no tuvimos más de una hora de separación al día.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
11. El personal de hospital le dio biberones o chupetes a mi bebe	<input type="checkbox"/> Si (0) <input type="checkbox"/> No (1)
12. Cuando fui dada de alta del hospital, me dieron formula, biberones o chupetes para llevar a casa.	<input type="checkbox"/> Si (0) <input type="checkbox"/> No (1)
13. Cuando fui dada de alta del hospital, me dijeron que iba a necesitar una consulta de revisión y me ayudaron a pedirla.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
14. Cuando fui dada de alta del hospital, me dieron información sobre grupos de soporte para madres que están amamantando.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
15. Durante o antes de mi estadía, yo vi o leí política escrita sobre amamantamiento que el hospital tiene.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)
16. Creo que este hospital ha mejorado mi experiencia de amamantar.	<input type="checkbox"/> Si (1) <input type="checkbox"/> No (0)

Interpretación: Sume todos los puntos.

Un puntaje entre 0 a 12: Indica una adherencia muy baja a los 10 pasos para una Lactancia exitosa y requiere un mejoramiento de las estrategias del hospital.

Un Puntaje entre 13 a 17: Indica que hay una adherencia adecuada en la institución para una Lactancia exitosa.

Adaptado/traducido del Guidelines and tools for monitoring Baby-friendly hospitals (UNICEF/WHO, 2009).

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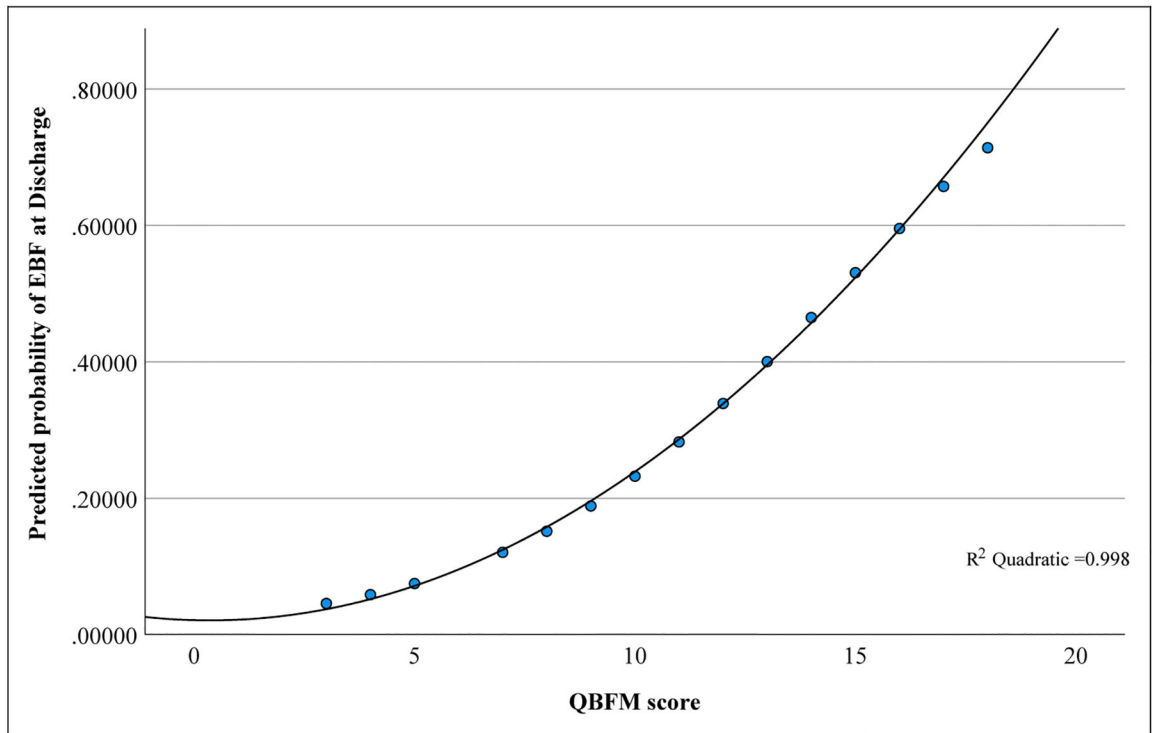


Figure 1. Predicted probability of exclusive breastfeeding at hospital discharge associated to QBFM score ($n = 68$).

Table 1.Sociodemographic and Reproductive Characteristics of Latinx Mothers ($n = 74$).

Characteristics	Number or mean	Percentage or SD
Mothers' age	27	SD 6.3
Mother's place of birth		
USA	4	5%
Mexico	56	76%
Other	14	19%
Mother's time living in the USA		
<10 years	22	30%
10 years	17	23%
Not reported	35	47%
Mother's education		
Elementary	21	28%
Secondary	48	65%
College	5	7%
Mother lives with a partner		
Yes	57	77%
No	17	23%
Number of people living in the house		
<5 people	55	74%
5 people	19	26%
Mother's work		
Yes	20	27%
No	54	73%
The household income		
Insufficient to cover all the basic things	14	19%
Only enough to cover basic things	56	76%
It covers more than the basic things	4	5%
Mother's health insurance		
Yes	26	35%
No	48	65%
Parity		
Primipara	16	22%
Multipara	58	78%
Gestational age at birth (weeks)	38.5	SD 1.7
Type of birth		
Vaginal	57	77%
Cesarean	17	23%
Experience with breastfeeding		
Yes	56	76%
No	18	24%

Characteristics	Number or mean	Percentage or SD
Sex of the infant		
Girl	38	51%
Boy	36	49%
Infant birth weight (grams)	3,329	SD 535.9
Infant feeding at discharge		
Exclusive breastmilk	25	34%
Mixed feeding	46	62%
Exclusive formula milk	3	4%
Acculturation scale ^a	9	SD 5.9
Infant feeding intention (IFI) score	12	SD 3.4
Breastfeeding knowledge questionnaire (BKQ) score	18	SD 4.7
Questionnaire of breastfeeding mother (QBFM) score ^b	12	SD 3.4

^a $n = 39$: The Acculturation Scale was not applied to 35 participants.

^b $n = 68$: Six participants did not respond to this tool.

Table 2.

Association Between Perception of Experience During Hospitalization, Breastfeeding Knowledge, Acculturation, and Intention to Breastfeed ($N = 74$).

Variable	QBFM ^a	BKQ	Acult ^b
1. Questionnaire Breastfeeding Mother (QBFM) ^a			
2. Breastfeeding Knowledge Questionnaire (BKQ)	-0.13	-	
3. Acculturation (Acult) ^b	-0.14	0.24	-
4. Infant Feeding Intention (IFI)	0.17	0.29*	0.19

^a $n = 68$. Six participants did not respond to the QBFM.

^b $n = 39$. One study did not apply the Acult instrument.

* $p < .05$.

Table 3.Bivariate Analysis of Variables Associated with Exclusive Breastfeeding During Hospitalization ($N = 74$).

Variable	Exclusive breastmilk ($n = 25$) Mean (SD)	Mixed feeding and or formula only ($n = 49$) Mean (SD)	p -Value in group comparison
Questionnaire Breastfeeding Mother (QBFM) ^a	13.13 (3.1)	10.62 (3.3)	.004
Breastfeeding Knowledge Questionnaire (BKQ)	17.44 (5.3)	16.98 (4.5)	.71
Acculturation (Acult) ^b	13.00 (6.6)	11.04 (5.2)	.37
Infant Feeding Intention (IFI)	13.08 (2.5)	11.37 (3.7)	.02

^a $n = 68$. Six participants did not respond to the QBFM.

^b $n = 39$. One study did not apply the Acult instrument.

Bold = significant.

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Table 4.

Backward Logistic Regression Model of Predictors of Exclusive Breastfeeding at Hospital Discharge ($n = 68$).^a

Variable	<i>B</i>	Wald	<i>OR</i>	95% <i>CI</i>
IFI score	0.19	2.99	1.21	0.97–1.52
QBFM score	0.26	6.47	1.30	1.06–1.60
Constant	–6.32	9.31		
–2 Log Verosimilitud	74.28			
Model X^2 ($df = 2$)	12.74			
<i>p</i>	.002			
Correct Classification	69.1%			

IFI: Infant Feeding Intention; QBFQ: Questionnaire Breastfeeding Mother.

^aSix participants did not complete the QBFM.