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Breastfeeding Conversations with a Home Visitor and Breastfeeding Continuation in Postnatal Enrollees

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Abstract

Introduction Breastfeeding is associated with many health benefits for both mothers and children, yet U.S. breastfeeding rates are far below the Healthy People 2030 goals. Furthermore, disparities in breastfeeding rates exist, whereby some demographic groups have even lower rates. This study examines the association between dosage of breastfeeding conversations with a home visitor on breastfeeding continuation in participants who enrolled postnatally.

Methods This cohort study examines the impact of breastfeeding conversations with a home visitor on breastfeeding continuation on 1,422 mother-child pairs enrolled postnatally in Healthy Families New York (HFNY), a family support home visiting program. Multivariable logistic regression models analyzed longitudinal data, adjusting for several known predictors of breastfeeding that could confound the association between breastfeeding conversations and breastfeeding continuation.

Results The analyses reveal a significant association between the rate of breastfeeding conversations during home visits in the preceding period and increased odds of breastfeeding continuation for 1–2 months ($p=0.013$), 2–3 months ($p<0.001$), 3–6 months ($p<0.001$), and six months or greater ($p=0.001$). The dose-response relationship and longitudinal nature of the data could suggest causality. Importantly, the impact of breastfeeding conversations is more pronounced among mothers born in the U.S., a group with known disparate breastfeeding outcomes. Further, this study finds that the number of home visits predicts breastfeeding continuation past six months ($p<0.001$).

Discussion This study offers important insights into the role of a home visiting intervention to promote breastfeeding and reduce breastfeeding disparities without the excessive costs of an intervention designed solely for breastfeeding.

Significance

Breastfeeding is known to have health benefits for both breastfeeding parents and children. Despite this, U.S. breastfeeding rates fall below goals of national and international organizations, and some demographic groups have even lower rates. Extant home visiting programs are uniquely positioned to provide breastfeeding support, and in fact, some previous research has shown home visiting interventions to have favorable breastfeeding outcomes in prenatal enrollees. However, many home visiting programs also or only enroll families postnatally. This study sought to examine the impact of breastfeeding conversations and number of home visits on breastfeeding continuation in families who enroll postnatally.

Keywords Home visiting program · Breastfeeding · Conversations with a home visitor · Nativity

Introduction

Breastfeeding is known to have health benefits for both breastfeeding parents and children (Meek & Noble, 2022, Thompson et al., 2017), such as lowering child risk of infant mortality (Ware et al., 2019), asthma (Lodge et al., 2015), type 2 diabetes (Horta et al., 2015), and obesity (Horta et al., 2015, Moss & Yeaton, 2014, Yan et al., 2014), improving child immune systems (Victora et al., 2016), and reducing mothers' risk of type 2 diabetes (Chowdhury et al., 2015) and several reproductive and other cancers (Babic et al., 2020; Chowdhury et al., 2015; Jordan et al., 2017, Yi et al., 2016).

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Thus, the American Academy of Pediatrics (AAP) and the World Health Organization recommend exclusive breastfeeding (feeding only breast milk) for six months and some breastfeeding for two years or more (Meek & Noble, 2022, WHO, 2023). But despite these recommendations, only about 27.2% of infants in the U.S. were exclusively breastfed through 6 months in 2021 (CDC, 2025, Yi et al., 2016). Further, there are significant disparities in breastfeeding, with breastfeeding parents who are U.S.-born, non-Hispanic Black, unmarried, lower income, and less educated breastfeeding at even lower rates (Gibson-Davis et al., 2006, CDC, 2025, Campbell et al., 2024).

Growing evidence suggests that home visiting programs have positive effects on maternal and child health outcomes, including breastfeeding (Hans et al., 2018). Home visiting programs are uniquely positioned to provide breastfeeding support because they can couple breastfeeding education and support with an already established intervention (home visitation) rather than requiring the costs of a separate breastfeeding intervention. Successful home visiting intervention strategies include educating mothers on benefits of breastfeeding and building a trusting relationship with the home visitor, supporting their decision to breastfeed (Edwards et al., 2013). One critical feature is that home visitors provide *regular* support (Shah et al., 2014).

Healthy Families New York (HFNY), an accredited (by Healthy Families America) home visiting program, serves families and their children prenatally through age five across New York State. Families enroll in HFNY prenatally or during the first three months postpartum. The program is designed to serve families at high risk for child maltreatment and other adverse outcomes through intensive home visits, screenings, and referrals. Each family is assigned a home visitor whose goal is to form a strength-based, trusting relationship with the family. Similar home visiting programs exist nationwide. Critically, most home visiting programs serve women in demographic and socioeconomic groups who are less likely to breastfeed, making them ideal mechanisms to reduce disparities.

While several studies have found favorable breastfeeding outcomes for women enrolled in home visiting services (Scharff et al., 2021; Arbour et al., 2019; LeCroy & Lopez, 2020; Mersky et al., 2021; Shah & Austin, 2014; Hans et al., 2018; Edwards et al., 2013; McGinnis et al., 2018), most have only examined women enrolled prenatally (Arbour et al., 2019; LeCroy & Lopez, 2020; McGinnis et al., 2018; Mersky et al., 2021; Hans et al., 2018; Edwards et al., 2013; Shah & Austin, 2014), and few have explored breastfeeding continuation (Arbour et al., 2019; Mersky et al., 2021; McGinnis et al., 2018; Edwards et al., 2013), with three of five studies finding no effect on breastfeeding continuation (Edwards et al., 2013; Hans et al., 2018; Mersky et al., 2021). Additionally, only one study examined the content of home visiting services associated with positive breastfeeding outcomes (specifically, dosage) (McGinnis et al., 2018), even though some have called for further research to identify specific program components that promote breastfeeding (Edwards et al., 2013; Mersky et al., 2021).

McGinnis et al. found that breastfeeding conversations between a home visitor and the breastfeeding parent increased rates of breastfeeding initiation and continuation in families enrolled prenatally in HFNY (McGinnis et al., 2018). This analysis uses a similar methodology to examine female bioparents enrolled postnatally in HFNY and hypothesized that both the rate of breastfeeding conversations (dosage) and number of home visits would be significantly and positively associated with breastfeeding continuation among postnatal enrollees.

It is critical to determine whether home visiting breastfeeding supports are successful for postnatal enrollees, both because many home visiting programs only enroll postnatally and because the percentage of HFNY families who enroll prenatally has substantially declined in recent years, meaning that home visitors frequently do not have contact with the family until after the child is born. Further, many mothers are now discharged early from the hospital after delivery and thus do not have sufficient time in the hospital to learn effective breastfeeding techniques, leading healthcare professionals to suggest home-based services to promote breastfeeding. When families enroll postnatally, they may not have sufficient time to establish strong bonds with the home visitor and discuss the importance of breastfeeding and how to latch before the child is born. Thus, it is essential to ascertain whether such postnatal visits are effective (Cheng et al., 2019; Eaton, 2001; Hyman, 2001). Additionally, prenatal and postnatal HFNY families differ in some demographics: postnatal families are less likely to be employed at intake (15.1% vs. 24.0%, $p<0.001$), and postnatal families are more likely to reside in New York City (33.0% vs. 28.8%; $p<0.001$). Thus, this article is important because it establishes impacts in a slightly different population. Additionally, it is necessary to identify which postnatal home visiting components promote breastfeeding continuation.

This study contributes to the literature by (1) examining whether breastfeeding conversations and number of home visits promote breastfeeding continuation in postnatal enrollees, not only prenatal enrollees, and (2) investigating whether breastfeeding conversations have a stronger impact on U.S.-born women than on foreign-born women, thereby providing one potential strategy to address lower breastfeeding rates in U.S.-born women.

Methods

Study Sample

HFNY's goal is to form strength-based, trusting relationships between the family and home visitor. In the first six postnatal months after enrollment, the family receives weekly home visits; in the following six months, families can move to biweekly visits. Home visitors are not healthcare professionals but are specially trained in how to conduct home visits and serve families effectively.

Longitudinal data were extracted from HFNY's management information system (MIS). HFNY collects data about participants at initial assessment, intake, the target child's birth, and every six months thereafter (follow-ups). Additional data is collected following every home visit, including content of discussions and activities during the visit, who was present, and referrals made.

The University at Albany's Institutional Review Board has reviewed the project and determined both the ongoing evaluation and this analysis to be exempt. Mothers signed a written consent at enrollment to allow their data to be used for research purposes.

The cohort study sample includes children of female bioparents (biological mothers) who enrolled in HFNY during their first *postnatal* month, born between January 1, 2007 and March 31, 2019, and who had valid 6- or 12-month follow-up data in the HFNY MIS. Thus, all infants were aged 0–31 days upon enrollment in the study. This sample of 2,117 children was then restricted to 1,485 children who were ever breastfed because women who never breastfed and subsequently enrolled in HFNY postnatally are unlikely to be able to initiate breastfeeding as too much time may have elapsed. Six children who were not breastfed for medical reasons/complications were excluded, and 57 were removed from the sample due to missing data on some covariates in the final models, yielding a final sample of 1,422 eligible children, on which all analyses were conducted.

Measures

Breastfeeding continuation was measured by mothers' reports of duration of breastfeeding their child any amount (exclusive or non-exclusive), as collected at the 6- and 12-month follow-up visits (collected within 30 days of the due date). Durations were categorized as less than one month, one up to two months, two up to three months, three up to six months, and six months or greater. While measures of breastfeeding continuation were based on maternal self-report, the home visitor is expected to have weekly home visits with the mother for the first six months, and weekly or biweekly visits in the next six. Thus, the home visitor can provide validation about the duration of breastfeeding due to frequent visitation.

Whether conversations about breastfeeding occurred during home visits was assessed by whether a home visitor checked a box that such conversations occurred on a Home Visit Log. No further information about the nature of conversations is recorded; thus, some could be short check-ins, while others might be more extensive conversations or even consultations with an internal or external Certified Lactation Consultant. Number of home visits was obtained by counting the number of home visit logs that were filled out in each time interval. The rate of breastfeeding conversations was calculated as the number of home visits where breastfeeding conversations with the home visitor occurred divided by the total number of home visits in that period. The effect of a 1-point increase in this rate would be the odds ratio obtained from exp[(log-odds for rate of breastfeeding conversations)*(1)]. Thus, the effect of a 10% increase in this rate would be the odds ratio obtained from exp[(log-odds for rate of breastfeeding conversations)*(10)].

The study also includes the following maternal covariates that are commonly associated with breastfeeding outcomes and could confound the association between rate of breastfeeding conversations and breastfeeding behavior: age at child's birth, marital status, race/ethnicity (non-Hispanic white (ref), non-Hispanic Black, Hispanic/Latina, and other), nativity, education at intake (less than high school or Graduate Equivalency Degree (GED) (ref), high school or GED, and some college or vocational school or more), employment status at intake, risk assessment score, and urbanicity. Mothers who self-identified as Native American, Asian, multiracial, and "other race" were categorized as other race/ethnicity due to small cell counts. Maternal urbanicity was categorized into Urban – New York City (NYC), Urban – rest of state (ROS) (ref), Large Rural, Small Rural, and Isolated, a categorization designated by the WWAMI Rural Health Research Center based on Rural Urban Commuting Area (RUCA) codes (Hart et al., 2005; WWAMI RHRC, 2023). All families served by HFNY programs in the five counties of NYC (Bronx, Kings, New York, Queens, and Richmond) were designated as Urban – NYC; primary and secondary RUCA codes were then matched to family zip codes to designate the remaining four categories. Analyses also included an assessment score – the Kempe Family Stress Inventory (KFSI) (Korfmacher, J., 2020; Kempe, 1976) until fall 2015 and the Parent Survey, a similar instrument, from fall 2015 until 2019. These assessments are used by HFNY to assess a family's risk of child maltreatment and other negative family functioning outcomes; the two assessments are similar in content, and the scores had similar distributions.

Statistical Analysis

All data were extracted from the HFNY MIS and analyzed using SPSS version 28, Chicago, Illinois. The complete case method was used, arriving at the final sample of 1,422. A series of chi-square tests and independent, two-tailed t-tests with a designated significance level of 0.05 were employed to examine the distribution of several known predictors of breastfeeding (listed in the Measures section) with breastfeeding six months or longer.

Table 1 Participant characteristics, home Visits, and breastfeeding continuation (N = 1422)

Maternal Characteristics at Baseline	*N* (%)/ Mean (SD)
Maternal Race/Ethnicity	
Non-Hispanic White (Ref)	407 (28.6)
Non-Hispanic Black	370 (26.0)
Hispanic/Latina	549 (38.6)
Other race or multiracial	96 (6.8)
Mother born outside the United States	563 (39.6)
Mother Unmarried	1096 (77.1)
Maternal Residence	
Upstate New York Urban Area (Ref)	620 (43.6)
New York City	552 (38.8)
Large Rural Area	139 (9.8)
Small Rural Area	60 (4.2)
Isolated	51 (3.6)
Maternal Educational Level	
Less than HS/GED (Ref)	511 (35.9)
HS or GED	424 (29.8)
Some college or vocational school or more	487 (34.2)
Maternal Employment at Intake	235 (16.5)
Mother's age at birth (in years)	25.9 (+/−6.6)
Mother's score on Kempe or Parent Survey Assessment	37.5 (+/−12.5)
Postnatal Home Visits	
Percentage of visits in the 1 st month with breastfeeding conversations	41.6 (+/−43.4)
Percentage of visits in the 2nd month with breastfeeding conversations	30.8 (+/−37.2)
Percentage of visits in the 3rd month with breastfeeding conversations	22.5 (+/−35.6)
Percentage of visits in the 4th through the 6th month with breastfeeding conversations	15.9 (+−26.6)
Number of visits in the 1 st month	1.9 (+/−1.2)
Number of visits in the 2nd month	3.2 (+/−1.3)
Number of visits in the 3rd month	3.1 (+/−1.4)
Number of visits in the 4th through the 6th month	8.9 (+/−3.3)
Breastfeeding continuation duration	
<1 month	113 (7.9)
1 up to 2 months	210 (14.8)
2 up to 3 months	123 (8.6)
3 up to 6 months	407 (28.6)
6 months or more	569 (40.0)
Sample *N* = 1422	

A series of multivariable logistic regressions were used to examine the odds of breastfeeding continuation. Analyses were conducted on mothers who breastfed at least up to the preceding interval (e.g., for the outcome breastfed three up to six months, analyses were conducted on female bioparents who at least breastfed two up to three months). For each regression, the independent variable of interest was the percentage of total home visits with breastfeeding conversations in the *preceding interval*. For example, to calculate the rate of breastfeeding conversations predicting odds of breastfeeding for one up to two months, breastfeeding conversations in the first 30 days were examined. This approach was used to strengthen the causal interpretation of the analyses, in keeping with the methodology used by (McGinnis et al., 2018). An interaction term between maternal nativity and rate of breastfeeding conversations was added to each final model.

Results

Sample Characteristics

The demographics of the sample, and data about breastfeeding conversations and breastfeeding duration, are described in Table 1. Mothers who are Hispanic/Latina and mothers born outside the U.S., two groups known to have higher breastfeeding rates, each represent about 40% of the sample, with 70.5% of mothers born outside the U.S. being Hispanic and 20.2% being non-Hispanic Black. Non-Hispanic Black and unmarried mothers, two groups with lower breastfeeding rates, represent 26.0% and 77.1% of the sample, respectively, again with overlap between groups. The mean maternal age at birth was 25.9 years. The mean rate of breastfeeding conversations declined from 41.6% in the first postnatal month to 15.9% in the fourth through sixth postnatal months. Of the children who were ever breastfed, 92.1% were breastfed for at least one month; 40.2% were breastfed six months or longer.

Univariate Analysis

Breastfeeding six months or longer (the AAP and WHO recommendation) was significantly associated ($p < 0.001$) in univariate analysis with maternal race/ethnicity, birthplace, marital status, urbanicity, risk score, as well as the rate of breastfeeding conversations with home visitors and number of home visits in the fourth through sixth months (see Table 2).

Table 2 Participant characteristics by breastfeeding 6 months or longer

Characteristics	Breast-fed < 6 months (*N*, %)	Breast-fed ≥ 6 months (*N*, %)	Chi-Square *p*-value
Maternal Race/Ethnicity			**< 0.001**
Non-Hispanic White (Ref)	256 (62.9)	151 (37.1)	
Non-Hispanic Black	249 (67.3)	121 (32.7)	
Hispanic/Latina	293 (53.4)	256 (46.6)	
Other race or multiracial	55 (57.3)	41 (42.7)	
Maternal Birthplace			**< 0.001**
Mother born outside the United States	255 (45.3)	308 (54.7)	
Mother born in the United States	598 (69.6)	261 (30.4)	
Maternal Marital Status at Intake			**< 0.001**
Unmarried	714 (65.1)	382 (34.9)	
Married	139 (42.6)	187 (57.4)	
Maternal Residence			**< 0.001**
Upstate New York Urban Area (Ref)	396 (63.9)	224 (36.1)	
New York City	309 (56.0)	243 (44.0)	
Large Rural Area	88 (63.3)	51 (36.7)	
Small Rural Area	41 (68.3)	19 (31.7)	
Isolated	19 (37.3)	32 (62.7)	
Maternal Educational Level			0.684
Less than HS/GED (Ref)	306 (59.9)	205 (40.1)	
HS or GED	261 (61.6)	163 (38.4)	
Some college or vocational school or more	286 (58.7)	201 (41.3)	
Maternal Employment at Intake			0.996
Unemployed at Intake	712 (60.0)	475 (40.0)	
Employed at Intake	141 (60.0)	94 (40.0)	
Mother's age at birth (in years)	24.7 (+/−6.4)	27.6 (+/−6.6)	0.291
Mother's score on Kempe or Parent Survey Assessment	38.8 (+/−13.1)	35.5 (+/−11.3)	**< 0.001**
Postnatal Home Visits			
Percentage of visits in the 4th through the 6th month with breastfeeding conversations	5.8 (+/−15.0)	31.0 (+/−32.5)	**< 0.001**
Number of visits in the 4th through the 6th month	8.5 (+/−3.3)	9.4 (+/−3.1)	**< 0.001**

Boldface indicates statistical significance at p<0.05.

Rate of Breastfeeding Conversations and Breastfeeding Continuation

The rate of breastfeeding conversations with home visitors was significantly associated with increased odds of breastfeeding continuation in all four regression analyses, even after adjusting for potential confounders (Table 3). In multivariable analysis, the strong association between most other covariates and breastfeeding continuation were no longer significant, although the association with rate of breastfeeding conversations remained strong and significant. Mothers born outside the U.S. also were more likely to continue breastfeeding in all four analyses.

Interaction Between Rate of Breastfeeding Conversations and Maternal Nativity

In two of the four logistic regression analyses (for the odds of breastfeeding one up to two months and the odds of breastfeeding six months or more), there was significant interaction between the rate of breastfeeding conversations and maternal nativity ($p = 0.013$ and 0.001, respectively). Thus, the results for these variables should be considered together and cannot be properly reported in Table 3, as the odds ratio (OR) for rate of breastfeeding conversations on breastfeeding varies depending on maternal nativity status and vice versa. The results for these analyses are thus presented in Table 4, following a format recommended by Knol and VanderWeele (2012). In the analysis for breastfeeding six months or more, a 10% increase in the rate of breastfeeding conversations was associated with a 51% increase in the odds of breastfeeding six months or longer for U.S.-born mothers, versus a 23% increase among mothers born outside the U.S. In the analysis for breastfeeding one up to two months, for U.S.-born mothers, a 10% increase in the rate of breastfeeding conversations was associated with a 22% increase in the odds of breastfeeding. However, for mothers born outside the U.S., the odds ratio only showed a trend toward statistical significance (OR = 1.11, 95% CI = (0.98–1.24), $p = 0.132$), potentially due to the smaller n. These results suggest that breastfeeding conversations are more effective for U.S.-born mothers on breastfeeding one up to two months.

Additionally, mothers born outside the U.S. who had a 10% increase in the rate of breastfeeding conversations had almost three times the odds of breastfeeding six months or more compared with U.S.-born mothers with a 0% rate of breastfeeding conversations (this high odds ratio is attributed to the fact that mothers born outside the U.S. have much higher odds of breastfeeding even though the impact of breastfeeding conversations is lower among them) (OR = 2.83, 95% CI = 1.46–5.51). This is consistent with previous research that women born outside the U.S. have greater odds of breastfeeding (Campbell et al., 2024; Gibson-Davis et al., 2006).

A 10% increase in the rate of breastfeeding conversations was associated with a 31% increase in the odds of breastfeeding two up to three months and a 23% increase in the odds of breastfeeding three up to six months. In such analyses, no interaction was found between rate of breastfeeding conversations and maternal nativity, but mothers born

Table 3 Logistic regressions predicting odds of breastfeeding duration for 1 up to 6 months or greater[a]

	Breastfeeding Duration							
Characteristics	Breastfed 1 up to 2 Months (For BF≤1 Month)		Breastfed 2 up to 3 Months (For BF≥1 Month)		Breastfed 3 up to 6 Months (For BF≥2 Months)		Breastfed 6 Months or Greater (For BF≥3 Months)	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Postnatal Home Visits								
For a 10% Increase in the rate of BF conversations in home visits[a]	See Table 4		**1.31*** **	**1.24–1.39**	**1.23*** **	**1.14–1.33**	See Table 4	
Number of Visits in previous period	0.96	0.81–1.13	0.98	0.87–1.10	1.03	0.90–1.19	**1.11*** **	**1.06–1.16**
Maternal Race/Ethnicity								
Non-Hispanic Black	**1.87***	**1.0-3.42**	1.37	0.84–2.24	1.49	0.79–2.82	0.90	0.54–1.52
Hispanic/Latina	1.82	0.91–3.66	1.36	0.79–2.33	1.07	0.55–2.1	1.05	0.61–1.79
Other race or multiracial	0.77	0.36–1.68	1.01	0.50–2.07	1.01	0.41–2.47	1.24	0.60–2.54
Mother born outside the United States	See Table 4		**2.40*** **	**1.51–3.80**	**2.02** **	**1.18–3.45**	See Table 4	
Mother Unmarried at Intake	**0.40** **	**0.21–0.79**	0.87	0.57–1.35	0.79	0.46–1.34	0.74	0.51–1.07
Maternal Residence								
New York City	1.69	0.96–2.99	0.75	0.50–1.12	0.79	0.49–1.28	1.07	0.75–1.52
Large Rural Area	1.00	0.53–1.88	0.62	0.36–1.09	1.34	0.58–3.07	1.13	0.60–2.13
Small Rural Area	0.67	0.29–1.55	0.85	0.36–1.99	0.85	0.32–2.25	0.87	0.37–2.06
Isolated	1.63	0.53–4.95	1.88	0.61–5.75	2.25	0.50-10.21	2.31	0.96–5.60
Maternal Educational Level								
HS or GED	1.08	0.64–1.81	1.02	0.67–1.54	0.84	0.51–1.39	0.74	0.51–1.08
Some college or vocational school or more	1.10	0.65–1.88	0.86	0.57–1.31	0.68	0.41–1.13	0.81	0.55–1.20
Unemployed at Intake	1.13	0.65–1.94	1.36	0.89–2.10	0.83	0.46–1.48	0.82	0.53–1.27
Mother's age at birth (in years)	0.98	0.95–1.02	1.01	0.98–1.04	1.01	0.98–1.05	**1.06*** **	**1.04–1.09**
Mother's score on Kempe or Parent Survey Assessment	**0.98***	**0.97-1.00**	1.00	0.99–1.01	1.00	0.98–1.01	1.00	0.98–1.01
Rate of visits with BF conversations[a]*Mother born outside the United States	See Table 4		Not included: $p=0.420$		Not included: $p=0.512$		See Table 4	

[a]Percentage of visits with breastfeeding conversations during the prior period.

Boldface indicates statistical significance at (*p<0.05, **p≤0.01, ***p≤0.001).

Table 4 Interaction between rate of breastfeeding conversations during the prior period and maternal nativity

Breastfeeding Continuation Outcome	Increase in Rate of Breastfeeding Conversations	For Mothers Born in the U.S.		For Mothers Born Outside the U.S.		*p*-value for interaction
		OR	95% CI	OR	95% CI	
Breastfed 1 up to 2 Months (For BF≤1 Month)	For a 0% rate of BF conversations	1.0		**2.13**	**1.01–4.49**	**0.013**
	For a 10% increase in the rate of BF conversations[a]	**1.22**	**1.13–1.32**	2.22	0.86–5.69	
OR (95% CIs) for Breastfed 1 up to 2 Months within strata of Maternal Nativity	For a 10% increase in the rate of BF conversations[a]	**1.22**	**1.13–1.32 (p<0.001)**	1.11	0.98–1.24 ($p=0.132$)	
Breastfed 6 Months or Greater (For BF≥3 Months)	For a 0% rate of BF conversations	1.0		**2.34**	**1.53–3.60**	**0.001**
	For a 10% increase in the rate of BF conversations[a]	**1.51**	**1.37–1.66**	**2.83**	**1.46–5.51**	
OR (95% CIs) for Breastfed 6 Months or Greater within strata of Maternal Nativity	For a 10% increase in the rate of BF conversations[a]	**1.51**	**1.37–1.66 (p<0.001)**	**1.23**	**1.12–1.36 (p<0.001)**	

[a]Percentage of visits with breastfeeding conversations during the prior period.

ORs are adjusted for number of home visits in the previous period, maternal race/ethnicity, maternal marital status at enrollment, maternal residence, maternal educational level, maternal employment status at enrollment, maternal age at child's birth, and mother's score on the Kempe or Parent Survey assessment.

Boldface indicates statistical significance (p<0.05).

outside the U.S. were at least twice as likely to continue breastfeeding.

Number of Home Visits and Breastfeeding Continuation

The number of home visits in the previous period, regardless of whether they included conversations about breastfeeding, was significantly associated with the odds of breastfeeding six months or more (OR = 1.11, 95% CI = 1.06–1.16).

Other Findings

Older mothers were more likely to breastfeed six months or longer. Additionally, married mothers, mothers with a lower assessment score, and non-Hispanic Black mothers were significantly more likely to breastfeed one up to two months, though these findings did not persist in the other three analyses.

Discussion

This analysis demonstrates that the 'dosage' of breastfeeding conversations with a home visitor in the previous period significantly predicts the odds of breastfeeding continuation. Because there is both a dose-response relationship and the rate of breastfeeding conversations in the *previous* period is examined, it could suggest a potential causal relationship between breastfeeding conversations and breastfeeding continuation. Other researchers have called for a need to identify specific components of a home visiting intervention that influence breastfeeding behavior (Mersky et al., 2021; Edwards et al., 2013); this analysis specifically identifies an association with dosage of breastfeeding conversations with the home visitor. If breastfeeding conversations are effective in promoting breastfeeding continuation, extant home visiting programs could increase the rate of conversations about breastfeeding to impact how long the families they serve engage in this important health-promoting behavior. This approach is cost-effective because it couples a breastfeeding intervention into an extant program, instead of a separate costly intervention.

These analyses also demonstrate that while breastfeeding conversations in home visiting are beneficial for all women, the impact is stronger among U.S.-born mothers than those born outside the U.S. U.S-born women are significantly less likely to breastfeed, as demonstrated in recent literature (Campbell et al., 2024; Gibson-Davis et al., 2006); these analyses point to one way to reduce this disparity.

It is notable that the number of home visits – regardless of content – in the fourth to sixth month predicts breastfeeding continuation to six months or greater, meaning that later home visits continue to be meaningful. Specifically, for an increase of one extra home visit, the odds of breastfeeding six months or greater increases by 11%. The number of home visits did not predict breastfeeding continuation in the other three analyses, perhaps because there was less variability as such intervals only spanned one month. The fact that the rate of breastfeeding conversations was significant in all four models, while number of home visits was only significant for the breastfeeding six months or more, suggests that there is something about the rate of breastfeeding conversations, rather than home visiting itself (number of home visits), that promotes breastfeeding continuation. In the model of breastfeeding six months or more, the finding that number of home visits (home visiting itself) and rate of breastfeeding conversations are both significant suggests that these two variables have independent effects on breastfeeding continuation.

The strong association between most variables in univariate analysis did not persist upon adjusting for dosage of breastfeeding conversations and number of home visits in the preceding period. This pattern suggests that dosage of breastfeeding conversations is the driving factor contributing to breastfeeding continuation.

A few other variables remained significant in multivariable analysis. Mothers who were unmarried at intake and mothers with a higher risk score on the assessment were significantly less likely to breastfeed one up to two months. It may be that breastfeeding conversations help remediate these disparities in breastfeeding continuation beyond two months. And inconsistent with most literature in the field (CDC, 2025), non-Hispanic Black women in this study were more likely to breastfeed one up to two months, independent of the interaction between maternal nativity and rate of breastfeeding conversations. Non-Hispanic Black women in our sample were significantly more likely to live in NYC ($p < 0.001$), and baby-friendly hospital policies promoting breastfeeding are more common in NYC (Baby-Friendly, 2024), which may explain this association.

Previous research has shown that home visiting programs promote breastfeeding (Arbour et al., 2019; Scharff et al., 2021; LeCroy & Lopez, 2020; McGinnis et al., 2018; Hans et al., 2018; Edwards et al., 2013; Shah & Austin, 2014) although few studies have examined the specific component of home visiting that has the effect (McGinnis et al., 2018), and only two found an association between home visiting and breastfeeding continuation (McGinnis et al., 2018; Arbour et al., 2019). Also, only one study examined women enrolled in home visiting postnatally (LeCroy & Lopez, 2020), despite the number of home visiting programs that enroll families in the early postnatal period.

There may be several reasons for HFNY's success in promoting breastfeeding continuation in postnatal enrollees, while other home visiting programs have not seen such success. HFNY takes a strength-based approach ("accentuating the positives", Edwards et al., 2013; LeCroy & Davis, 2016; Kirkland, 2013) and uses several reflective strategies to tailor home visitors' conversations to the specific characteristics of the family and to build trust and engage parents in parent-identified goals. These strategies can help home visitors identify parents' motivations and uncertainty so they may create a protected space to discuss parental concerns about breastfeeding. Notably, the only other studies that showed an association between home visiting and breastfeeding continuation evaluated programs that followed the HFA model (McGinnis et al., 2018) or both the HFA and the Nurse Family Partnership models (Arbour et al., 2019).

This study found that the dosage of breastfeeding conversations in the preceding period is associated with increased breastfeeding continuation among mothers enrolled in home visiting in the first month postnatally. It also found that the impact of breastfeeding conversations with a home visitor is stronger among U.S.-born mothers, who tend to have lower rates of breastfeeding than mothers born outside the U.S. Thus, breastfeeding conversations with a home visitor may be an important way to reduce the breastfeeding disparities seen in U.S.-born women. Also, the number of home visits in the preceding period was associated with breastfeeding six months or greater. These findings can be applied to promote AAP and WHO breastfeeding goals: if more home visitors are able to have more conversations about breastfeeding with families and thus more parents continue to breastfeed, more parents and children will experience the health benefits associated with continued breastfeeding.

Future research should continue to investigate the specific components of home visiting (such as dosage of breastfeeding conversations) that may impact breastfeeding continuation, following calls from the field (Mersky et al., 2021; Edwards et al., 2013). Such research should also try to identify the nature of such breastfeeding conversations. Future studies should also examine families who enroll in home visiting postnatally to confirm this study's findings.

Limitations

These data come from families enrolled in HFNY and therefore may not be representative of all families nationwide, but they are also not necessarily different from other families with similar demographics and needs across the country. Also, these data are subject to measurement error because the mother may not be able to recall exactly how long she breastfed when reporting at the 6- and 12-month follow-up; such nondifferential measurement error would bias the results toward the null. However, the home visitor's weekly visits with the family could remediate this error. Additionally, this study is subject to social desirability bias since mothers may want to overreport duration of breastfeeding to be more favorably received by the home visitor. Such bias may be more pronounced in mothers who have a higher rate of breastfeeding conversations, which could contribute to the findings.

Another limitation of this study is that the exact nature of the breastfeeding conversations is unknown. Some conversations might be short check-ins, while others might be more extensive conversations, even involving a certified lactation consultant. However, such nondifferential misclassification would bias the results toward the null. And while this study does not provide details about the breastfeeding conversations, all home visitors use at least one of three HFNY-approved primary curricula to guide their discussions about breastfeeding. While it is known that the content of the conversations varies, the conversations do appear to promote breastfeeding; thus, the intervention appears to be helpful. Furthermore, public health recommendations about breastfeeding were fairly consistent during the timeframe of this study; and breastfeeding was strongly promoted by HFNY during this timeframe.

Another limitation of this study is that the analyses are dependent on families staying enrolled in home visiting because breastfeeding behavior is recorded 6 or 12 months after the child's birth (follow-up). If families who stay enrolled in HFNY are more compliant and have better relationships with their home visitors, then such families may be more likely to continue breastfeeding, as well.

Finally, breastfeeding conversations are more likely to occur for mothers who are interested in and able to continue breastfeeding. If a mother no longer wants to breastfeed or cannot continue (for example, due to returning to work in an environment where it is not possible to pump), they might not be receptive to continued conversations. The data system lacks data on potential correlates, such as mothers' intention to breastfeed and work environment, potentially resulting in unmeasured confounding.

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Data Availability The data are protected and cannot be shared publicly to protect the privacy of Healthy Families New York participants. The data may be available to bona fide researchers if they meet the conditions outlined by Healthy Families New York and the New York State Office of Children and Family Services.

Code Availability The SPSS code used to analyze these data will be made available upon request. All analyses were conducted using SPSS version 28, Chicago, Illinois.

Declarations

Conflict of interest The authors have no conflicts of interest. The opinions stated in this article are those of the authors and do not necessarily reflect those of the New York State Office of Children and Family Services.

Ethical Approval The University at Albany's Institutional Review Board has reviewed the project and determined both the ongoing evaluation and this analysis to be exempt.

Consent to Participate Participants signed a written consent at enrollment to allow their data to be used for research purposes.

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