



Moving Beyond Breastfeeding Initiation: A Qualitative Study Unpacking Factors That Influence Infant Feeding at Hospital Discharge Among Urban, Socioeconomically Disadvantaged Women



Larelle H. Bookhart, MPH, RD, IBCLC; Andrea B. Joyner, MD, IBCLC; Kelly Lee, RN, IBCLC; Nikkia Worrell, MD; Denise J. Jamieson, MD, MPH; Melissa F. Young, PhD

ARTICLE INFORMATION

Article history:

Submitted 10 June 2020
Accepted 2 February 2021

Keywords:

Qualitative research
Exclusive breastfeeding
Breastfeeding rates
Breastfeeding support
Social Ecological Model

2212-2672/Copyright © 2021 by the Academy of Nutrition and Dietetics. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).
<https://doi.org/10.1016/j.jand.2021.02.005>

ABSTRACT

Background Factors that influence breastfeeding initiation and duration have been well established; however, there is limited understanding of in-hospital exclusive breastfeeding (EBF), which is critical for establishing breastfeeding. Grady Memorial Hospital, which serves a high proportion of participants receiving Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and racial/ethnic minorities, had an in-hospital EBF rate in 2018 by the Joint Commission's definition of 29% and sought contextualized evidence on how to best support breastfeeding mothers.

Objective The objectives were to (1) identify facilitators and barriers to in-hospital EBF and (2) explore breastfeeding support available from key stakeholders across the social-ecological model.

Design In-depth, semistructured interviews were conducted and analyzed using the thematic analysis.

Participants The sample included a total of 38 purposively sampled participants from Grady Memorial Hospital (10 EBF mothers, 10 non-EBF, and 18 key stakeholders such as clinicians, community organizations' staff, and administrators).

Results Key themes included that maternal perception of inadequate milk supply was a barrier to in-hospital EBF at the intrapersonal level. At the interpersonal level, a personable and individualized approach to breastfeeding counseling may be most effective in supporting EBF. At the institutional level, key determinants of EBF were gaps in prenatal breastfeeding education, limited time to provide comprehensive prenatal education to high-risk patients, and practical help with latching and positioning. Community-level WIC services were perceived as a facilitator due to the additional benefits provided for EBF mothers; however, the distribution of WIC vouchers for formula to mothers while they are in the hospital undermines the promotion of EBF. Cultural norms and a diverse patient population were reported as barriers to providing support at the macrosystem level.

Conclusion Multipronged approaches that span the social-ecological model may be required to support early EBF in hospital settings.

J Acad Nutr Diet. 2021;121(9):1704-1720.

THE IMMEDIATE AND LONG-TERM BENEFITS OF breastfeeding for both infants and mothers are well established and include lower infectious morbidity and mortality, higher intelligence, prevention of breast and ovarian cancers for mothers, and protection against overweight and diabetes later in life.¹ Exclusive breastfeeding (EBF) for the first 6 months of life is recommended globally and is established as the normative

standard for infant feeding.^{2,3} Despite global recommendations, only 1 in 4 infants are breastfed exclusively for the first 6 months in the United States.⁴

A dose-response relationship exists between breastfeeding and associated health benefits, in which those who breastfeed for longer periods have increased benefits.¹ Formula supplementation during the early newborn period, which is often initiated in the hospital setting, is associated with

decreased breastfeeding duration.⁵ In the United States, EBF disparities exist among certain subpopulations. For example, 21% of non-Hispanic Black infants meet the recommendation for EBF at 6 months compared with 29% of non-Hispanic White infants.⁴ The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides support to mothers and children at risk for poor nutrition including breastfeeding support.⁶ However, breastfeeding disparities also exist by WIC participation, in which 18% of infants who receive WIC breastfeed exclusively until 6 months, compared with 34% that are eligible but do not participate and 33% who are ineligible.⁴ Geographical differences also exist in which those living in southern states have lower rates of EBF at 6 months.⁷ EBF rates at 6 months for these subpopulations are below the Healthy People 2020 target of 25.5%, although the national mean exceeds this target.⁸ An in-depth understanding of the support available to reduce barriers and enhance facilitators during this time frame following birth is essential to amending infant feeding practices to meet the proposed Healthy People goal of improving EBF at 6 months.⁸ Considering the disparities in EBF among subpopulations and the health benefits associated with longer durations of breastfeeding for which early EBF is important for establishing a milk supply, a contextual understanding of early EBF is critical to addressing health disparities.

Located in urban Atlanta, Georgia, Grady Memorial Hospital (GMH) provides care to a racially/ethnically diverse, economically disadvantaged patient population in which there is a high proportion of WIC participation. GMH achieved Baby-Friendly designation in 2015, which is a hospital designation attained after the implementation of evidenced-based Ten Steps to Successful Breastfeeding including policies that are supportive of breastfeeding and clinical practices such as providing prenatal breastfeeding education.² Since becoming Baby-Friendly designated, GMH has improved in-hospital EBF from 11% in 2015 to 29% in 2018. However, this recently improved mean is below the national (52%) and state (40%) mean for hospitals.⁹ Further progress is needed for this urban hospital serving a marginalized patient population.

The social-ecological model (SEM) is often used to explore health behaviors as it shifts the onus from individual decision making alone to include the context, in which individuals make decisions.^{10,11} This study used the SEM for health promotion as proposed by McLeroy et al, which includes the intrapersonal, interpersonal, institutional, and community levels.¹¹ Based on previous literature, culture has been shown to have an influence on breastfeeding; therefore, this study also included the macrosystem level, which is inclusive of cultural norms, as described by Bronfenbrenner.¹² Qualitative research studies that explore breastfeeding initiation and duration using the SEM among marginalized populations have found influential factors throughout different levels of the model. Examples of these factors include self-efficacy related to milk supply at the intrapersonal level; the influence of family and provider support at the interpersonal level; access to breastfeeding support services at the institutional level, WIC services at the community level; and cultural perceptions about the value of breast milk at the macrosystem level.¹³⁻¹⁶ However, there is limited information on the key factors that influence EBF during the first few days of life and include the full spectrum of stakeholders and understanding of the services provided by the health care

RESEARCH SNAPSHOT

Research Question: What factors influence in-hospital exclusive breastfeeding?

Key Findings: Through in-depth interviews with 38 participants (including mothers, clinicians, community organizations' staff, and administrators), this study found that factors across the social-ecological model influence in-hospital exclusive breastfeeding. Key factors included maternal perception of inadequate milk supply (intrapersonal level); personable and individualized breastfeeding counseling (interpersonal level); provision of comprehensive prenatal breastfeeding education and practical support (institutional level); Special Supplemental Nutrition Program for Women, Infants, and Children services that are supportive of breastfeeding (community level); and cultural norms of a diverse patient population (macrosystem level). These results highlight the need for a multilevel approach to support in-hospital exclusive breastfeeding.

system. In this qualitative study, we sought to (1) identify facilitators and barriers to in-hospital EBF and (2) explore the current practices, perceptions, and support related to breastfeeding in the maternity care setting among key stakeholders within various levels of the SEM.

MATERIALS AND METHODS

Design

A cross-sectional, qualitative design was utilized. A core team was assembled consisting of GMH administrators/staff and Emory University Rollins School of Public Health, Global Health Department researchers to guide the study design. Ethical approval by Emory University and GMH was obtained prior to the initiation of research procedures.

Setting

GMH is a large public hospital (approximately 3000 births per year) serving the metro Atlanta area that incorporates a variety of learners including medical and nursing students, resident physicians, and fellows from Emory University and Morehouse College, as well as attending physicians from both institutions. Hospital staff, including nurses and administrators, are employed by GMH, whereas physicians are employed by either Emory University or Morehouse College. A WIC office is located in the hospital, which provides breastfeeding support and nutrition services. The majority of mothers who deliver at GMH receive prenatal care from a hospital-based clinic; however, some mothers receive prenatal care at one of several outlying community clinics, some international patients receive prenatal care in other countries, and some receive no prenatal care. The average length of stay ranges from 48 to 72 hours following delivery. Feeding intentions are asked by clinicians and extenders (those who extend the care given by physicians including nurses, International Board Certified Lactation Consultants, and CenteringPregnancy coordinators) during the prenatal period and postpartum period; mothers' feeding intentions are subject to vary. This study focuses on decisions and support prior to

hospital discharge; however, of note, postdischarge breastfeeding support is available from GMH lactation program, from WIC for enrolled program participants, and from obstetrics and gynecology (OB/GYN) and pediatric clinicians. The availability of this support is communicated to mothers before hospital discharge.

Participants

This study utilized purposive sampling across various levels of the SEM (Figure 1), which was adapted from prior SEM frameworks.^{11,12,17} The intrapersonal level consisted of GMH postpartum mothers, and the interviews took place near the time of hospital discharge. For the intrapersonal level, 10 EBF mothers and 10 non-EBF (NEBF) mothers were interviewed. EBF included feeding only breast milk, not any other foods or liquids including infant formula or water. NEBF included breastfeeding and supplementing with formula and mothers who only provided formula. Inclusion criteria were mothers who gave birth to singleton, live infants over 37 weeks of gestation. Exclusion criteria included mothers and infants with medical contraindications for breastfeeding or with medical indications for supplementation, as defined by the Academy of Breastfeeding Medicine's protocols^{3,18} and 7,¹⁹ infants admitted to the neonatal intensive care unit, minors under the age of 18, and those with cognitive impairments. Women were approached in person by the interviewer in their hospital room until the sample size was reached. Participation was 56% (10 of 18 women) for EBF mothers and 48% (10 of 21 women) for NEBF mothers. Common reasons for nonparticipation included visitors in the room, fatigue, and disinterest.

Key stakeholders across the SEM beyond the intrapersonal level were identified and agreed upon by the core team. This

facilitated a comprehensive examination of factors that are external to mothers that influence the breastfeeding support available. The interpersonal level consisted of those who provide direct breastfeeding support to mothers during the prenatal or the early postpartum period ($n = 7$). This included extenders and a resident physician. Four nurses were interviewed including 1 postpartum day shift nurse, 1 postpartum night shift nurse, 1 nurse who provided care at the GMH OB/GYN clinic, and 1 nurse who provided care at an outlying OB/GYN clinic. The institutional level consisted of those who influence policy and the practice of other clinicians ($n = 9$) and included the chiefs of service for pediatrics and OB/GYN, a clinical performance improvement specialist, and residency directors. The community level consisted of key stakeholders from organizations that provide breastfeeding support including WIC and Le Leche League International ($n = 2$). Although this study included a diverse sample of perspectives from various levels of the SEM, we purposively selected a heterogeneous group within each level (eg, a day shift nurse and a night shift nurse were included for the interpersonal level) to collect the perspectives from multiple vantage points and to achieve theme saturation within a total of 38 participants.^{20,21} Theme saturation was determined to have been reached when no new concepts or definitions were obtained.²⁰ Participant enrollment ended when theme saturation was reached. Key stakeholders were recruited in person, by telephone, and by e-mail using a defined script. All recruited key stakeholders participated.

Data Collection

Participants were recruited and enrolled from December 2018 to May 2019. Semistructured interview guides for each level of the SEM were developed based on current literature

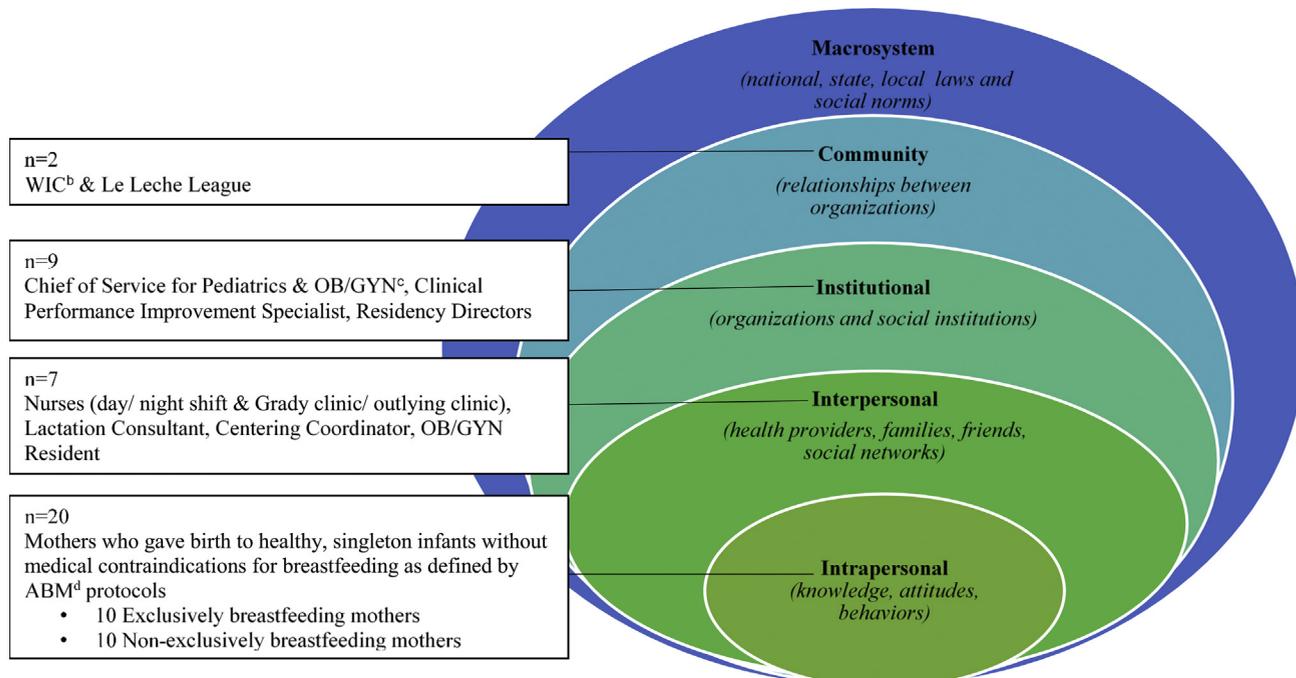


Figure 1. Social-ecological model sampling method for selection of participants in a qualitative study using in-person interviews at Grady Memorial Hospital on facilitators and barriers to in-hospital exclusive breastfeeding.^a Adapted from Centers for Disease Control and Prevention, 17McLeroy et al, 11 and Bronfenbrenner.¹² ^bWIC = Special Supplemental Nutrition Program for Women, Infants, and Children. ^cOB/GYN = Obstetrics and gynecology. ^dABM = Academy of Breastfeeding Medicine.

and tailored to the setting based on feedback from members of the core team that provide breastfeeding support to women who deliver at GMH (Figure 2). Interview guides for mothers included questions on prenatal feeding plans, influences on prenatal feeding plans, changes to feeding plans after delivery, overall facilitators and barriers, and additional thoughts/advice for other mothers. Interview guides for key stakeholders included the following domains: their role in supporting EBF, breastfeeding-related experience and training, current practices, barriers to providing support, factors that facilitate support, recommendations, factors to consider, and advice to new providers. Written consent was obtained prior to the interviews. Only the mother, baby, and interviewer were present in the hospital room for interviews with mothers. Key informant interviews were conducted in an office or conference room with only the participant and interviewer present to protect confidentiality. Interviews were audio-recorded and were approximately 40 minutes.

Data Analysis

All audio recordings were transcribed, de-identified, and entered into MAXQDA 2018 software, version 18.2.0, (VERBI Software, Berlin, Germany).²² Thematic analysis was used to analyze the data, which enabled use of an existing theoretical framework (SEM) while capturing experiences, meanings, and realities of participants.²³ Transcripts from mothers and key stakeholders were analyzed separately; however, there was large overlap in codes. Both code trees were based on the SEM. Code definitions were discussed with a graduate student with qualitative coding experience, 10% of transcripts were double-coded by the graduate student and the first author to ensure validity of the codes, and disagreements were discussed and resolved. Themes were identified that included memo writing on intersecting and related codes across transcripts from all levels of the SEM. Themes were refined using cross-case comparison of related codes, theme definitions and names were refined, and comprehensive reporting of each theme was completed. Representative quotes for each theme were selected. Since there was often 1 person that held the key stakeholder job titles and to further de-identify the data while also providing context, the term “extender” was used to represent those who extend the care given by physicians, “community organization” was used to represent key stakeholders at the community level, and medical doctors were represented by their medical specialty. The SEM used to analyze the data was further adapted to include the macrosystem¹² with the emergence of the theme “culture.” During this process, theme development was discussed between the first and last authors.

Reflexivity

The primary researcher, first author, is an International Board Certified Lactation Consultant and previously served as a county-level WIC director. Regular debriefing meetings were held with members of the core team to ensure that biases did not influence data collection, coding, or analysis. A trained graduate student coded data in addition to the first author to ensure validity of findings. Constant comparison techniques were used to minimize the influence of potential biases and to ensure that themes were grounded in the data.

RESULTS

A total of 38 participants were included in this study. Demographic characteristics for the 20 mothers that participated in this study are reported in the Table. Of the nonexclusively breastfeeding mothers, 1 mother was formula feeding only. A total of 13 themes emerged related to each level of the SEM (Figure 3). Some themes were identified as both facilitators and barriers by study participants. For example, mothers with a positive previous feeding experience reported this as a facilitator; however, mothers with a negative or challenging previous feeding experience reported this as a barrier. Representative quotes (“Q” with the respective number of the quote) for each theme are presented in Figure 4 and are further identified as quotes that are representative of facilitators and/or barriers. In-text references to quotes include feeding method for mothers (EBF or NEBF) and parity of mother (“P” with respective value for parity). In-text references to quotes from key stakeholders are indicated as “KS” and their respective medical specialty (OB/GYN or pediatrics), as an extender (those who extend the care given by physicians such as nurses, International Board Certified Lactation Consultants, and CenteringPregnancy coordinators), or a community organization representative.

Intrapersonal

Intrapersonal themes were related to maternal perception of inadequate milk supply and mothers’ previous experiences breastfeeding. Both key stakeholders and mothers discuss how the perception of inadequate milk supply may lead to supplementation, and this perception was a barrier to EBF. Many NEBF mothers reported supplementing because they thought they were not producing enough breast milk even after the medical staff provided counseling regarding signs of adequacy (Q1, NEBF, P3). Mothers reported concerns about milk production when they were separated from their babies later, mostly when returning to work. Key stakeholders also explained that cluster feeding concerns mothers who have never breastfed resulting in formula supplementation (Q2, KS, OB/GYN).

Many multiparous mothers recalled complications or challenges during previous breastfeeding experiences. The majority of the EBF mothers mentioned that they received practical advice to resolve the issue or they understand how to avoid previously encountered complications (Q3, EBF, P3). The resolution of these problems during previous breastfeeding experiences was a facilitator of EBF. However, NEBF mothers reported less help with previous breastfeeding issues, which was a barrier. Many NEBF mothers reported using the same techniques, including formula supplementation, which were used during their previous feeding experiences though they were not experiencing the same complication (Q4, NEBF, P4).

Interpersonal

Interpersonal related themes included the influence of knowledge and attitudes related to breastfeeding that were addressed through counseling, family members’ experiences with infant feeding, and family members’ attitudes related to breastfeeding. Breastfeeding counseling that included a discussion of the benefits of breastfeeding during prenatal health care visits encouraged the majority of women to

Topic	Questions
Mothers (intrapersonal level)	
Prenatal feeding plans	<ol style="list-style-type: none"> 1. What were your feeding plans for your baby prior to delivery? Additional guiding questions: <ol style="list-style-type: none"> a. If you did not have a feeding plan prior to delivery, what were you considering? b. Were you planning breastfeeding, formula feeding, or pump and bottle-feeding? c. Please describe your prior breastfeeding experiences. d. Did a health care provider discuss a feeding plan with you prior to delivery? e. What advice did your health care provider provide related to infant feeding? f. What advice did you receive from friends and family members?
Influences on prenatal feeding plans	<ol style="list-style-type: none"> 2. What influenced your decision to choose that feeding plan or consider that type of feeding prior to delivery? Additional guiding questions: <ol style="list-style-type: none"> a. How did your prior breastfeeding experiences influence your feeding plan? b. What information did you receive from social media (such as Facebook, Instagram, Twitter, Snapchat) related to feeding your baby? How did that information influence your feeding plan? c. If you participated in WIC^a, what information did you receive related to feeding your baby? How did that information influence your feeding plan? d. How have experiences with your friends and family influenced your feeding plan? This can include but is not limited to your partner (spouse, boyfriend, girlfriend, etc), your baby's grandparents, your friends, etc. e. How have your work plans influenced your feeding plan? Have you received any information regarding your legal rights related to breastfeeding and working? If so, what information have you received? f. How have other sources of information such as your physician, nurse, centering classes, and prenatal education classes influenced your feeding plan? g. What was most influential on considering that type of feeding prior to delivery and why?
Changes to feeding plans after delivery	<ol style="list-style-type: none"> 3. How did your feeding plan change after delivery? Additional guiding questions: <ol style="list-style-type: none"> a. Please describe your birth experience and your experience feeding your child. Did you have a cesarean section or vaginal delivery? Did you or your baby have complications during delivery? b. Did you have any complications when initiating feeding? Did your child have any complications when initiating feeding? Please describe why those complications occurred. c. What did you do when you or your baby had complications with feeding? Who helped you with initiating feeding? Who helped you if you had complications? d. What concerns did you have related to feeding your baby while in the hospital? Examples can include but are not limited to not being able to make enough milk, pumping, latch, pain, positioning, fussiness of your baby, output (number of dirty diapers or "pees and poops").

(continued on next page)

Figure 2. Semistructured interview guide topics and questions used for in-person interviews with mothers and key stakeholders about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

Topic	Questions
	<ul style="list-style-type: none"> e. How did you address those concerns? Who helped you with those concerns? f. Did you hear different information from your doctors, nurses, or other staff related to feeding your baby? If so, please explain. g. Were you offered WIC vouchers for formula since being in the hospital? If so, how did that influence your feeding plan? h. What was most influential on changing (or keeping) your feeding plan while in the hospital and why?
Overall facilitators	<p>4. (For nonexclusive breastfeeding mothers) What would have been helpful to encourage breastfeeding? (For exclusive breastfeeding mothers) What was most helpful in supporting your efforts to exclusively breastfeed? Additional guiding questions:</p> <ul style="list-style-type: none"> a. Would it have been (was it) helpful to have more education and information prior to coming to the hospital to deliver? <ul style="list-style-type: none"> i. If so, what is the best format for receiving this information (eg, pamphlets or other written documents, support groups that include other mothers, technology applications, social media posts)? b. Would it have been (was it) helpful to have support from the hospital staff such as the nurses and the doctors? c. Would it have been (was it) helpful to have a peer, friend, or family member to support you while in the hospital?
Overall barriers	<p>5. (For nonexclusive breastfeeding mothers) What were your biggest barriers to breastfeeding? (For exclusive breastfeeding mothers) What challenges have you faced so far while exclusively breastfeeding? Additional guiding questions:</p> <ul style="list-style-type: none"> a. Was there anything during your prenatal experience that was a barrier/challenge to exclusive breastfeeding? b. Was there anything about your hospital experience that made it more challenging to breastfeed?
Additional thoughts/advice for other mothers	<p>6. Is there anything else you would like to share about your experience feeding your child? Additional guiding question:</p> <ul style="list-style-type: none"> a. What advice would you give other mothers on feeding their child?
<p>Example key stakeholder (interpersonal level)</p> <p>Role description</p>	<p>1. Could you please describe your role in supporting mothers to exclusively breastfeed at Grady Memorial Hospital? Additional guiding questions/probes:</p> <ul style="list-style-type: none"> a. Please give a general overview of your job activities. b. What are your duties related to infant feeding? <p style="text-align: right;"><i>(continued on next page)</i></p>

Figure 2. (continued) Semistructured interview guide topics and questions used for in-person interviews with mothers and key stakeholders about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

Topic	Questions
Related experience and training	<p>2. Please describe your breastfeeding related experience and training. Additional guiding questions:</p> <ul style="list-style-type: none"> a. Have you completed any breastfeeding related course work? b. Have you attended any trainings related to breastfeeding? c. What did you find most helpful?
Current practices	<p>3. What practices/programs are in a place to encourage providers to implement breast-feeding support to patients after delivery at Grady Memorial Hospital? Additional guiding question/probe:</p> <ul style="list-style-type: none"> a. Considerations include chart reviews to document patient education, incentives, and allocated time for continuing education related to breastfeeding.
Barriers to providing support	<p>4. What barriers do you face in being able to support women to exclusively breastfeed at Grady Memorial Hospital? Additional guiding question/probe:</p> <ul style="list-style-type: none"> a. Considerations include time, access to educational materials, and technical skills.
Factors that facilitate support	<p>5. What has been useful to you in being able to support women to exclusively breastfeed at Grady Memorial Hospital? Additional guiding question/probe:</p> <ul style="list-style-type: none"> a. Considerations include time, access to educational materials, and technical skills.
Recommendations for improving support	<p>6. What recommendations do you have for improving the breastfeeding related practices/programs to support exclusive breastfeeding at Grady Memorial Hospital? Additional guiding questions:</p> <ul style="list-style-type: none"> a. Would additional staff to support breastfeeding be helpful? b. Would different appointment structures be helpful? c. Would different labor and delivery flow to the postpartum ward be helpful? d. What changes would you recommend to administrators?
Factors to consider	<p>7. What factors should be considered when implementing breastfeeding related practices and programs Grady Memorial Hospital? Additional guiding questions/probes:</p> <ul style="list-style-type: none"> a. Considerations include age, social economic status, cultural considerations. b. What suggestions do you have for addressing those factors?
Advice to new providers	<p>8. What advice would you give new providers related to supporting mothers to exclusively breastfeed at Grady Memorial Hospital?</p>
<p>^aWIC= Special Supplemental Nutrition Program for Women, Infants, and Children.</p>	

Figure 2. (continued) Semistructured interview guide topics and questions used for in-person interviews with mothers and key stakeholders about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

Table. Demographic characteristics of 20 mothers at Grady Memorial Hospital participating in in-person interviews about facilitators and barriers to in-hospital exclusive breastfeeding

Characteristic	Total (N = 20)	Exclusively breastfeeding mothers (n = 10)	Nonexclusively breastfeeding mothers (n = 10)
	←-----n (range)-----→		
Age	27.9 (18-36)	28.6 (18-36)	27.1 (27-34)
	←-----n (%)-----→		
Parity			
Primiparous	3 (15)	1 (10)	2 (20)
Multiparous	17 (85)	9 (90)	8 (80)
Race			
Asian or Asian American	3 (15)	1 (10)	2 (20)
Black	13 (65)	6 (60)	7 (70)
White	1 (5)	0 (0)	1 (10)
Other	3 (15)	3 (30)	0 (0)
Ethnicity			
Hispanic	3 (15)	2 (20)	1 (10)
Non-Hispanic	17 (85)	8 (80)	9 (90)
Education			
Less than a high school degree	2 (10)	1 (10)	1 (10)
High school or GED ^a certificate	7 (35)	3 (30)	4 (40)
Some college/technical school, but have not graduated	6 (30)	3 (30)	3 (30)
2-y college or technical school degree	2 (10)	2 (20)	0 (0)
4-y college or technical school degree	1 (5)	0 (0)	1 (10)
More than 4-y college degree	2 (10)	1 (10)	1 (10)
Marital status			
Single	14 (70)	6 (60)	8 (80)
Married	6 (30)	4 (40)	2 (20)
Employment status			
Employed part-time	3 (15)	2 (20)	1 (10)
Employed full-time	3 (15)	3 (30)	0 (0)
Not employed	14 (70)	5 (50)	9 (90)
Prenatal clinic			
Grady OB/GYN ^b clinic	15 (75)	7 (70)	8 (80)
Satellite or other clinic	5 (25)	3 (30)	2 (20)
WIC^c participation			
Yes	14 (70)	7 (70)	7 (70)
No	6 (30)	3 (30)	3 (30)

^aGED = General Education Development.^bOB/GYN = obstetrics and gynecology.^cWIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

initiate breastfeeding and was a facilitator of breastfeeding. Women discussed how a personable and individualized approach facilitated their decision to exclusively breastfeed. For example, an EBF mother of 4 explained that she attempted to breastfeed her third son but he had difficulty latching and she was not interested in breastfeeding due to

that experience. However, a personable approach was effective in motivating her to change her feeding plan from formula feeding to EBF (Q5, EBF, P4). One-on-one discussions were reported to be most useful in encouraging EBF by key stakeholders. Additionally, key stakeholders discussed that seeking understanding of underlying issues that may

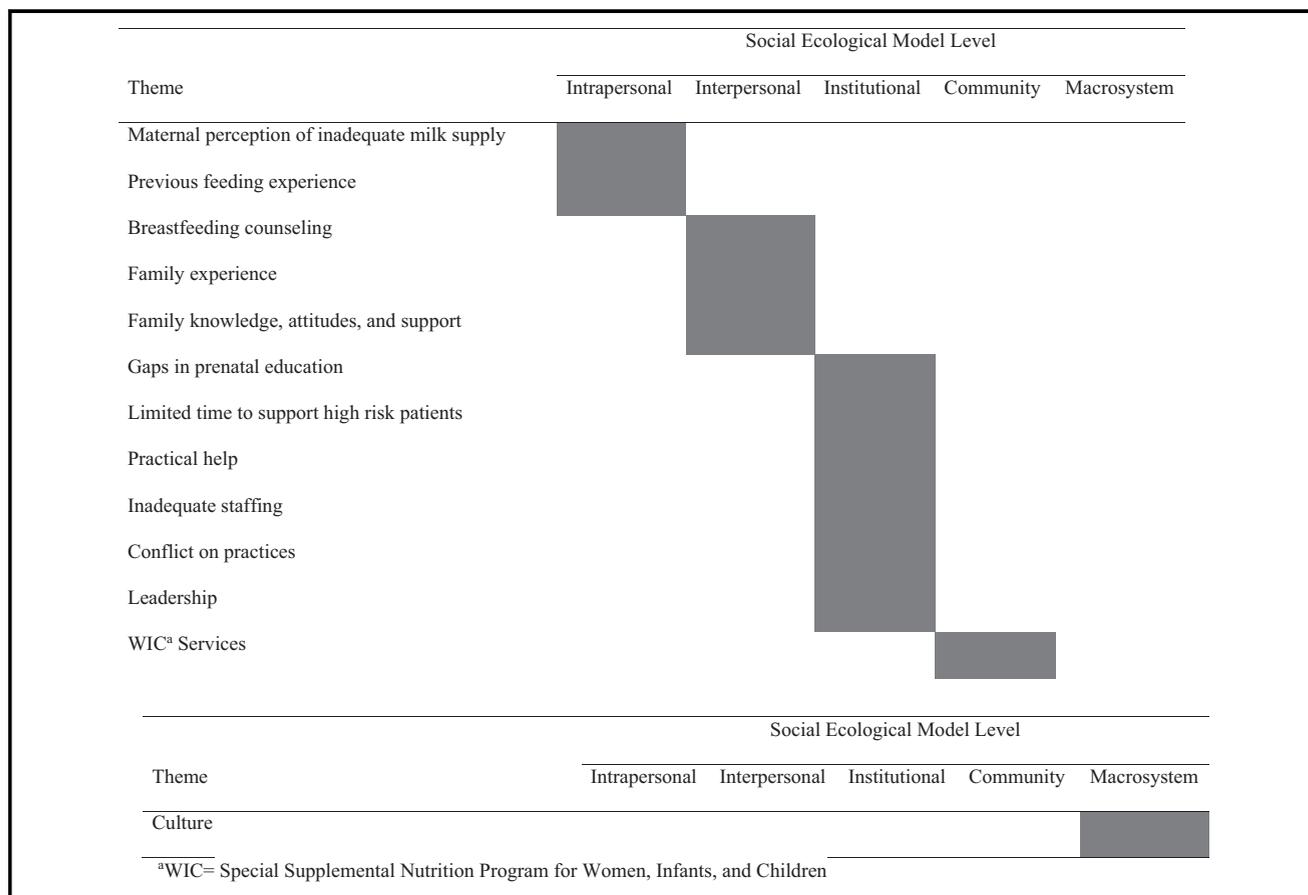


Figure 3. Social ecological model level of themes identified through in-person interviews with mothers and key stakeholders about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital.

influence breastfeeding decisions and providing appropriate counseling facilitated EBF (Q6, KS, extender).

Family experience included the exchange of information from other women in the family to the mother that is based on prior acquired knowledge from feeding their own newborns. A family history of breastfeeding facilitated the availability of lactation management knowledge and EBF (Q7, EBF, P1). Mothers explained that family experience allowed them to see the benefits of breastfeeding firsthand and provided motivation to EBF. Key stakeholders identified the absence of family experience as a perceived barrier. For example, key stakeholders mentioned that family members often lacked breastfeeding experience, and thus had limited knowledge of normal infant behavior in the early days of breastfeeding as it relates to milk production (Q8, KS, OB/GYN).

In contrast to family experience, family knowledge, attitudes, and support did not require previous family experience with breastfeeding among women in the family and included fathers. Family attitudes about breastfeeding included a description of how family members' perception of breastfeeding influenced their decisions. Family members' knowledge and attitudes would then influence whether a family member chose to support or chose not to support breastfeeding. Some women discussed how family members supported breastfeeding because of health benefits and lower economical cost. This included fathers supporting continued

breastfeeding when considering supplementation, which is an example of a facilitator of EBF (Q9, EBF, P2). Key stakeholders discussed that some partners discouraged breastfeeding because of the perception that breasts are body parts for sexual pleasure only, and this perception was a barrier to EBF (Q10, KS, OB/GYN). Key stakeholders also reported that some family members dissuaded breastfeeding because of concerns of breastfeeding management, especially if they would provide care for the baby while the mother is away, which was a perceived barrier to EBF (Q11, KS, community organization).

Institutional

Several themes were related to institutional practices that influenced breastfeeding support including gaps in prenatal education, limited time to support high-risk patients, practical help, inadequate staffing, conflict on practices, and leadership. There were several gaps in prenatal education, which was a barrier to EBF. Women who received prenatal counseling at outlying clinics less consistently reported receiving education on the benefits of breastfeeding. Few women reported receiving education on lactation management including how to latch and position or information on Baby-Friendly Hospital Initiative Practices such as formula not being stored in the hospital rooms (Q12, NEBF, P3). Key

Theme	Quote number	Representative quote
Intrapersonal themes		
Maternal perception of inadequate milk supply	Q1 ^a	Barrier: "I did let him latch on. I just felt like he wasn't getting enough so I gave him the bottle. I was thinking I should breastfeed for a minute but then I'm one of the ones that thinks that the baby is not getting enough, so I was like, I want the baby to eat so I will just go ahead and give him this formula . . . they [medical staff] asked me about my concerns, but it's still the same like I'm telling you."—Mother, NEBF ^b , P3 ^c
	Q2	Barrier: "I think we've all had interactions where a patient's actually doing really well, they're making the appropriate amount of colostrum that they should be making, and the baby is cluster feeding, they're doing whatever that typically happens right after, but the impression is, oh, not getting enough milk and baby is not being fed enough and therefore, you need to supplement."—OB/GYN ^d
Previous feeding experience	Q3	Facilitator: "I had to go to work with my daughter, and I didn't have an electric breast pump then, and now I know better. Like I got an electric breast pump, so I think I'm going to go longer this time."—Mother, EBF ^e , P3
	Q4	Barrier: "I asked for the formula because in the starting days. The baby is not starting to latch, so I just used formula to trick the baby, which I learned from the first time with the [extender] ^f . . . so with him . . . the same thing I used. I put some drops of formula with the syringe from my nipple, and then put it in his mouth so he gets something."—Mother, NEBF, P2
Interpersonal themes		
Breastfeeding counseling	Q5	Facilitator: "When I was waiting for my ultrasound, she [extender] sat down and really talked to me about it. And it's the way she came at me made it seem—made me feel comfortable to go ahead and try it. So that's where I really got the information from, because other than that I wasn't going to read no pamphlet about my breastfeeding because that's just words on a piece of paper. . . . She answered my questions and made me feel comfortable, and she said I could do it. . . . I did it."—Mother, EBF, P4
	Q6	Facilitator: "I'm a firm believer in meeting a person where they are and with any community that you serve, you have to understand their background, you have to understand their challenges . . . yes, I want you to breastfeed, yes, I know this is the best for your baby, but I want to understand for your culture, your community, what are the challenges that you have."—Extender
Family experience	Q7	Facilitator: "I didn't know how to latch him on so I tried different ways and my mom tried to help me too and then all of a sudden he just latched on and started feeding out of nowhere."—Mother, EBF, P1
	Q8	Barrier: "There's family that feels like the baby's not getting enough nourishment, you need to give that baby some formula . . . I mean, you can measure how much they get with a bottle . . . and so those are really I think the main barriers."—Administrator, OB/GYN ^g clinician
Family knowledge, attitudes, and support	Q9	Facilitator: "He's like my backbone . . . I'm thinking like, well, why don't we just formula feed, and he's like why are you thinking about formula feeding when you've got breast milk that you can produce?"—Mother, EBF, P2

(continued on next page)

Figure 4. Representative quotes from mothers and key stakeholders participating in in-person interviews about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

Theme	Quote number	Representative quote
	Q10	Barrier: "One thing that I hear is this whole notion that her breasts are for sexual pleasure only or her breast don't belong to her, they belong to her sexual partner."—Administrator, OB/GYN clinician
	Q11	Barrier: "Sometimes their older sister never breastfed and the little sister is having baby, say no, I formula fed and my baby did well and I'm going to take care of the baby and she needs to go back to school and then I'm going to feed formula too."—Community organization
Institutional themes		
Gaps in prenatal education	Q12	Barrier: "Just my experience here at this hospital. How long it takes them to bring a bottle. You don't want your baby to just be crying. So I was trying anything just to make him stop. And so I let him latch on."—Mother, NEBF, P3
	Q13	Barrier: "A lot is happening when you're coming to deliver. You have a new baby, for instance, even if you've had babies before, this one is new, right? You're trying to deal with some of those things and other issues that come up. So it would be great if you had put the breastfeeding stuff at rest and you already made a decision that we're just carrying out when you're in labor, as opposed to trying to help you make the decision while you're in labor or while you've just delivered."—Administrator, OB/GYN clinician
Limited time to support high-risk patients	Q14	Barrier: "You have a patient who might have hypertension and diabetes, you're focused on . . . what it is that we need to do for that. And I think that breastfeeding sometimes takes a back seat . . . you have 20 minutes with the patient . . . you're using an interpreter, they have diabetes that you're trying to get the numbers and explain to them—breastfeeding is going to be second."—Administrator, OB/GYN clinician
Practical help	Q15	Facilitator: "Both nipples become sore and it's painful. . . . The [extender], she told me what to do and what to apply on that. And she—and she showed me some positions and everything."—Mother, EBF, P2
	Q16	Barrier: "I put her on formula about yesterday afternoon. I couldn't take it anymore, it was hurting so bad. Yeah, then my [extender] came in showed me the correct way and ever since then I have been able to breastfeed."—Mother, NEBF, P4
Inadequate staffing	Q17	Barrier: "You can be in there for 1 hour and the other patients are waiting. Sometimes you're in there, they call you. . . . But it's hard at night to be the nurse, the educator, the lactation consultant and everything."—Extender
Conflict on practices	Q18	Barrier: "I understand that we have to check the blood sugar on every baby. I'm not against it. I do not think that we need to check it at 2 hours of life. And I have heard that other facilities . . . if the baby is up to 4 hours old, their blood sugar range can be on the lower side. . . . I feel that even if we implemented something like that . . . we don't immediately have to supplement the baby because the baby is still trying to figure life out."—Extender
Leadership	Q19	Facilitator: "The OB leadership are proponents of breastfeeding. We all participated in . . . the Baby-Friendly designation . . . of course there's leadership from nursing, the director of nursing, the unit manager. They're all proponents of breastfeeding."—Administrator, OB/GYN clinician

(continued on next page)

Figure 4. (continued) Representative quotes from mothers and key stakeholders participating in in-person interviews about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

Theme	Quote number	Representative quote
	Q20	Barrier: "I think there's a real disconnect . . . we all sit in these meetings and say exclusive breastfeeding is really important. . . . It's one of the most important things . . . and I think there's buy-in from leadership. Then I think on the other end of the spectrum . . . the people who are actually tasked with doing it are very frustrated because . . . there's absolutely no way it's possible with the number of people we have to do it properly."—Administrator, OB/GYN clinician
Community themes		
WIC ^g services	Q21	Facilitator: "WIC does support breastfeeding by giving the mother larger value of food stuffs for the family, so it becomes a better option for the family if the mother is breastfeeding, and so that education needs to happen in the prenatal care arena. Grady is fortunate to have WIC counselors on site."—Administrator, pediatric clinician
	Q22	Barrier: "WIC is like running our whole floor . . . they'll say you know 'I'm going to do both so I need to get my vouchers for formula.' So you're like 'What happened to our exclusive breastfeeding' and then they're like 'I have to go back to work' and you start hearing that conversation. Then it's like 'What about pumping.' I think they think they are not going to get WIC."—Extender
Macrosystem themes		
Culture	Q23	Barrier: "Well, you know, to say that we're diverse is a huge understatement and so I think we have to take into account everybody that—is nursing their babies does not look the same, they're not—and this is not just color, this is being respectful of religions, cultures, ages."—Community organization
^a Q = quote. ^b NEBF = nonexclusively breastfeeding mothers. ^c P = parity. ^d OB/GYN = obstetrics and gynecology. ^e EBF = exclusively breastfeeding mothers. ^f An extender is a key stakeholder who extends the care given by physicians (eg, nurses, International Board Certified Lactation Consultants, CenteringPregnancy coordinators, and registered dietitian nutritionists). ^g WIC = Special Supplemental Nutrition Program for Women, Infants, and Children.		

Figure 4. (continued) Representative quotes from mothers and key stakeholders participating in in-person interviews about facilitators and barriers to in-hospital exclusive breastfeeding at Grady Memorial Hospital

stakeholders who interact with mothers during the intrapartum period while they are in the hospital recommended more education before admission for delivery. Key stakeholders explained that mothers are often overwhelmed shortly after birth while in the hospital and it is often too late to provide thorough education (Q13, KS, OB/GYN).

Key stakeholders mentioned that limited time to support high-risk patients at GMH with conditions such as gestational diabetes and hypertension was a barrier to supporting EBF. A variety of topics must be covered in time-limited prenatal visits. Those with other conditions are strained even further for time, and finding an alternate to OB/GYN clinicians educating on breastfeeding may be necessary for high-risk patients. The lack of time for breastfeeding discussions for high-risk patients may be further compounded by language barriers, in which time for language interpretation is a factor (Q14, KS, OB/GYN).

EBF mothers who experienced complications consistently reported receiving adequate practical help from extenders (Q15, EBF, P2). Complications included maternal perception of inadequate milk supply, difficulty latching, and sore nipples. Some mothers reported practical help as the most influential facilitator for in-hospital EBF. Compared with EBF mothers, NEBF mothers did not receive help to address their specific concerns until later during their hospital stay or not at all, which was a barrier to EBF. Two mothers reported that they planned to EBF; however, they were unable to do so. The first case consisted of a mother who reported that she was incorrectly advised that she could not breastfeed after undergoing a CT scan. She reported that she was "really upset because I wanted to breastfeed first . . . he got to nurse first, then he got the bottle with formula" (NEBF, P1). She also reported that it would have been helpful if "all the nurses were on the same page" and the misinformation "really

discouraged her.” The second case was a mother (NEBF, P4) who prepared to EBF including attending CenteringPregnancy meetings, attending the breastfeeding class offered at the hospital, and researching the topic. However, this mother reported that she experienced pain from breastfeeding, introduced formula, but then transitioned back to breastfeeding once she received practical help (Q16, NEBF, P4).

Many key stakeholders expressed that inadequate staffing to provide the support needed by mothers is a barrier to EBF. Some clinicians perceived that nurses on the labor and delivery unit were consistently facilitating the initial latch after skin-to-skin care. However, once the dyad moved to the postpartum unit, there were reported inconsistencies in the quality of breastfeeding support, which was dependent upon the skill level of the nurse. There were nurse breastfeeding champions who worked on the postpartum unit, some of which were Certified Lactation Counselors. However, they reported that they were required to maintain a volume of patient assignments similar to their colleagues that were not breastfeeding champions while also assisting mothers with breastfeeding management. There were no International Board Certified Lactation Consultants that worked weekends or night shifts. The night hours are reported to be vulnerable times for the mother-baby dyad, in which the mother may be exhausted and the baby is beginning to cluster feed. Therefore, nightshift nurses have an expanded workload (Q17, KS, extender).

Conflict on practices among clinicians and extenders was reported as a barrier to EBF. Extenders reported that they were unclear about the call for supplementation from pediatric and OB/GYN clinicians including the specific mention of hypoglycemia, jaundice, and CT scans (Q18, KS, extender). Some reported that residents may not fully understand breastfeeding contraindications and may provide erroneous information. Many reported that nurses were disempowered to advocate for patients to avoid supplementation. The silos that existed between nurses, pediatricians, and OB/GYNs further exacerbated confusion about practices regarding supplementation.

Despite the silos among different departments, there was general consensus that leadership is supportive of improving in-hospital EBF, which was a facilitator to EBF (Q19, KS, OB/GYN). However, changes are limited due to high leadership turnover and lack of financial investment to fund changes, which was a barrier to EBF. Other initiatives, such as the hemorrhage prevention initiative had progressed, but this may have been due to the fact that medical interventions can be implemented and it is under the “locus of control” of clinicians (KS, OB/GYN clinician), whereas breastfeeding is a health behavior that requires the willingness of the mother. Key stakeholders mentioned that leaders were interested in the goal of improving in-hospital EBF, but there was limited financial investment (Q20, KS, extender).

Community

At the community level, WIC services were salient across key stakeholders, whereas those offered by Le Leche League International were not mentioned by mothers, extenders, or providers. However, there were split opinions about services offered by WIC. Some discussed that having WIC located in

the hospital is as an asset and facilitator. For example, WIC provides breastfeeding prenatal education (which was reported to be underutilized), practical help, and larger food packages for breastfeeding mothers (Q21, KS, pediatrics). In contrast, key stakeholders who give care during the perinatal period mentioned that they are unclear about the services offered by WIC and would like to have a clearer understanding so they can relay the information to patients. Many key stakeholders discussed that the distribution of WIC vouchers for formula to mothers while in the hospital undermined the promotion of EBF, which was a barrier to supporting EBF. Some reported that mothers requested formula from the hospital and WIC to ensure that they are able to get WIC formula vouchers later when returning to work (Q22, KS, extender).

Macrosystem

The patients at GMH were culturally diverse including a variety of races/ethnicities, religions, countries of origin, languages, and ages. This presented as a barrier because patient education and interventions must be tailored to fit various cultures and languages. In contrast to the theme “family experience,” the theme “culture” relates to the influence of social norms which is a higher level, broader reaching factor (Q23, KS, community organization). Culture can influence mothers’ perceptions before they begin their prenatal care. Many key stakeholders specifically mentioned that Hispanic mothers decide to provide both formula and mother’s own milk for various reasons including adapting to an American culture of formula feeding.

DISCUSSION

Our study provides an in-depth understanding of barriers and facilitators for EBF across the SEM to help provide a contextualized understanding of how to best support women and improve hospital practices to increase in-hospital EBF at GMH. Early infant feeding practices were influenced by a complex set of factors at the intrapersonal, interpersonal, institutional, community, and macrosystem levels of the SEM. These findings are in alignment with prior literature on established factors that influence breastfeeding^{13-16,24} and provide novel insight into context-specific factors that influence in-hospital breastfeeding practices.

Maternal perception of inadequate milk supply has previously been reported in other studies as a reason for formula supplementation.^{25,26} A study conducted in a similar setting (an urban, community, teaching hospital), found that among the 712 women in the study, the most common reason for formula supplementation during the hospital stay was perception of inadequate milk supply (36%).²⁷ A qualitative study reported that infant crying led to maternal stress and maternal perception of lack of milk production.²⁸ Although maternal perception of inadequate milk supply has been well established in the literature, we additionally found that this perception often existed even after medical staff provided counseling regarding signs of adequacy. The persistence of the perception of low milk supply after medical staff provided reassurance during the postpartum period provides evidence that this time frame may not be the most effective time for counseling and further supports providing counseling to improve breastfeeding self-efficacy before delivery.²⁹

Social-ecological model level	Example Solutions	
	Short term	Long term
Intrapersonal	Address concerns of inadequate milk supply during the prenatal period.	Incorporate a prenatal breastfeeding curriculum that includes anticipatory guidance on lactation management, normal breastfed infant feeding behavior, and Baby-Friendly practices to prepare mothers for their hospital experience. This curriculum can be delivered by extenders ^a via group classes. A scheduled, prenatal obstetric visit should include a one-on-one, personable discussion between clinicians or extenders and mothers to address additional concerns or underlying issues that may influence breastfeeding decisions.
Interpersonal	Include family member/or primary support person in feeding plan discussion.	Designate a scheduled obstetric visit to include infant feeding plan discussion with a family member, which can be supported by OB/GYN ^b clinicians and extenders.
Institutional	Develop clear formula supplementation policies that are applicable to all.	Hire RDNs ^c to provide support for diet related pregnancy conditions such as gestational diabetes and incorporate breastfeeding education into sessions. Hire more lactation support personnel to increase practical support (eg, assistance with positioning, latching, and evaluating effective feedings) on the first day of life, at night, and on the weekends.
Community	Develop a script describing WIC's ^d support of breastfeeding to provide clarity on services and options available for women.	Maximize WIC prenatal enrollment through a referral system from prenatal obstetric clinics. During prenatal WIC visits, discuss food packages based on infant feeding decisions and breastfeeding support offered by WIC including access to breast pumps, offer peer support during the prenatal period that can continue into the postpartum period, and provide automatic enrollment into WIC breastfeeding classes to meet breastfeeding education requirement. Limit in-patient WIC interaction to breastfeeding support.
Macrosystem	Develop written breastfeeding education written materials that include multiple languages.	Develop television, radio, and billboard advertisements that support breastfeeding to shift cultural norms. Host community events supportive of breastfeeding, such as World Breastfeeding Week and Black Breastfeeding Week. Tailor all interventions to be representative of the patient population served.

^aAn extender is a key stakeholder who extends the care given by physicians (eg, nurses, International Board Certified Lactation Consultants, CenteringPregnancy coordinators, and registered dietitian nutritionists).

^bOB/GYN = obstetrics and gynecology.

^cRDN = registered dietitian nutritionist.

^dWIC = Special Supplemental Nutrition Program for Women, Infants, and Children.

Figure 5. Potential multilevel, short-term, and long-term solutions to identified factors influencing in-hospital exclusive breastfeeding at Grady Memorial Hospital

Prenatal education is one of the Ten Steps to Successful Breastfeeding outlined by the Baby-Friendly Hospital Initiative Practices that protects, promotes, and supports breastfeeding worldwide.² Our study found that an individualized and personable approach may be most effective in motivating mothers to EBF. Furthermore, we found that outlying clinics less consistently completed this important step, and high-risk patients may not receive the same amount of information on breastfeeding compared with other mothers. Our results are similar to other recent studies conducted among

predominately Black women, in which many mothers lacked a family history of breastfeeding.^{30,31} This study found a further connection, in which family may suggest formula supplementation in the first days of life not only due to lack of experience and knowledge of lactation management but also due to fear of inadequate pumped breast milk supply when family members serve as caregivers.

Other studies have reported that health care professionals are supportive of breastfeeding while in the hospital.^{32,33} Our findings show how provision of adequate practical help may

be influenced by staffing and skill level of those available to provide support. A recently published literature review on factors influencing nonmedically indicated formula supplementation of newborns in the hospital setting found that formula supplementation increases during the night hours.³⁴ These findings connect to our findings at GMH, in which limited support at night is a barrier to EBF. Furthermore, our study demonstrated how a complex organizational structure (clinicians from multiple schools of medicine, an in-hospital WIC clinic, etc) can influence practices and the dynamics related to formula supplementation. Although leadership is supportive of improving EBF, it may require further financial commitment to increase the amount of support available.

Similar to other studies, we found that WIC formula served as a backup plan for EBF.^{14,35} However, our study shows how inpatient WIC nutritionists' visits may influence the documentation of feeding status and EBF statistics for the hospital. Among WIC staff who provide nutrition education, 58% are reported to be registered dietitian nutritionists.³⁶ Registered dietitian nutritionists who are WIC staff or WIC administrators, or who provide medical nutrition therapy/diet counseling to women during the perinatal period, are uniquely positioned to discuss early infant feeding and breastfeeding support and may be instrumental in supporting EBF.

Many existing qualitative research studies that explore cultural factors included only 1 race or ethnicity.^{14,26,30} However, GMH serves a diverse patient population, and our findings demonstrate there may be additional challenges to providing care to a culturally diverse population with different races/ethnicities, languages, ages, and countries of origin.

Due to the financial and staffing constraints at GMH, we recommend short-term, low-cost solutions (Figure 5) that can be implemented for quality improvements while also considering longer-term, multilevel intervention. We recommend that longer-term solutions consider the Behaviour Change Wheel framework, which includes the wider contextual factors' impact on health behaviors to develop interventions.³⁷

A key strength of this study is the diverse sample of both mothers and key stakeholders, which enabled an understanding of in-hospital EBF facilitators and barriers among mothers, as well as facilitators and barriers to providing in-hospital EBF support among key stakeholders. This sampling strategy and analysis based on the SEM provided insight on the interactions between various levels. The use of the SEM further facilitated the development of example solutions to move beyond breastfeeding initiation and the focus on individual decision making to include the strategies to support EBF during the first few days of life by improving the first food environment.

The generalizability of these finding may be limited to other urban, socioeconomically disadvantaged hospital settings. However, the intent of this in-depth exploration was to provide contextual, data-driven changes to improve in-hospital EBF at GMH, and our study provides a framework for other similar organizations. Although this study includes mothers from diverse backgrounds, women who did not speak English were excluded from this study. However, key stakeholders provided insight into how serving a diverse patient population, including women who speak various languages, may impact the education and support provided.

CONCLUSIONS

In this study of factors influencing in-hospital EBF at GMH, we found that key components interacted across several levels of the SEM. Family and culture are predisposing factors that are present before the mother receives prenatal health care. These factors may be modifiable if addressed strategically by the health care system including comprehensive education delivered in a personable and individualized manner. Continued practical support that is accurate and timely while in the hospital is needed to address concerns. This would require adequate staffing (including nights and weekends) and consistent application of policies on formula supplementation. With such complex factors interacting in an intricate network, our study highlights the utility of formative research prior to developing interventions. Although this study provides insight on context-specific factors at GMH, it also provides a useful framework for future studies to consider to guide quality improvement efforts for hospitals.

References

1. Victora CG, Bahl R, Barros AJ, et al. Breastfeeding in the 21st century: Epidemiology, mechanisms, and lifelong effect. *Lancet*. 2016;387:475-490.
2. World Health Organization and United Nations Children's Fund. Protecting, promoting, and supporting breastfeeding in facilities providing maternity and newborn services: The revised Baby-friendly Hospital Initiative 2018. Published 2018. Accessed December 12, 2020. <https://www.who.int/nutrition/publications/infantfeeding/bfhi-implementation/en/>.
3. Eidelman AI. Breastfeeding and the use of human milk: An analysis of the American Academy of Pediatrics 2012 Breastfeeding Policy Statement. *Breastfeed Med*. 2012;7:323-324.
4. Centers for Disease Control and Prevention National Center for Chronic Disease Prevention and Health Promotion. Division of Nutrition, Physical Activity, and Obesity. Data, trends and maps. Updated July 2020. Accessed December 12, 2020. <https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html>.
5. Chantry CJ, Dewey KG, Pearson JM, Wagner EA, Nommsen-Rivers LA. In-hospital formula use increases early breastfeeding cessation among first-time mothers intending to exclusively breastfeed. *J Pediatr*. 2014;164:1339-1345.e1335.
6. US Department of Agriculture Food and Nutrition Service Special Supplemental Nutrition Program for Women, Infants, and Children. About WIC-WIC's mission. Accessed December 12, 2020. <https://www.fns.usda.gov/wic/about-wic-wics-mission>.
7. Anstey EH, Chen J, Elam-Evans LD, Perrine CG. Racial and geographic differences in breastfeeding—United States, 2011-2015. *MMWR Morb Mortal Wkly Rep*. 2017;66:723-727.
8. US Department of Health and Human Services Office of Disease Prevention and Health Promotion. Maternal, infant, and child health. Accessed December 12, 2020. <https://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives#4859>.
9. The Joint Commission. Quality check. Accessed December 12, 2020. <https://www.qualitycheck.org/>.
10. Golden SD, Earp JA. Social ecological approaches to individuals and their contexts: Twenty years of health education & behavior health promotion interventions. *Health Educ Behav*. 2012;39:364-372.
11. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q*. 1988;15:351-377.
12. Bronfenbrenner U. *Persons in Context: Developmental Processes*. Cambridge University Press; 1988.
13. Chopel A, Soto D, Joiner B, et al. Multilevel factors influencing young mothers' breastfeeding: A qualitative CBPR study. *J Hum Lact*. 2019;35:301-317.

14. Hohl S, Thompson B, Escareno M, Duggan C. Cultural norms in conflict: Breastfeeding among Hispanic immigrants in rural Washington State. *Matern Child Health J.* 2016;20:1549-1557.
15. Munn AC, Newman SD, Phillips SM, Mueller M, Taylor SN. Factors influencing southeastern U.S. mothers' participation in baby-friendly practices: A mixed-methods study. *J Hum Lact.* 2018;34:821-834.
16. Reeves EA, Woods-Giscombe CL. Infant-feeding practices among African American women: Social-ecological analysis and implications for practice. *J Transcult Nurs.* 2015;26:219-226.
17. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, Division of Violence Prevention. The social-ecological model: A framework for prevention. Accessed December 12, 2020, <https://www.cdc.gov/violenceprevention/publichealthissue/social-ecologicalmodel.html>.
18. Kellams A, Harrel C, Omage S, Gregory C, Rosen-Carole C. ABM clinical protocol #3: Supplementary feedings in the healthy term breastfed neonate, revised 2017. *Breastfeed Med.* 2017;12:188-198.
19. Hernandez-Aguilar MT, Bartick M, Schreck P, Harrel C. ABM clinical protocol #7: Model maternity policy supportive of breastfeeding. *Breastfeed Med.* 2018;13:559-574.
20. Moser A, Korstjens I. Series: Practical guidance to qualitative research. Part 3: Sampling, data collection and analysis. *Eur J Gen Pract.* 2018;24:9-18.
21. Hennink MM, Kaiser BN, Marconi VC. Code saturation versus meaning saturation: How many interviews are enough? *Qual Health Res.* 2017;27:591-608.
22. MAXQDA 2018 version 18.2.0. VERBI Software. 2017. www.maxqda.com. Accessed June 1, 2020.
23. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol.* 2006;3:77-101.
24. Kim JH, Fiese BH, Donovan SM. Breastfeeding is natural but not the cultural norm: A mixed-methods study of first-time breastfeeding, African American mothers participating in WIC. *J Nutr Educ Behav.* 2017;49:S151-S161.e151.
25. Hardison-Moody A, MacNell L, Elliott S, Bowen S. How social, cultural, and economic environments shape infant feeding for low-income women: A qualitative study in North Carolina. *J Acad Nutr Diet.* 2018;118:1886-1894.e1881.
26. Hawley NL, Rosen RK, Strait EA, et al. Mothers' attitudes and beliefs about infant feeding highlight barriers to exclusive breastfeeding in American Samoa. *Women Birth.* 2015;28:e80-e86.
27. Pierro J, Abulaimoun B, Roth P, Blau J. Factors associated with supplemental formula feeding of breastfeeding infants during postpartum hospital stay. *Breastfeed Med.* 2016;11:196-202.
28. Peacock-Chambers E, Dicks K, Sarathy L, Brown AA, Boynton-Jarrett R. Perceived maternal behavioral control, infant behavior, and milk supply: A qualitative study. *J Dev Behav Pediatr.* 2017;38:401-408.
29. Spatz DL. Helping mothers reach personal breastfeeding goals. *Nurs Clin North Am.* 2018;53:253-261.
30. Asiodu IV, Waters CM, Dailey DE, Lyndon A. Infant feeding decision-making and the influences of social support persons among first-time African American mothers. *Matern Child Health J.* 2017;21:863-872.
31. Deubel TF, Miller EM, Hernandez I, Boyer M, Louis-Jacques A. Perceptions and practices of infant feeding among African American women. *Ecol Food Nutr.* 2019;58:301-316.
32. Barbosa CE, Masho SW, Carlyle KE, Mosavel M. Factors distinguishing positive deviance among low-income African American women: A qualitative study on infant feeding. *J Hum Lact.* 2017;33:368-378.
33. Wambach K, Domian EW, Page-Goertz S, Wurtz H, Hoffman K. Exclusive breastfeeding experiences among Mexican American women. *J Hum Lact.* 2016;32:103-111.
34. Garrison MP, Maisano P. Systematic review of factors influencing non-medically indicated formula supplementation of newborns in the hospital setting. *Nurs Womens Health.* 2019;23:340-350.
35. Kaufman L, Deenadayalan S, Karpati A. Breastfeeding ambivalence among low-income African American and Puerto Rican women in north and central Brooklyn. *Matern Child Health J.* 2010;14:696-704.
36. United States Department of Agriculture, Food and Nutrition Services. WIC Nutrition Education Study: Phase I Report (Summary). Accessed December 12, 2020, <https://fns-prod.azureedge.net/sites/default/files/ops/WICNutEd-PhaseI.pdf>.
37. Michie S, van Stralen MM, West R. The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implement Sci.* 2011;6:42.

AUTHOR INFORMATION

L. H. Bookhart is a doctoral candidate, Doctoral Program in Nutrition and Health Sciences, Laney Graduate School, Emory University, Atlanta, GA; at the time of the study, she was a doctoral student. A. B. Joyner is an assistant professor, Department of Gynecology and Obstetrics, Emory University School of Medicine, Atlanta, GA. K. Lee is a lactation program coordinator, Women/Infant Health Services, Grady Memorial Hospital, Atlanta, GA. N. Worrell is a clinical performance improvement specialist, Grady Memorial Hospital, Atlanta, GA. D. J. Jamieson is a James Robert McCord professor and chair, Department of Gynecology & Obstetrics, Emory University School of Medicine, Atlanta, GA. M. F. Young is an assistant professor, Hubert Department of Global Health, Emory University Rollins School of Public Health, Atlanta, GA.

Address correspondence to: Larelle H. Bookhart, MPH, RD, 1518 Clifton Road, NE, Mailstop 1518-002-7BB, Atlanta, GA 30322. E-mail: larelle.high@emory.edu

STATEMENT OF POTENTIAL CONFLICT OF INTEREST

No potential conflict of interest was reported by the authors.

FUNDING/SUPPORT

This study was financially supported by the National Association of County and City Health Officials to support the Reducing Disparities in Breastfeeding through Continuity of Care Project through funding from the Centers for Disease Control and Prevention, Award No. 18NU38OT000306. This study was also financially supported by the Emory Maternal and Child Health Center of Excellence, with support from Health Resources and Services Administration Maternal and Child Health Bureau under Award No. T76MC28446.

ACKNOWLEDGEMENTS

We thank the women and staff at Grady Memorial Hospital for their participation; Rukshan Mehta, who assisted with analysis; and Harumi Reis-Reilly, for her feedback on the manuscript.

AUTHOR CONTRIBUTIONS

L. H. Bookhart and M. F. Young conceptualized the research question, study design, and analytical approach. A. B. Joyner, K. Lee, N. Worrell, and D. J. Jamieson provided guidance on participant enrollment and study design. L. H. Bookhart collected data, conducted data analysis, and wrote the first and subsequent drafts of the article. L. H. Bookhart, M. F. Young, A. B. Joyner, K. Lee, N. Worrell, and D. J. Jamieson contributed to critically revising the article and gave approval of the version to be published.