

# Breastfeeding is Natural but Not the Cultural Norm: A Mixed-Methods Study of First-Time Breastfeeding, African American Mothers Participating in WIC

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## ABSTRACT

**Objective:** Identify facilitators, barriers, and needs to increase breastfeeding (BF) support.

**Design:** Semistructured interviews based on the Theory of Planned Behavior, Iowa Infant Feeding Attitude Scale, and Breastfeeding Self-Efficacy Scale–Short Form to measure attitudes and self-efficacy, respectively.

**Setting:** One WIC clinic in central Illinois.

**Participants:** First-time BF African American mothers enrolled in WIC (n = 15).

**Phenomenon of Interest:** BF facilitators and barriers in the African American community.

**Analysis:** Descriptive coding and inductive thematic analysis.

**Results:** Six themes emerged: normative infant feeding behavior within the sociocultural context; cultural beliefs about maternal nutrition and BF; time and costs associated with BF; managing and integrating BF while maintaining a social life; necessity of social support from significant others and female role models; and suboptimal support from institutions (hospitals, schools, workplace, and community). A novel finding was that participants believed that BF was expensive, because they believed that mothers must eat healthy to breastfeed. In addition, BF was considered natural but not the cultural norm. Mean Iowa Infant Feeding Attitude Scale score (n = 15) was 70 (SD = 7), indicating a positive attitude toward BF. Breastfeeding Self-Efficacy Scale–Short Form mean score of 62 indicated a relatively high level of self-efficacy.

**Conclusions and Implications:** Interventions should focus on providing social support (emotional, tangible, informational, and encouragement) to African American mothers and their social networks to promote a BF-friendly environment.

**Key Words:** breastfeeding, African American, WIC, mixed methods, IIFAS (*J Nutr Educ Behav.* 2017;49:S151-S161.)

Accepted April 13, 2017.

## INTRODUCTION

Human milk is the ideal source of nutrition for infants. In addition, bioactive components in human milk protect infants against infectious and chronic ill-

nesses and promote sensory and cognitive development.<sup>1,2</sup> Breastfeeding (BF) practices among African American mothers have increased significantly but African American mothers continue to have the lowest BF initiation and duration

rates at 6 and 12 months compared with mothers of other ethnicities.<sup>3</sup> In 2013, the national BF initiation rate for black mothers was 66%, compared with white (84%) and Hispanic mothers (83%).<sup>3</sup> The percentages of those who were BF at 6 months were 39%, 58%, and 46% among black, white, and Hispanic mothers, respectively.<sup>3</sup> Mothers who received the *Special Supplemental Nutrition Program for Women, Infants, and Children* (WIC) had a BF initiation rate of 74%, compared with 82% of mothers who did not receive WIC but were eligible and 91% of mothers who were not eligible for WIC in 2013.<sup>3</sup> Reducing this BF disparity has the potential to decrease infant mortality among African American infants as well as reduce risk for childhood obesity and protect against illnesses and infectious diseases.<sup>1,4</sup>

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*Conflict of Interest Disclosure:* The authors' conflict of interest disclosures can be found online with this article on [www.jneb.org](http://www.jneb.org).

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<http://dx.doi.org/10.1016/j.jneb.2017.04.003>

In Champaign County, BF initiation rates for all ethnicities who participated in WIC were 72%, BF duration at 6 months was 25%, and at 1 year was 18% in 2015, according to private communications with the Champaign-Urbana Public Health District (CUPHD). When BF rates were collected by ethnicity, African American mothers in Champaign County were also less likely to breastfeed. According to a hospital record in Champaign-Urbana, only 27% of African American mothers initiated BF in 2014 compared with the national initiation rate of 66% in 2013 for African American mothers.<sup>3</sup> Low initiation rates of African American mothers in Champaign County compared with national data indicated even lower duration rates due to a substantial decrease in BF at 3 and 6 months.<sup>3,5</sup> BF services provided at the WIC clinic in Champaign included access to Certified Lactation Counselors; a weekly BF support group; one-on-one or group information sessions; weighted feedings; peer counseling support at WIC, hospital, or home; and BF supplies.<sup>6</sup> Despite these BF-related services, BF rates still remained lower for African American mothers.

The median income in Champaign County is about \$45,000, and 12.5% of the population of about 200,000 is African American. The largest employer is the University of Illinois at Urbana-Champaign,<sup>7</sup> and Champaign County has 2 main hospitals, both of which are in the process of becoming baby-friendly hospitals. The Baby-Friendly Hospital Initiative is a global program that designates a hospital as baby friendly if that hospital follows the 10 Steps to Successful Breastfeeding, which have been shown to promote BF.<sup>8</sup>

In the literature, reasons for the BF disparities have been attributed to barriers to BF include breast pain, lack of social support, latching problems, time commitment of BF, return to work, and a bottle-feeding culture.<sup>9-12</sup> BF facilitators have been less studied, but a common facilitator is that mothers are knowledgeable about the health benefits of BF.<sup>11-14</sup>

## Theoretical Framework

The Theory of Planned Behavior (TPB) guided the development of the interview questions and questionnaire used

in this study. The TPB asserts that intention to perform a behavior is the main determinant of the behavior and that intention is determined by attitudes, subjective norm (perceived social pressure to perform the behavior), and perceived behavioral control (perceived amount of control one has to perform the behavior in the presence or absence of facilitators and barriers).<sup>15</sup> The constructs of the TPB (ie, attitudes, subjective norms, and perceived behavioral control) have been shown to predict intentions to breastfeed, whereas perceived behavioral control and intention have been shown to predict BF behavior (initiation and duration).<sup>16-20</sup> Although culture was not directly addressed using the TPB-based interview guide, cultural and individual characteristics contribute to beliefs that exert their influence on attitudes, subjective norms, and perceived behavioral control.<sup>16</sup> To develop an intervention to promote BF in this population, the objectives of this study were to determine BF facilitators and barriers in relation to attitudes, subjective norms, and perceived behavioral control, and recommendations for future interventions among African American mothers who receive WIC and breastfed for the first time.

## METHODS

The researchers conducted a convergent, parallel mixed-methods design by administering a 17-item questionnaire and semistructured in-person interviews (n = 15) concurrently in Champaign County between April and September 2015. Inclusion criteria included self-report of black, African American, or mixed ethnicity, residing in Champaign County, giving birth in the past year, receiving WIC benefits, having breastfed for the first time, and having a 3- to 12-month-old infant. Before each interview, participants completed a 17-item questionnaire about intentions to breastfeed, those who did and did not provide social support, community resources related to BF support, skin-to-skin contact, duration of maternity leave, public BF practices, the Iowa Infant Feeding Attitude Scale (IIFAS), Breastfeeding Self-Efficacy Scale–Short Form (BSES-SF), and demographic questions. One researcher conducted 14 interviews and a second

research assistant, who was trained with a mock-interview and followed the interview guide, conducted 1 interview. Data from the transcript were consistent with the established themes and the results did not change if the interview conducted by the second interviewer was excluded.

Recruitment strategies included convenience and snowball sampling at the local WIC office and through flyers posted throughout the community. Sample size was determined by examining the saturation level of previous studies that conducted semistructured interviews on similar topics. According to Francis and colleagues,<sup>21</sup> researchers should specify the sample size *a priori* for the first round of analysis, which depends on the research questions and interview topic, sample diversity, and type of analysis conducted. Therefore, the researchers in this study set the initial analysis sample as 15 participants based on previous studies on similar topics and the relatively narrow diversity of this study's sample. In qualitative studies, it is more traditional to determine sample size based on data saturation during the data collection process. However, determining the sample size of 15 *a priori* was adequate in reaching data saturation while providing additional samples to corroborate findings. The institutional review board for protection of research subjects at the University of Illinois at Urbana-Champaign approved the study.

## Data Collection

The researchers obtained informed consent before the interview, followed by reviewing the questionnaire to build rapport (Table 1). Field notes were added to the questionnaire after completion of each interview. Average duration of the interviews was 52 minutes (SD = 18; range, 16–85 minutes). Nearly half of the interviews (53%) were conducted at participants' homes; the remainder was conducted at the most convenient location for the participant, including fast-food restaurants. All but 1 interview was conducted alone or with the participant's baby, and 1 interview was conducted in the presence of her spouse. The enrollment rate was 68%, with 3 participants losing interest in the study and 4 not

**Table 1.** Responses to Pre-interview Questionnaire (n = 15)

| Question  | n (%)            |
|---|------------------|
| BF duration, mo (mean ± SD [range])   | 5.8 ± 3.1 (1–12) |
| Participants continuing to breastfeed at time of interview  | 5 (33)           |
| Intention to breastfeed   |                  |
| How did you intend to feed your baby?   |                  |
| Breastfeed only   | 15 (100)         |
| How long did you intend to breastfeed your baby?  |                  |
| ≤6 mo   | 3 (20)           |
| 12 mo   | 11 (73)          |
| 16 mo   | 1 (7)            |
| When did you decide how you wanted to feed your baby?   |                  |
| Before delivery   | 14 (93)          |
| After delivery  | 1 (7)            |
| Social support  |                  |
| Who supported you in your decision to breastfeed?   |                  |
| Husband/partner   | 9 (60)           |
| Parents   | 11 (73)          |
| Other family members (siblings, parent-in-law)  | 9 (60)           |
| Friends   | 7 (47)           |
| WIC peer counselors   | 6 (40)           |
| Who did not support you in your decision to breastfeed?   |                  |
| Husband/partner   | 2 (13)           |
| Parents   | 3 (20)           |
| Friends   | 3 (20%)          |
| Employer  | 3 (20)           |
| Top 3 people whose support you value the most?  |                  |
| Husband/partner   | 11 (73)          |
| Parents   | 15 (100)         |
| Friends   | 5 (33)           |
| BF resources  |                  |
| BF resources of which you were aware?   |                  |
| Community BF clinic   | 6 (40)           |
| WIC BF services   | 8 (53)           |
| BF resources used?  |                  |
| Community BF clinic   | 2 (13)           |
| WIC BF services   | 7 (47)           |
| Where did you hear about these resources?   |                  |
| WIC   | 9 (60)           |
| Doctors and nurses  | 4 (27)           |
| Friends   | 3 (20)           |
| How soon did you have skin-to-skin contact with your baby after birth?  |                  |
| 0–1 h   | 12 (80)          |
| ≥6  | 3 (20)           |
| By the time you were discharged from the hospital, how confident were you in your ability to breastfeed, on a scale of 1–5? (mean ± SD [range]) | 3.2 ± 1.3 (1–5)  |
| How many weeks after birth did you return to work/school? (mean ± SD [range])   | 6 ± 3.2 (0.5–12) |
| How did you plan to feed your baby after returning to work/school?  |                  |
| Breast milk only  | 2 (13)           |
| Breast milk and pump only   | 9 (60)           |
| Breast milk, pump, and formula  | 4 (27)           |

(continued)

qualifying for various reasons, such as having breastfed more than 1 baby.

Interview questions were modified to address ambiguity and accuracy after pilot-testing with 1 African American mother who met the same eligibility criteria. The interview guide was based on the TPB and consisted of 29 questions across 6 main topics: (1) BF support in the hospital, (2) BF experience, (3) facilitators and barriers, (4) social support, (5) returning to school or work, and (6) resources and future interventions (Table 2). Although some questions addressed several constructs simultaneously, interview questions about BF experience addressed attitude, questions about BF support and social support addressed subjective norms, and questions about facilitators, barriers, and returning to school or work addressed perceived behavioral control. Participants received \$25 for completing the questionnaire and interview.

### Validated Measures

BF attitudes were measured using the IIFAS, a 17-item, validated scale, by measuring participants' level of agreement on a 5-point Likert scale.<sup>22</sup> Nine statements favored formula feeding and were reverse scored when summing up the scores. Possible scores ranged from 17 to 85, with higher scores indicating a more positive attitude toward BF. Previous studies categorized scores into 3 groups: (1) positive = 70–85, (2) neutral = 49–69, and (3) negative = 17–48.

The BF self-efficacy was measured using the BSES-SF, a 14-item, validated scale on a 5-point Likert scale.<sup>23</sup> Participants were asked to rank their confidence level in their ability to latch, overcome BF-related obstacles, and determine the infant's satisfaction with BF. Scores can range from 14 to 70, with higher scores indicating higher levels of BF self-efficacy.

### Data Analysis

Interviews were audio recorded, transcribed verbatim by GMR transcription services (Chicago, IL), and analyzed using inductive thematic analysis. The analysis followed the 4 stages of qualitative analysis for inductive thematic analysis outlined by Bryman and

Table 1. Continued

| Question  | n (%)                  |
|---|------------------------|
| How often did you breastfeed in public?   |                        |
| Once or twice a week or more  | 10 (67)                |
| Once a month or every couple of months  | 2 (13)                 |
| Never   | 3 (20)                 |
| Iowa Infant Feeding Attitude Scale (mean $\pm$ SD [range])                        | 69.6 $\pm$ 7.1 (58–81) |
| Breastfeeding Self-Efficacy Scale–Short Form (mean $\pm$ SD [range]) <sup>a</sup> | 62.3 $\pm$ 6.8 (52–70) |

BF indicates breastfeeding; WIC, *Special Supplemental Nutrition Program for Women, Infants, and Children*.

<sup>a</sup>n = 12.

Burgess<sup>24</sup> using MAXQDA (version 12.0.3; VERBI GmbH, Berlin, Germany). Initially, the first author and 2 research assistants read the transcripts several times to check for accuracy compared to the audio recordings, to deidentify data by removing any personal information, and to become familiar with the data. Coders independently completed 2 cycles of coding using descriptive, structural, and open coding for the first cycle of coding, and descriptive, structural, and simultaneous coding for the second cycle of coding. Simultaneous coding is the application of  $\geq 2$  different codes onto the same section of the transcript.<sup>25</sup> After the first cycle of coding, the master coder consolidated, modified, and created codes and the codebook for 101 codes. Throughout the second cycle, the master coder concurrently clarified, modified, and consolidated underused codes or codes with low inter-coder agreement to 22 codes. Differences were resolved by discussion. After the second cycle of coding, the master coder and an experienced qualitative researcher reviewed transcripts from the codes and identified categories and emerging themes from the data.

Inter-coder agreement was calculated by randomly selecting 20% of the interviews and comparing segments coded with the master coder using the segment agreement in percentages at 80% correlates function in MAXQDA. To facilitate comparison for agreement, researchers assigned each paragraph to any number of codes. The researchers calculated coefficient kappa using  $1/n^2$  for  $P(\text{chance})$ , with  $n$  being the number of codes, as suggested by Brennan and Prediger<sup>26</sup> for nonfixed marginal distributions.

This method<sup>24</sup> was used for 2 main reasons: (1) this study did not follow typical assumptions for kappa because categories (codes) were not mutually exclusive and (2) the master coder did not assign a number of codes to the transcripts and therefore marginal proportions were free. The marginals are fixed if the marginal proportions are known to the coder *a priori*. Inter-coder agreement for the master coder and coder 1 was 0.82, and with coder 2 was 0.81. The researchers reached data saturation after 7 interviews because the data were rich and the interview guide was comprehensive. All 15 participants were included in the data analysis.

## RESULTS

### Sample Characteristics

Participant demographics can be found in Table 3 and responses to the pre-interview questionnaire can be found in Table 1. All participants (n = 15) identified themselves as being of African American or black ethnicity. The majority were aged 18–24 years, single or not married but living with father of child, worked and attended school, and had at least some college education. Three of the 9 participants who indicated that their husband or partner supported their decision to breastfeed were married, 3 were not married but living with father of child, and 3 were single mothers. The average age of the baby was 7.5 months (n = 14) and 8 participants (53%) had male infants. Average BF duration was 5.8 months (SD = 3.1 months) with all intending only to breastfeed their babies. Mothers valued support from their parents, partner, and friends. About half of partici-

pants knew about WIC BF services, which included BF supplies, BF class, and BF peer counselors. Mothers returned to work at an average of 6 weeks (SD = 3.22 weeks) after the child's birth and wanted to feed their babies only breast milk and pumped milk once they returned to work. Twelve participants (80%) breastfed in public, with 10 BF in public once or more per week.

### Validated Measures

The IIFAS scores can be grouped into 3 categories: (1) positive to BF (70–85), (2) neutral (49–69), and (3) positive to formula feeding (17–48).<sup>27,28</sup> The mean IIFAS score (n = 15) was 70 (SD = 7) with Cronbach  $\alpha = .70$ . Mean IIFAS score of 70 indicated a positive BF attitude. This finding was similar to an IIFAS score of 67 found among women who intended to breastfeed.<sup>27,29</sup> The IIFAS scores were not correlated with BF duration ( $r = .26$ ;  $P = .46$ ), agreeing with previous findings of no associations between BF initiation, duration, and exclusive rates and higher IIFAS scores.<sup>29</sup> Several statements in the IIFAS, such as that BF increases bonding, BF is more convenient than formula feeding, and mothers who drink alcohol should not breastfeed, were consistent with BF attitudes in the interviews. Although 14 of the 15 mothers (93%) agreed that mothers should breastfeed in public in the IIFAS, 6 (40%) were “on the edge about BF in public” in the interviews and 3 never breastfed in public.

Mean BSES-SF score (n = 12) was 62 (SD = 7) out of a possible 70, and Cronbach  $\alpha = .91$ . The BSES-SF score of 62 indicated a relatively high level of self-efficacy, considering that the majority of these mothers were primiparous (87%) and African American or black. In this study, BSES-SF scores were not associated with BF duration ( $r = -.01$ ;  $P = .97$ ). Mothers stated that BF is something that “just takes time. Like once you—once he learned how to latch on, then ... it just happens.” Once the mother established and learned how to breastfeed, her confidence level increased while having a positive BF experience.

### Themes

Six main themes resonated with mothers' BF experiences related to BF facilitators and barriers.



**Table 2.** Interview Guide for Semistructured Interviews

|  |   |
|--|---|
| Topic 1: BF support in the hospital  | Theory of Planned Behavior Construct<br>N/A             |
| 1. How was your experience giving birth at the hospital?   | N/A   |
| 2. You indicated that you had skin-to-skin contact _____ (time) after birth.   | N/A   |
| a. What did you like/dislike about skin-to-skin contact?   | Perceived behavioral control                            |
| b. How did skin-to-skin contact influence your ability to breastfeed?  | Attitude; subjective norm                               |
| 3. Can you tell me about BF support that you received during your prenatal hospital visits?  | Attitude; subjective norm                               |
| 4. Can you tell me about BF support that you received during your hospital stay?   | Attitude; subjective norm                               |
| 5. Confidence about BF during discharge:   |   |
| a. What resources would have helped you increase your confidence?  | Perceived behavioral control                            |
| b. What helped you be confident in your ability to breastfeed?   | Perceived behavioral control                            |
| 6. After discharge and coming home with your new baby, you (continued/stopped) BF. What motivated you to (continue/stop) BF?   | Perceived behavioral control                            |
| Topic 2: BF experience   |   |
| 7. Can you describe your BF experience with your baby?   | Attitude  |
| a. What did you like/dislike about BF?   | Attitude  |
| 8. What do you think are some benefits of BF?  | Attitude  |
| 9. What do you think are some disadvantages of BF?   | Attitude  |
| 10. What did you think about BF before you breastfed your baby?  | Attitude  |
| 11. What have you heard about BF before you gave birth?  | Attitude  |
| 12. Did your perception of BF change after you breastfed? If yes, how?   | Attitude  |
| 13. What would you have liked to know before you were pregnant that you know now?  | Attitude  |
| Topic 3: Facilitators and barriers   |   |
| 14. You indicated in the questionnaire that you decided to feed your baby before birth. Can you walk me through what factors influenced your decision to feed your baby?         | Attitude, subjective norm, perceived behavioral control |
| 15. BF goal: You wanted to breastfeed for a year but breastfed for (duration).   |   |
| a. What prevented you from meeting your BF goals?  | Perceived behavioral control                            |
| b. What would have helped you meet your BF goal?   | Perceived behavioral control                            |
| 16. We talked about who influenced your decision on how to feed your baby. What other factors helped you to decide to breastfeed?  | Attitude, subjective norm, perceived behavioral control |
| 17. If any, what barriers have you encountered while BF?   | Perceived behavioral control                            |
| a. What could have been done differently to help you overcome (barrier)?   | Perceived behavioral control                            |
| Topic 4: Social support  |   |
| 18. How did your mom support your decision to breastfeed?  | Subjective norm   |
| 19. How did your partner support your decision to breastfeed?  | Subjective norm   |
| 20. How did the day care center support your decision to breastfeed?   | Subjective norm   |
| 21. How did _____ not support your decision to breastfeed?   | Subjective norm   |
| 22. You indicated that you breastfed in public often. How did other people react when you breastfed in public?   | Subjective norm   |
| a. What motivated you to breastfeed in public?   | Subjective norm   |
| Topic 5: Returning to work   |   |
| 23. You wrote that you went back to school (duration) after you gave birth. Can you tell me about your experience of going back to school after giving birth?                    | Perceived behavioral control                            |
| 24. What encouraged you to continue BF or pumping after returning to school?   | Perceived behavioral control                            |
| a. Was there anything at school that supported BF?   | Perceived behavioral control                            |
| b. Was there anything you would have liked to support you to continue BF after giving birth?   | Perceived behavioral control                            |
| Topic 6: Resources and interventions   |   |
| 25. From your questionnaire, you indicated that you received a breast pump from Carle Hospital. In general, what motivated you to get help with BF?                              | Perceived behavioral control                            |
| a. What did you like/dislike about the breast pump?  | Perceived behavioral control                            |
| 26. You indicated that you knew about the _____ but you did not use it. What prevented you from getting help from the BF resources that you knew about?                          | N/A   |
| 27. What community services have you used that are not related to BF?  | N/A   |
| a. What do you like/dislike about this service/program?  | N/A   |
| 28. Was there anything you would have liked to support you to continue BF after giving birth?  | Perceived behavioral control                            |
| 29. If there was <i>one thing</i> that we could do in Champaign County to help support black mothers in their choice to breastfeed their babies, what do you think it should be? | N/A   |

(continued)

Table 2. Continued

|   |     |
|---|-----|
| a. Can you describe the _____ (program/service) that you would like?                    | N/A |
| b. Where would the _____ (program/service) be held?                                     | N/A |
| c. How would you get people to take advantage of this program/service?                  | N/A |
| d. What are the main parts of the _____ (program/service) that will make it successful? | N/A |

BF indicates breastfeeding; N/A, not applicable.

**Attitudes: facilitators.** Participants' positive attitudes toward BF, as reflected through IIFAS scores, were attributed to their knowledge about the benefits of BF. They frequently stated that "breast-feeding gave them more nutrients than formula," "breastfed babies are smarter," and that "it was a nice bonding experience because you never get that back." Several mothers also stated that BF saved "money on formula" and that BF helped to relieve stress. Participants who switched to formula due to unforeseen circum-

stances mentioned positive aspects of breastfed babies, such as having better digestion and diaper smell, and having fewer illnesses.

**Attitudes: barriers.** Several mothers shared the belief that maternal diet directly affected breast milk, or "everything that I gave him was based on my diet." Mothers believed that an unhealthy diet would produce unhealthy breast milk and that mothers must eat healthy to make breast milk containing all nutrients. One participant ex-

plained, "You're just eating junk. You're drinking soda. You're eating fast food. How is your baby benefitting from the nutrients that it's supposed to get if you're eating junk?" One participant did not know what she could eat while BF:

*Since she [my aunt] works at the hospital and she knows a lot of moms. She didn't support it [breast-feeding] because she know[s] that people don't eat healthy enough or eat right. She feels like if the baby has formula, the baby will have everything and all the nutrition that it needs.*

Several participants modified their diets because their babies had digestion issues if the mother consumed dairy, spicy, and greasy foods. One participant was a

*hot and spicy eater ... I just felt like maybe that stuff is a little too hot for him. They did say that the more hot stuff you eat, you can get gas and diarrhea and all of that stuff, so I slowed down on a lot of that stuff.*

Another participant eliminated dairy from her diet,

*which is really hard because I love my cheeses, my ice creams, and my milks. ... That made me want to quit breastfeeding alone, just not being able to have dairy. [Daughter's] stomach crunches.*

Medications were a barrier for several mothers because they were afraid that their babies would be affected by medication from the breast milk:

*They [doctors] started me on this medicine and I was just really concerned—even though they kept saying it was safe, I was really concerned that it was not safe for my son so I stopped breastfeeding.*

Although this mother's medication was considered safe to consume while

Table 3. Demographics for Participants in Semistructured Interviews (n = 15)

| Characteristics   | n (%)            |
|---|------------------|
| Ethnicity   |                  |
| African American or black   | 13 (87)          |
| Mixed   | 2 (13)           |
| Age, y  |                  |
| 15–19   | 2 (13)           |
| 20–24   | 7 (47)           |
| 25–29   | 2 (13)           |
| ≥30   | 4 (27)           |
| Age of baby at time of interview, mo (mean ± SD [range]) <sup>a</sup> | 7.5 ± 3.5 (3–12) |
| Marital status  |                  |
| Single mother   | 9 (60)           |
| Married   | 3 (20)           |
| Not married   | 3 (20)           |
| Education (highest degree completed)                                  |                  |
| High school or General Equivalency Diploma                            | 2 (13)           |
| Vocational or some college  | 7 (47)           |
| College graduate or more  | 6 (40)           |
| Children living with participant                                      |                  |
| 1   | 10 (66)          |
| ≥3  | 5 (34)           |
| Employment  |                  |
| Employed  | 11 (73)          |
| Employed and a student  | 4 (27)           |
| Mode of delivery  |                  |
| Vaginal   | 11 (73)          |
| Cesarean  | 4 (27)           |
| Gender of baby  |                  |
| Male  | 8 (53)           |
| Female  | 7 (47)           |

<sup>a</sup>n = 14.

BF by her health care providers, she was convinced that her milk reflected her diet, including medications.

**Subjective norm: facilitators.** Normative infant feeding behavior is the behavior that participants associate with being culturally and socially acceptable. All participants believed that BF is healthier than formula and were insistent on doing what was the best for the baby. Participants were knowledgeable about the health benefits of BF for the baby (less for the mother) and valued personal stories and trustworthy information from nurses, midwives, and lactation consultants. Participants mistrusted formula because “you really don't know what's in formula. They label it, but some of the ingredients ... If I can't pronounce it, obviously I don't know what's in it.”

All participants stated that they liked that their baby depended on them for feedings but struggled to meet their babies' needs when they wanted to maintain a social life. One mother reflected:

*I was happy to be that person that could provide him food and nobody could feed him much. I liked that that he had to come to me so that I was the provider for that and that I could comfort him and that I was the only person that could calm him down when he was hungry. I miss that part.*

This theme emphasized the need for social support (emotional, instrumental, information, and appraisal) from significant persons and female role models. Having a reliable person who could be physically present to help throughout the BF process was a major facilitator to BF, especially during the first few weeks postpartum:

*I did have some really great support once I got home because I actually had 2 people come over and help me ... make sure I'm still on track because it was still painful ... and actually walked me through sideline breastfeeding on my bed.*

**Subjective norms: barriers.** Participants believed that BF was natural but not considered culturally acceptable by society. One mother explained,

*I didn't have any kind of examples of it being normal, or being okay ... it*

*was something I didn't really think about because I didn't see it as normal, because there weren't a lot of people around me doing it, it was just something that I was mindful of—I mean, it's natural. I wouldn't have produced milk to feed our kids, if we weren't meant to do that.*

The majority of participants dealt with stigma against BF big babies, BF in public, BF for over a year, and clingy breastfed babies. An unsupportive BF environment contributed to formula feeding as the cultural norm: “He'll [baby's father will] try and feed him [son] other things. So if he's eating something, he'll feed him [son] off his plate instead of letting him having milk that he wants.” Participants believed that breasts were sexualized, especially by male family members: “He [participant's father] don't wanna think of his daughter putting a boob in the baby's mouth and then he go to kiss the baby. And that was like kissing his daughter's boob.” This made her “feel like I'm a nasty person.”

Participants identified themselves as having a new identity as a BF mother and wanted the independence of a social and personal life while maintaining a BF relationship with the baby. For example,

*That's just weird to me to have a boyfriend and then, like—so, he's just, like, trying to—like, don't touch my breasts, they're not for you ... I wouldn't even have a personal life or would I breastfeed?*

Participants felt restricted from hanging out with friends while BF:

*You spend the majority of your day breastfeeding instead of, like, going out, you know, and trying to enjoy a drink or something with your friends and now you can't.*

Wanting to smoke and drink were barriers to BF for some mothers. One participant suggested

*hav[ing] a class to teach about it because my friend breastfeeds, and she drinks. But I'm, like, if you drink, how do you breastfeed? Because, is your baby drinking alcohol, too? ... How long does it take for it to start going through there and get all the bad stuff out? And smoke ... Well, does smoke get into breast milk?*

Instrumental support, or tangible assistance, from community resources helped those who were struggling financially. Mothers also valued support from female role models who had similar experiences:

*When I would talk to the lactation, she just gives me a simple answer. But I was, like, “You don't know. You not pregnant.” ... Somebody that could understand a little more, like, of the mothers ... just to be around people who are going through it, because I know I'm not the only person that doesn't have time.*

Several participants' partners were not supportive of BF and expressed that their partners felt neglected and believed that their babies did not like the father as much as the mother.

**Perceived behavioral control: facilitators.** Participants mentioned that BF was convenient and inexpensive compared with formula. BF was convenient for 2 reasons: being able to multitask while BF (for some) and BF at night:

*You can pull that bra off and go back to sleep and you have to actually get out of your bed, go to the sink and you're wakened up, like, 4 times a night. Breastfeeding, you just wake up, put the baby right there and make sure she's—and you go back to sleep.*

In addition, BF was inexpensive because mothers did not have to purchase formula.

Support at the workplace varied by job and the relationship that the mother had with her employer. Several mothers had a supportive work environment due to coworkers who took over shifts during pumping breaks, flexible schedules, and the ability to breastfeed during work hours.

In the hospital setting, BF support varied during prenatal visits and hospital stay after delivery. Most participants believed that nurses were helpful during the first few days of BF.

**Perceived behavioral control: barriers.** Participants struggled to breastfeed while balancing school, work, and taking care of their baby. One mother stated:

*Honestly, it's kind of time-consuming. ... I fed her for*

*30 minutes. Some babies—they scarf down in 15. But some babies—like, she's a slow eater so she breastfed for 30–45 minutes, depending—and you've got to give them each breast. ... It takes a lot of time because you have to switch them, and you got to make sure you pay attention, you got to make sure they're latched on.*

Participants mentioned that pumps are costly:

*It would've been better to have a more affordable pump. I mean, to some people \$70 something for a pump doesn't seem that big a deal but ... if I could borrow like I did at the hospital ... That would've been helpful.*

BF was considered expensive because the mothers believed that one must eat healthy to breastfeed:

*A lot of people do think it's expensive because ... to eat healthy is expensive ... you technically do have to make sure you get your fruits and your vegetables, your grains, your milk, your vitamin D and everything.*

Participants perceived a lack of structural support from hospitals, schools, workplaces, and community organizations. One mother stated that “they kind of left me in the room” at the hospital and she had to ask someone for BF support.

At the workplace, several participants expressed frustration with inadequate break times, the lack of a private place besides the bathroom to express milk, and having to work fewer hours: “They [employers] said you just can work a 6-hour shift and go home to feed her, I guess.” Participants were knowledgeable about the Break Time for Nursing Mothers law:

*They [employers] had originally told me that I can go pump in the bathroom, and I'm like, 'Okay, there's only 2 stalls in there, I don't like the public restroom, that's nasty.' ... It seemed like right after they made that post, they ended up posting, like, the breastfeeding rights and stuff, or pregnancy rights for working ... they did ... the least that they can do to stay within the law.*

In addition, participants had to choose between earning wages and pumping:

*One of my male bosses was like, 'You have to clock out when you go pump.' So ... now I have to decide whether I'm going to lose money so I can go pump for, like, 15 or 20 minutes.*

One mother explained that her milk supply was low “because I have a job and I didn't want to have to pump in the bathroom every hour because they used to get full really fast and so my milk supply was already slowing down.”

Mothers frequently stated the need for lactation support on campus and a comprehensive guide to resources of baby-related services in the community: “When I go outside in the summer time I see so many kids on campus ... So, I was, like, ‘People on campus have kids?’” ... I am, like, ‘Where did they get baby resources from?’” Although participants were unaware of some BF-related resources, they obtained BF information and social support from social media, smartphone applications, and baby-related Web sites: “Somebody actually came into [my job] ... It was a white lady, so she was, like ... ‘I'm in a group on Facebook called Black women do breastfeed.’”

### Future BF Interventions

Participants suggested having a social support group with “a Q and A for vet mommies and the rookie mommies” or:

*maybe if you can make it, like, 4 breastfeeding moms or African American moms but then kinda just talk about other things that relate, like, maybe have a conversation about confidence level and then put breastfeeding in there and encouraging and talk about that, but then I'd add life situations.*

Researchers of this study identified a need for campus resources for BF mothers, including

*a quiet room that I could pump milk, like when I'm in class and my breasts were, like, filled up with milk, it would be nice if ... the instructor say, 'Hey, it's okay; you can just go pump and come back when you're finished.'*

Two participants suggested that BF education should “start in high school just talking about it, just like how it was talked about to me from a trainer

when it didn't relate to me. I was educated on it, so it was kinda like, oh, I'm gonna do that.” The participant's trainer talked to the participant about BF when she was not pregnant. Therefore, having discussions or conversations about BF with those who were not pregnant may be an effective way to promote BF in this population.

Finally, participants wanted to “kind of try and shift the normative there to BF being normal vs it being some odd extreme that is frowned upon” in the black community by advertising on radio, billboards, television, flyers, and social media. Several mothers believed that “once a couple of people start to do it, you can, like, start a movement.” One mother “loved all the programs I've already talked about” but did not “see more people of color at stuff like breastfeeding meetings.” She suggested that:

*if maybe women of color knew that other women of color were there, it would just—it's like a tunnel effect, where they're just more likely to come because they're not going to feel like I'm the only person in the room that's not white.*

### DISCUSSION

Themes identified in this study were common experiences among participants. This study aimed to identify BF facilitators and barriers to inform a BF program to meet the needs of the target population. BF facilitators included social support, access to reliable BF information and community resources such as the 24-hour WIC BF hotline (which was available when the interviews took place), exposure to mothers who breastfed, and BF assistance at the hospital immediately after childbirth. Participants also believed that breast was best and that BF promoted mother-baby bonding, which was found in several other studies among African American and white mothers.<sup>11,12,30</sup> Previous BF studies focused mainly on BF barriers to resolve these problems, but structural barriers must be addressed to create a BF culture in the African American community.

BF barriers to continue BF were returning to school and work, perceptions of insufficient milk supply, stigma against BF in public, BF problems,



nutrition, negative support, and time constraints of BF and pumping. This study was consistent with barriers found in other studies among African American and white mothers, including insufficient milk supply, returning to work, a non-supportive work environment, lack of awareness of resources, the need to take medication or treatment that interfered with BF, and lack of support from family, friends, and partners.<sup>31-33</sup> One study found common barriers among African American mothers of high and low socioeconomic status, including finding time to breastfeed, lack of support from the mother's social network, stigma against BF in public, and lack of support from health care staff.<sup>11</sup> However, lower-socioeconomic status mothers more frequently indicated workplace challenges as a barrier to BF. Two studies identified insufficient milk supply and difficulty adjusting to work while BF as the main barriers in Nicaragua and Spain, which were also found in the current study.<sup>34,35</sup> Findings of this study agreed with those of previous studies of African American mothers, which found that BF was not the social norm and that participants frequently mentioned work or school as a barrier to BF.<sup>12,36</sup>

Cultural beliefs about diet and BF, negative attitudes toward formula, and the belief that BF was natural but not socially and culturally acceptable contributed to participants' attitudes toward the behavior. Each participant's social network contributed to a mother's subjective norm, which was that BF was not a culturally acceptable behavior. Finally, the perceived behavioral control construct of the TPB was influenced by how much social support the mother had from female role models, the degree of BF friendliness of her environment, and the amount of control she had in dealing with the time associated with BF and her ability to manage negative BF experiences and feedback.

A unique finding in this study was that some mothers believed that BF was expensive because they believed that they had to eat a healthy diet to breastfeed and they felt pressured to work fewer hours so that they could go home to breastfeed. In addition, partners blamed the baby's clinginess

to being breastfed. A study among Nicaraguan mothers found that mothers commonly believed that they had to be well nourished to produce sufficient amounts of breast milk.<sup>35</sup> Researchers in the current study were unable to determine whether participants in the study received less support compared with mothers of other ethnicities. However, there were differences in support during the prenatal and immediately postpartum periods, depending on the hospital or clinic.

Participants had a relatively high IIFAS scores ( $70 \pm 7$ ), indicating a positive attitude toward BF. Positive attitudes were reflected in the interviews, because participants valued the health benefits of BF as well as the ability to save time and money. This finding was similar to other pregnant women who intended to breastfeed in Canada ( $67 \pm 8$ ).<sup>27</sup> In the same study, women who intended to breastfeed had a significantly higher mean IIFAS score than those who did not intend to breastfeed ( $52 \pm 8$ ) regardless of whether the mother lived in an urban or rural area of Canada.<sup>27</sup> In another study, being a female, having graduate student status, knowing someone who breastfed her infant, and being breastfed as an infant were associated with higher attitude scores.<sup>37</sup> Therefore, it is possible that this sample had relatively high IIFAS scores because all participants intended to breastfeed, knew someone who breastfed, and had breastfed their children.

The average BSES-SF score of  $62 \pm 7$  in this study was much higher than that of primiparous mothers from other studies after 1 week postpartum ( $54 \pm 10$ ).<sup>23</sup> Higher scores may have resulted from data being collected an average of 7.5 months postpartum and because participants were highly motivated to reach their BF goals. High BSES-SF scores were reflected in the interviews. One mother stated: "I don't know how you don't know how to breastfeed. You just fix their mouth." Several mothers struggled to breastfeed during the first 2 weeks postpartum, but "after about 2 weeks, my confidence increased. ... The only thing that I did know was how she should latch on to my breast." Numerous studies found lower BSES-SF scores among primiparous mothers ( $49 \pm 12$  vs  $55 \pm 11$ ), African American mothers

compared with African mothers ( $48 \pm 12$  vs  $61 \pm 9$ ), mothers who planned to breastfeed for  $\leq 24$  weeks, and mothers who were not exclusively BF in the hospital.<sup>23,38</sup> One study predicted 54% of the variance in BSES-SF scores at 1 week postpartum due to several factors, including maternal education, mode of delivery, support from other women, BF progress, and feeding the infant as planned.<sup>39</sup>

There were several limitations to this study. Participants were highly motivated to breastfeed, because only those who breastfed were interviewed. Second, 1 of the interviews was conducted by a research assistant after training. However, after the interview was conducted, the primary researcher realized that more training was needed, upon following up with questions based on the participant's responses. Third, the interviewer did not match the ethnicity of the targeted population and had favorable attitudes toward BF, which may have introduced interviewer bias. However, the interviewer built rapport with each participant in the same manner. Fourth, the interview guide was based on the TPB, which lacked a cultural aspect of BF that permeated all levels of the mothers' decision to breastfeed. In addition, information about nationality, tobacco and alcohol use, and cohabitation was not collected. This study was unable to compare BF facilitators and barriers with low-income African American mothers who did not breastfeed, but experiences of 2 mothers who previously formula fed their babies were presented. Finally, administering the questionnaire immediately before the interview had the potential of priming respondents to consider specific issues. However, since all respondents were treated in the same way, this procedure did not account for individual differences across the interviews.

More mixed-methods studies are needed to engage fathers and grandparents to support mothers and adolescent mothers, because all of the participants identified fathers and their parents as their top 2 supporters. As suggested by this study, interventions to support student mothers, BF promotion programs, and a BF social support program for African American mothers would be beneficial to promote a BF-friendly culture in the US.

## IMPLICATIONS FOR RESEARCH AND PRACTICE

Findings from this study support the need for social support to promote BF and the need to debunk BF myths among low-income African American mothers and their significant others. Some BF myths that must be refuted are that an unhealthy diet produces human milk deficient in some nutrients, a mother must eat healthy to breastfeed, and BF makes a child clingy. This study provides insight into the reasons why these mothers breastfeed and the challenges they face. As stated, the researchers did not anticipate the wide range of misconceptions related to infant feeding that abound in the African American culture.

The most widely used WIC resources were the WIC BF peer counselors, WIC BF supplies, and WIC group class called What to REALLY Expect When You're Expecting. Instructors or leaders who are teaching BF classes should be community members with backgrounds similar to the target population (eg, ethnicity, age, education) and must have breastfed. At WIC clinics, it is recommended to hire African American lactation counselors or BF counselors to lead social support groups for African American mothers. Most of the mothers in this study were unaware of the Breastfeeding Friends social support group at the local WIC office. Therefore, advertisements through social media, throughout the WIC office, and at local clinics, grocery stores, and other venues must be considered.

Public health efforts must focus on creating a BF-friendly environment to make mothers feel comfortable about BF in public and BF beyond 1 year of life, particularly for young African American mothers. Adolescent African American mothers are one of the most vulnerable populations that are the least likely to breastfeed, with an initiation rate of 30%, compared with 40% for non-Hispanic white and 66% for Mexican American adolescent mothers.<sup>40</sup> One solution would be to provide BF education during high school or earlier. A study identified that only 52% of high school students were planning on BF, because the majority of them were breastfed themselves.<sup>41</sup> Participants who had exposure to BF

before pregnancy or during high school had more positive attitudes toward BF, which implies that this setting might be the ideal opportunity to provide BF education.<sup>41</sup>

In addition to health education programs, a BF-friendly environment must be in place to facilitate mothers who breastfeed outside the home. The 10 Steps to Successful Breastfeeding are evidence-based practices that can be implemented in hospitals to increase BF initiation and duration. Although some of the 10 Steps are not suitable for outside the hospital setting (eg, give no pacifiers or artificial nipples to BF infants), policies such as having and communicating a written BF policy to all staff and informing all staff about the benefits and management of BF would be a rewarding effort to promote BF. The Champaign-Urbana Public Health District allows businesses to participate in the Breastfeeding Friendly Business Rating System, which trains and provides certificates based on businesses' level of BF friendliness.<sup>42</sup> Therefore, policies such as having a written BF policy that is routinely communicated and training all staff in skills necessary to implement this policy and having a program similar to the Breastfeeding Friendly Business Rating System are recommended to promote a BF-friendly environment.

## ACKNOWLEDGMENTS

This study was funded by the Agriculture and Food Research Initiative (AFRI) of the US Department of Agriculture National Institute of Food and Agriculture as part of the AFRI Childhood Obesity Prevention Challenge (2011-67001-30101). The authors would like to acknowledge the participants who shared their personal BF stories, the 2 coders, and the Champaign-Urbana Public Health District for assisting with recruitment and providing BF information.

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**CONFLICT OF INTEREST**

The authors have not stated any conflicts of interest.