

Winter 3-20-2020

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Lucy Wiesemann  
DePaul University, muellerlucy1@gmail.com

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### **Recommended Citation**

Wiesemann, Lucy, "An Examination of Certified Nurse-Midwives' Attitudes and Beliefs Surrounding Breastsleeping: Implications for Advanced Nursing Practice and Education" (2020). *College of Science and Health Theses and Dissertations*. 360.  
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An Examination of Certified Nurse-Midwives' Attitudes and Beliefs Surrounding  
Breastsleeping: Implications for Advanced Nursing Practice and Education

Lucy Mueller Wiesemann, DNP Candidate, CNM, APN, RN

DePaul University

March 12, 2020

**Introduction:** Breastsleeping, defined as co-sleeping while breastfeeding, is a practice commonly employed in breastfeeding families. However, literature examining this concept, its prevalence, and related education for safe breastsleeping is scant. Providers' attitudes surrounding breastsleeping play an essential role in practice and outcomes when caring for breastfeeding patients and families. The purpose of the study was to examine and describe Certified Nurse-Midwives' attitudes and beliefs surrounding breastsleeping.

**Methods:** An adapted 18-item Nurse Attitudes and Beliefs Questionnaire-Revised (NABQ-R) online-survey that measured breastsleeping attitudes and beliefs of Certified Nurse-Midwives was administered via an online survey platform (Qualtrics). The quantitative analysis utilized SPSS 25 software.

**Results:** Survey respondents included 754 Certified Nurse-Midwives throughout the U.S. Overall, attitudes of Certified Nurse-Midwives were favorable toward breastsleeping, yielding several statistically significant relationships between respondents and certain demographics, namely age, years in practice, place of practice, and region of practice.

**Discussion:** Certified Nurse-Midwives' attitudes around breastsleeping were overwhelmingly positive. However, age, years in practice, place of practice, and region of practice impacted Certified Nurse-Midwives' attitudes, leading to implications for patient education on safe co-sleeping practices. Future studies should examine other provider groups' perspectives on breastsleeping, such as nurse practitioners and pediatricians who serve breastfeeding families, and also consider surveying breastfeeding mothers about their breastsleeping behaviors. Improved understanding of this emerging concept is essential to support breastfeeding families, encourage open communication between providers and patient populations, and improve safe co-sleeping in families with infants.

Key Words: Breastsleeping, attitudes, beliefs, Certified Nurse-Midwives, co-sleeping, bed-sharing, SIDS.

## Introduction

Breastsleeping is a relatively new concept first introduced by James McKenna and Lee Gettler.<sup>1</sup> Breastsleeping is defined as “breastfeeding mothers sharing the same or an adjacent sleep surface, (i.e., co-sleeping), with their infants in the absence of all hazardous factors.”<sup>2</sup> Although bed-sharing and co-sleeping are often undifferentiated, they are not interchangeable. Co-sleeping is when a parent and infant sleep near each other on the same or different surfaces, while bed-sharing is only when the infant is sleeping on the same surface. Bed-sharing involves co-sleeping, but co-sleeping does not always involve bed-sharing.<sup>3</sup>

There is minimal research to date explicitly addressing breastsleeping. While previous research has addressed safe infant sleep as it pertains to sudden infant death syndrome (SIDS),<sup>2,3,4</sup> very few studies address bed-sharing or co-sleeping and the risk of SIDS in the absence of risk factors.<sup>2,3,4,5</sup> McKenna and Gettler<sup>2</sup> found that exclusive breastfeeding increases protection against SIDS and that the increased protection was proportionate to the amount of breastmilk consumed by the infant. Bed-sharing has been shown to increase the number of breastfeeds per night and extend breastfeeding.<sup>2</sup> The reduced risk of SIDS also stems from the phenomenon that co-sleeping supports homeostatic control.<sup>4</sup> Breastfeeding is protective against infectious diseases, including upper and lower respiratory infections,<sup>6</sup> and breastfed infants are more easily aroused from sleep than their formula-fed infants.<sup>7</sup> In the absence of risk factors, such as smoking, alcohol consumption, and improper sleep practices, there is a reduced risk of SIDS with breastsleeping.<sup>3,4</sup>

American College of Nurse-Midwives (ACNM), the professional organization representing Certified Nurse-Midwives in the U.S., strives for optimal health for women, supporting a holistic, patient-centered, relationship-based approach to care to providing care for

their breastfeeding patients.<sup>8</sup> Certified Nurse-Midwives play an essential role in reproductive care, lactation and breastfeeding support, and postpartum care.<sup>9</sup> No known studies to date describe attitudes and beliefs of Certified Nurse-Midwives surrounding breastsleeping, co-sleeping, or bed-sharing. A better understanding of CNMs attitudes and beliefs surrounding breastsleeping will lead to a more open and holistic approach to caring for breastfeeding families. Certified Nurse-Midwives rely on evidence-based literature, personal experiences, experiences of their patients, and attitudes of their peers and coworkers to shape their opinions and practices surrounding breastsleeping or bed-sharing while breastfeeding. Therefore, the objective of our study was to examine and describe breastsleeping attitudes and beliefs of Certified Nurse-Midwives.

## **Methods**

### **Setting, Sample, and Data Collection Procedures**

Our study participant sample included a convenience sample of N=1024 Certified Nurse-Midwives who currently care for breastfeeding women, with N=754 of wholly completed surveys. Study participants were recruited through direct and forwarded emails, and flyers posted to social media. We used an adapted 18-item Nurse Attitudes and Beliefs Questionnaire-Revised (NABQ-R) online-survey that measured breastsleeping attitudes and beliefs of Certified Nurse-Midwives. The survey was administered via an online survey platform (Qualtrics). The quantitative analysis utilized SPSS 25 software.

### **Instruments**

We used an adapted version of the Nurse Attitudes and Beliefs Questionnaire-Revised (NABQ-R) instrument,<sup>10</sup> which we deployed using an online survey platform (Qualtrics). The adapted 18-item NABQ-R measured breastsleeping attitudes and beliefs of Certified Nurse-

Midwives. As with the original 25-item NABQ-R instrument, the 18-item NABQ-R survey was a scored survey using a 4-point Likert scale.<sup>11</sup> Levine and Lowe used a 25-item NABQ-R instrument to measure nurses' attitudes and beliefs about childbirth, yielding results consistent with existing theory.<sup>12</sup> Our adapted 18-item NABQ-R instrument was used to measure Certified Nurse-Midwives' attitudes and beliefs about breastsleeping. The adapted 18-item NABQ-R instrument measured whether he/she had a favorable or unfavorable attitude toward breastsleeping.

Included in our survey was a series of background and demographic measures, including Certified Nurse-Midwives' age, gender, educational background, years in practice, place of practice (e.g., birthing center, community hospital, teaching hospital), region of practice (e.g., Midwest, Southeast, Northwest, etc.), and any additional contributing factors (e.g., Certified Lactation Consultant or International Board-Certified Lactation Consultant). Certified Nurse-Midwives' breastsleeping practices with patients were included in the demographic inquiry portion of the survey (e.g., Certified Nurse-Midwives' frequency of discussions or inquiries on breastsleeping with their breastfeeding patients) for potential influence in future research.

### **Recruitment Procedures**

Convenience sampling was used to recruit Certified Nurse-Midwives through personal and professional associations. Flyers, which included a link to the survey were emailed to Certified Nurse-Midwives through personal and professional associations. The flyer was also posted to social media to recruit participants. Participants and non-participants were encouraged to forward the flyer with the hypertext link to additional Certified Nurse-Midwives' for consideration. The incentive to participate was the opportunity to contribute to the advancement of practice with breastfeeding patients.

### **Rigor and Reliability**

Our study used an adapted 18-item NABQ-R instrument and demographic questionnaire to retrieve a comprehensive understanding of favorable or unfavorable beliefs and attitudes of Certified Nurse-Midwives. Data collected from the adapted 18-item NABQ-R instrument focused on breastsleeping attitudes and beliefs of CNMs, addressing the intended focus of our study.<sup>13</sup> The survey items of our adapted 18-item NABQ-R instrument had a content validity index or S-CVI of  $\geq 0.90$ , confirming excellent content validity.

### **Results**

All study participants were Certified Nurse-Midwives (CNMs) (N = 754). Study sample ages ranged from 25 to over 65 years, 105 (13.9%) reported to be 25-34 years of age, 224 (29.7%) reported to be 35-44 years of age, 151 (20.0%) reported to be 45-54 years of age, 199 (26.4%) reported to be 55-64 years of age, and 75 (9.9%) reported to be 65+ years of age. Survey respondents were predominantly Caucasian n=687 (91.1%). The remaining respondents were Hispanic or Latino 27 (3.6%), Black or African American 16 (2.1%), Native American or American Indian 3 (0.3%), Asian / Pacific Islander 3 (0.4%), and Other 18 (2.2%). Respondents were overwhelming female n=748 (99.2%), with 4 (5.0%) male, 1 (1.0%) other, and 1 (1.0%) respondent preferred not to answer. Six hundred twenty-nine (83.4%) respondents had a master's degree, while 125 (16.6%) had a doctoral degree. Five hundred eighty-nine (78.1%) of respondents worked full-time (40+ hours/week), while one hundred sixty-five (21.9%) worked part-time (Less than 40+ hours/week). Respondent's years in practice ranged from 0-5 years n=157 (20.8%), 5-10 years n=157 (20.8%), 10-15 years n=98 (13.0%), 15-20 years n=105 (13.9%), to 21+ or more years n=237 (31.4%). Three hundred thirty-six (44.6%) respondents practiced in community hospitals, with 230 (30.5%) in teaching hospitals, 69 (9.2%) in birthing



centers, 63 (8.4%) in public health clinics, 40 (5.3%) in-home, and 16 (2.1%) in military hospitals. Two hundred twenty-four (29.7%) respondents practiced in the Northeast, 195 (25.9%) in the Midwest, 124 (16.4%) in the Southeast, 109 (14.5%) in the Northwest, and 102 (13.5%) in the Southwest. A total of 1024 survey responses were received. Those omitted from the study sample included 41 who opened the survey but did not proceed, two who reported not to be CNMs, leaving the total number of survey responses 979. After excluding incomplete surveys for data completeness, our total N for analyses presented in this study was 754 (Table 1).

Overall, CNMs had a favorable attitude toward breast sleeping (83.0%). All survey questions received a favorable response to breastsleeping, although the level of favorability varied from 69.5% to 100%. There were significant associations between breastsleeping attitudes and demographic factors such as age, years in practice, place of practice, and region of practice. Region of practice had the highest number of statistically significant associations to breastsleeping with five, followed by age, years in practice, and place of practice, each with four.

### **Age**

Age was found to have a significant association in CNMs' attitudes towards breastsleeping. Overwhelmingly, participants agreed that that breastsleeping is a natural, normal process (92.3%). The lowest levels of agreement were among participants aged 55-64 (86.1%), while the highest was among participants aged 25-34 (98.1%) ( $p \leq .001$ ;  $\chi^2=18.1$ ). Most participants agreed that bed is the safest place for breastsleeping (87.7%). Participants aged 65+ were somewhat less likely to agree with this sentiment (80.0%) than participants aged 35-44 (95.1%) who were most likely to agree ( $p \leq .001$ ;  $\chi^2=18.6$ ). Eighty-three percent of participants did not believe breastsleeping increases the risk of SIDS. However, participants aged 25-34 were significantly less likely to believe this (69.5%) than those aged 45-54 (86.8%) ( $p \leq .002$ ;

$\chi^2=17.4$ ). Nearly all participants agreed that breastsleeping increased the release of oxytocin in breastfeeding mothers (96.0%). The least agreement with this statement was among participants aged 45-54 (93.4%), while there was nearly universal agreement among participants aged 35-44 (99.1%) ( $p \leq .006$ ;  $\chi^2=14.6$ ) (Table 2).

### **Years in Practice**

A CNM's number of years in practice had a statistically significant impact on their attitude towards breastsleeping. The majority of participants agreed that breastsleeping is a natural, normal process (92.3%). Participants with the highest number of years' experience (21+), had the lowest level of agreement (85.7%), while participants with 10-15 years' experience were the most likely to agree (97.0%) ( $p \leq .000$ ;  $\chi^2=23.2$ ). Most participants agreed that breastsleeping improves maternal outcomes (85.7%). Participants with 21+ years' experience were somewhat less likely to agree with this sentiment (80.6%) than participants with 10-15 years' experience (92.9%) who were most likely to agree ( $p \leq .038$ ;  $\chi^2=10.2$ ) (Table 3).

Close to ninety percent (87.7%) of participants agreed that the bed was the safest place for a breastsleeping mother. Participants with 21+ years' experience had the lowest level of agreement with that statement (81.0%), while those with 10-15 years' experience had the highest level of agreement (94.9%) ( $p \leq .002$ ;  $\chi^2=17.2$ ). Most participants agreed that breastsleeping increases the release of oxytocin in breastfeeding mothers (96.0%). The lowest levels of agreement were among participants with 21+ years' experience (93.7%), while nearly all participants with 10-15 years' experience agreed (99.0%) ( $p \leq .049$ ;  $\chi^2=9.5$ ).

### **Place of Practice**

The place where CNMs practiced was found to have a statistically significant association with attitudes towards breastsleeping. Nearly ninety percent (89.9%) of participants agree that

most women are capable of breastsleeping. Nonetheless, participants who practice in public health clinics were significantly less likely to believe this (77.8%) than those who practice in-home (97.5%). ( $p \leq .006$ ;  $\chi^2=16.2$ ). Most participants agreed that breastsleeping is empowering (81.7%). Participants who practice in Public Health Clinics were less likely to agree breastsleeping is empowering (81.0%), while those who practice in-home agree the most (97.5%). ( $p \leq .032$ ;  $\chi^2=12.2$ ). Most participants agreed that bed is the safest place for breastsleeping (87.7%). Participants who practice in public health clinics were somewhat less likely to believe this (76.2%) than those who practice in-home (92.5%) and in birthing centers (92.8%), who were much more likely to agree. ( $p \leq .049$ ;  $\chi^2=11.1$ ). Eighty-three percent of participants believe breastsleeping improves newborn outcomes. The lowest levels of agreement were among participants who practice in a community hospital (79.8%), while all participants who practice in-home agreed (100%). ( $p \leq .008$ ;  $\chi^2=15.7$ ) (Table 4). Our study also revealed that CNMs who practice in-home ( $n=40$ ), unanimously agreed upon the following statements: a woman's personal experience influences her breastsleeping practices; a woman's breastsleeping experience is significant/meaningful in her life; breastsleeping improves maternal outcomes; women with no risk factors should have the option to breastsleep; breastsleeping improves newborn outcomes; low-risk women should be offered the option to breastsleep; women who breastsleep are unable to rest adequately; breastsleeping increases the release of oxytocin (Table 4).

### **Region of Practice**

Differing U.S. regions where CNMs practiced had a statistically significant relationship with their attitudes towards breastsleeping. Overall, our study showed that the Midwest had the least favorable attitudes toward breastsleeping. In contrast, the Southwest had the most favorable

attitudes toward breastsleeping. A considerable number of participants agreed that breastsleeping improves maternal outcomes (85.7%). The lowest rate of agreement with this statement was found among participants who practiced in the Midwest (80.0%), while the highest rate of agreement was found among participants who practiced in the Northwest (91.7%) ( $p \leq .006$ ;  $\chi^2=14.4$ ). Eighty-three percent of participants believed breastsleeping improves newborn outcomes (83%). Participants who practiced in the Midwest had the lowest level of agreement (75.9%), while participants who practiced in the Southwest were the most likely to agree (90.2%) ( $p \leq .006$ ;  $\chi^2=14.4$ ). Overwhelmingly, the participants did not believe that the breastsleeping rate should be reduced (90.1%). The least agreement with this statement was among participants from the Midwest (85.6%), while the vast majority of participants from the Southwest agreed (97.1%) ( $p \leq .016$ ;  $\chi^2=12.1$ ). Predominantly, the participants agreed that breastsleeping is safe for women with low-risk pregnancies (87.3%). Participants who practiced in the Midwest were somewhat less likely to agree with this sentiment (80.5%) than participants who practiced in the Southwest (94.1%) who were most likely to agree ( $p \leq .004$ ;  $\chi^2=15.5$ ). Most participants agreed that low-risk women should be offered the option of breastsleeping (87.4%). Participants who practiced in the Midwest were marginally less likely to agree with this point of view (81.5%), while participants who practiced in the Southwest were overwhelmingly in agreement (97.1%) ( $p \leq .000$ ;  $\chi^2=20.6$ ) (Table 5).

## **Discussion**

The purpose of our study was to examine CNMs' attitudes and beliefs surrounding breastsleeping. Results revealed that CNMs predominantly had a favorable attitude toward breast sleeping (83.0%). Factors such as age, years in practice, place of practice, and region of practice had a statistically significant association with the CNM's attitudes.

Midwives strongly influence parenting practices during the postpartum period, and their awareness of available evidence about breastfeeding and the prevention of SIDS can play an essential role in reducing SIDS through parental education.<sup>9</sup> Midwives' favorable attitudes can influence parenting practices during the postpartum period if their beliefs influence practice. Further research is needed to investigate how CNM's attitudes about breastsleeping can influence practice and how CNMs practice affects patient behavior.

In October of 2016, the American Academy of Pediatrics (AAP) published updated guidelines for safe infant sleep.<sup>14</sup> These guidelines included the recommendation that bed-sharing is less safe than room-sharing and that room-sharing is considered protective against sudden infant death syndrome (SIDS). The new guidelines for safe sleep were issued to decrease the risk of SIDS and other sleep-related infant deaths. The AAP does not recommend bed-sharing or sleeping on the same surface as their baby.<sup>14</sup> Despite recommendations from pediatricians and the AAP, many women continue to breastsleep for convenience, bonding, and because they are exhausted. Breastsleeping allows them to continue breastfeeding longer. Because of convenience and exhaustion of these women, if they didn't breastsleep, they would be more likely to let someone else take a night-shift feeding so they could get rest, reducing the amount and time of breastfeeding.

Most of our study participants (83%) did not believe breastsleeping increased the risk of SIDS and believed breastsleeping improves newborn outcomes, suggesting CNMs beliefs are in line with the limited research on breastsleeping without risk factors as it relates to the risk of SIDS. Blair et al.<sup>5</sup> found that in the absence of hazardous factors, there was no significantly increased risk for SIDS associated with bed-sharing and may very well protect against SIDS. Hazardous factors included sofa-sharing, alcohol consumption, and smoking.<sup>5</sup> Morgan et al.<sup>4</sup>

stated that homeostatic control that occurs with co-sleeping, absent of risk factors, might decrease infants at risk for SIDS. Any breastfeeding at all will reduce the risk of SIDS as compared to no breastfeeding.<sup>3</sup> Bed-sharing increases the number of breastfeeds per night and extends breastfeeding. SIDS protection is proportionate to the amount of breastmilk consumed by the infant. The more a mother breastfeeds her infant, the higher the protection her infant will have against SIDS.<sup>3</sup> Our study showed widespread support among CNMs in the belief that breastsleeping does not increase the risk of SIDS.

Our study was novel in that it investigated a previously unexamined issue: CNMs' attitudes and beliefs surrounding breastsleeping. Our study addressed a previous gap in research on CNMs' attitudes and beliefs surrounding breastsleeping. Before our study, there were no known studies on attitudes and beliefs of CNMs' surrounding breastsleeping. To date, there is no known research on whether CNMs consider the practice of breastsleeping taboo or sensitive. There are no known studies to date addressing CNMs communication practices when discussing breastfeeding, breastsleeping, co-sleeping, or bed-sharing. More research is needed to begin to understand CNMs' attitudes and beliefs surrounding breastsleeping. Also, while many studies discuss the increased risk of bed-sharing and SIDS, there is currently a significant gap in the research explicitly addressing the risk of bed-sharing and SIDS with the absence of risk factors.

### **Strengths and Limitations**

Our sample size was a strength of this study. We facilitated our sample size through convenience sampling and ACNM listserv. This vigorous data collection provided our research with a robust sample of CNMs with a wide range of ages, years in practice, places of practice, and regions of practice in the United States. Our study was original in that it investigated a previously unexamined issue: CNMs' attitudes and beliefs surrounding breastsleeping.

Limitations of our study included minimal diversity in ethnicity and gender, which could limit the generalizability of the study. Convenience sampling limited our survey to CNMs, excluding Certified Midwives (CMs). Regions of practice were limited in that our sample size included only the U.S. Also, our reliance on using an online survey may have inadvertently excluded those individuals with limited connectivity. Nevertheless, this study was novel in its primary examination of breastsleeping beliefs in CNMS.

### **Future Research**

Future research should include Certified Midwives (CMs) and specifically recruit CNMs and NMs from diverse backgrounds using targeted recruitment and purposive sampling. The subsequent analysis must look at midwifery beliefs on a global scale, especially in regions known for high numbers of midwives, i.e., Switzerland, Norway, Ireland, Iceland, Germany, Finland, and Australia.<sup>15</sup> Our survey on breastsleeping could be study translated into other languages, making accessibility and knowledge transfer global. Future research can investigate whether CNMs and CMs consider the practice of breastsleeping taboo or a sensitive subject and address CNMs and CMs communication practices when discussing breastfeeding, breastsleeping, co-sleeping, or bed-sharing with their breastfeeding families. Research should include the individual CNM and CM providers' personal breastsleeping experiences with breastfeeding their children and whether their personal experience influences their practice as a CNM or CM. Future research can shrink the existing knowledge gap surrounding breastsleeping and lead to a more holistic approach to caring for breastfeeding women and families.

Finally, more research explicitly addressing the risk of bed-sharing and SIDS, with the absence of risk factors, is critical. Studies are needed to investigate whether breastsleeping in the absence of risk factors has an impact on the incidence of SIDS addressed in the AAP 2016 sleep

recommendations. Perhaps with adequate research, the AAP would someday reconsider the 2016 sleep recommendations to include guidelines for safe breastsleeping or co-sleeping with your infant.

### **Impression**

CNMs are overwhelmingly supportive of breastsleeping. Mothers breastsleep because of convenience, attachment, and culture. Despite the AAP's recommendation against bed-sharing with infants, bed-sharing rates are increasing.<sup>16</sup> To move breastsleeping safely forward, midwives need to feel comfortable discussing breastsleeping practices with breastfeeding families, and these families need to feel open talking about breastsleeping with their midwives. It may be difficult for both CNMs and patients to discuss if breastsleeping is considered unacceptable practice or culturally sensitive. While the practice of co-sleeping does not vary significantly from culture to culture, the social acceptance of co-sleeping does.<sup>17</sup> Although U.S. co-sleeping rates are close to rates found countries where co-sleeping is regarded as the norm, very few U.S. parents report that they practice co-sleeping compared to other countries.<sup>17</sup> The AAP's 2016 sleep recommendations for breastfeeding mothers may have left a dichotomy between breastsleeping practices, the level of support provided by CNMs, and the willingness of patients to discuss breastsleeping practices with their midwife. Breastsleeping discussions need to be included in CNM's practice to offer a holistic approach to midwifery care.

Despite the American Academy of Pediatrics 2016 sleep recommendations warning breastfeeding mothers not to cosleep with their babies while breastfeeding, CNMs have overwhelming favorable attitudes surrounding breastsleeping. Additional research, including attitudes and practices of CNM, CMs, and patients, and the incidence of SIDS sans risk factors, could lead to increased support of safe breastsleeping and less reluctance on the part of midwives



and patients to discuss breastsleeping. Discussing breastsleeping openly with breastfeeding patients embraces a more holistic approach when providing care to breastfeeding patients and families.

### **Implications for Midwifery Education**

Midwives play an essential role in improving care for mothers and babies.<sup>18</sup> The education of midwives surrounding safe breastsleeping is crucial. Historically, the U.S. recommendations position health care providers to be advisors,<sup>19</sup> unlike the U.K., who positions health care providers to be educators empowering parents to make informed choices.<sup>19,20</sup> With the emergence of patient-centered care in the U.S.,<sup>21</sup> CNMs have an opportunity to continue the advancement of collaborative, holistic care to patients and their families on the subject of breastsleeping. Through published research, symposiums and conferences, and midwife educational programs, we can increase breastsleeping knowledge of midwives leading to improved education provided to breastfeeding families.

### **Conclusion**

The purpose of our study was to examine Certified Nurse-Midwives (CNMs) attitudes and beliefs surrounding breastsleeping. CNMs' attitudes around breastsleeping were overwhelmingly positive, although age, years in practice, place of practice, and region of practice impacted CNM's attitudes. Future studies can broaden our understanding of CNM practices and breastsleeping family's experiences. Increased knowledge and education will lead to improved care, better breastfeeding outcomes, and enhanced health outcomes for breastfeeding families.

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<b>Table 1. Demographic Information of Participants (N=754)</b>	
Characteristic	Value n (%)
<b>Age</b>	
25-34 years old	105 (13.9)
35-44 years old	224 (29.7)
45-54 years old	151 (20.0)
55-64 years old	199 (26.4)
65 years or older	75 (9.9)
<b>Ethnicity</b>	
White	687 (91.1)
Hispanic or Latino	27 (3.6)
Black or African American	16 (2.1)
Native American or American Indian	3 (0.4)
Asian / Pacific Islander	3 (0.4)
Other	8 (2.4)
<b>Gender</b>	
Male	4 (5.0)
Female	748 (99.2)
Other	1 (1.0)
Prefer not to answer	1 (1.0)
<b>Degree</b>	
Master's degree	629 (83.4)
Doctorate degree	125 (16.6)
<b>Employment Status</b>	
Full-time (40+ hours/week)	589 (78.1)
Part-time (<40+ hours/week)	165 (21.9)
<b>Years in Practice</b>	
0-5	157 (20.8)
5-10	157 (20.8)
10-15	98 (13.0)
15-20	105 (13.9)
21+ or more	237 (31.4)
<b>Place of Practice</b>	
Birthing Center	69 (9.2)
Community Hospital	336 (44.6)
Teaching Hospital	230 (30.5)
Military Hospital	16 (2.1)
In-Home	40 (5.3)
Public Health Clinic	63 (8.4)
<b>Region of Practice</b>	
Midwest	195 (25.9)
Northeast	224 (29.7)
Southeast	124 (16.4)
Northwest	109 (14.5)
Southwest	102 (13.5)

<b>Table 2. Responses to Adapted 18-item NABQ-R According to Age</b>							
	25-34 n=105	35-44 n=224	45-54 n=151	55-64 n=199	65+ n=75	P Value	$\chi^2$
<b>Breastfeeding is a natural, normal process.</b>							
Favorable 92.3% (n=696)	98.1% (103)	95.5% (214)	91.4% (138)	86.4% (172)	92.0% (69)	.001	18.104
Unfavorable 7.7% (n=58)	1.9% (2)	4.5% (10)	8.6% (13)	13.6% (27)	8.0% (6)		
<b>When a woman is breastfeeding, the safest place for her to be is in bed.</b>							
Favorable 87.7% (n=661)	87.6% (92)	95.1% (213)	84.8% (128)	84.4% (168)	80.0% (60)	.001	18.601
Unfavorable 12.3% (n=93)	12.4% (13)	4.9% (11)	15.2% (23)	15.6% (31)	20.0% (15)		
<b>The practice of breastfeeding in early infancy increases the risk of SIDS.</b>							
Favorable 83.0% (n=626)	69.5% (73)	82.6% (185)	86.8% (131)	86.4% (172)	86.7% (65)	.002	17.445
Unfavorable 17.0% (n=128)	30.5% (32)	17.4% (39)	13.2% (20)	13.6% (27)	13.3% (10)		
<b>Breastfeeding increases the release of oxytocin.</b>							
Favorable 96.0% (n=724)	99.0% (104)	99.1% (222)	93.4% (141)	93.5% (186)	94.7% (71)	.006	14.621
Unfavorable 4.0% (n=30)	1.0% (1)	0.1% (2)	6.6% (10)	6.5% (13)	5.3% (4)		

<b>Table 3. Responses to Adapted 18-item NABQ-R According to Years in Practice</b>							
	0-5 n=157	5-10 n=157	10-15 n=98	15-20 n=105	21+ n=237	P Value	$\chi^2$
<b>Breastfeeding is a natural, normal process.</b>							
Favorable 92.3% (n=696)	96.8% (152)	93.6% (147)	97.0% (95)	94.3% (99)	85.7% (203)	.000	23.195
Unfavorable 7.7% (n=58)	3.2% (5)	6.4% (10)	3.0% (3)	5.7% (6)	14.3% (34)		
<b>Breastfeeding improves maternal outcomes.</b>							
Favorable 85.7% (n=646)	85.4% (134)	87.3% (137)	92.9% (91)	88.6% (93)	80.6% (191)	.038	10.165
Unfavorable 14.3% (n=108)	14.6% (23)	12.3% (20)	7.1% (7)	11.4% (12)	19.4% (46)		
<b>When a woman is breastfeeding, the safest place for her to be is in bed.</b>							
Favorable 87.7% (n=661)	88.0% (138)	91.7% (144)	94.9% (93)	89.5% (94)	81.0% (192)	.002	17.172
Unfavorable 12.3% (n=93)	12.0% (19)	8.3% (13)	5.1% (5)	10.5% (11)	19.0% (45)		
<b>Breastfeeding increases the release of oxytocin.</b>							
Favorable 96.0% (n=724)	98.7% (155)	96.2% (151)	99.0% (97)	94.3% (99)	93.7% (222)	.049	9.516
Unfavorable 4.0% (n=30)	1.3% (2)	3.8% (6)	1.0% (1)	5.7% (6)	6.3% (15)		

<b>Table 4. Responses to Adapted 18-item NABQ-R According to Place of Practice</b>								
	Birth Center n=69	Communi ty Hospital n=336	Teachin g Hospital n=230	Military Hospital n=16	In- Home n=40	Public Health Clinic n=63	P Value	$\chi^2$
<b>Most women are capable of breastfeeding.</b>								
Favorable 88.9% (n=670)	97.1% (67)	88.1% (296)	88.7% (204)	93.8% (15)	97.5% (39)	77.8% (49)	.006	16.158
Unfavorable 11.1% (n=84)	2.9% (2)	11.9% (40)	11.3% (26)	6.2% (1)	2.5% (1)	22.2% (14)		
<b>Breastfeeding is empowering.</b>								
Favorable 81.7% (n=616)	88.4% (61)	79.8% (268)	79.1% (182)	93.8% (15)	97.5% (39)	81.0% (51)	.032	12.190
Unfavorable 18.3% (n=138)	11.6% (8)	20.2% (68)	20.9% (48)	6.2% (1)	2.5% (1)	19.0% (12)		
<b>When a woman is breastfeeding, the safest place for her to be is in bed.</b>								
Favorable 87.7% (n=661)	92.8% (64)	88.7% (298)	87.4% (201)	81.3% (13)	92.5% (37)	76.2% (48)	.049	11.140
Unfavorable 12.3% (n=93)	7.2% (5)	11.3% (38)	12.6% (29)	18.7% (3)	7.5% (3)	23.8% (15)		
<b>Breastfeeding improves newborn outcomes.</b>								
Favorable 83% (n=626)	91.3% (63)	79.8% (268)	82.2% (189)	93.8% (15)	100% (40)	81.0% (51)	.008	15.688
Unfavorable 17.0% (n=128)	8.7% (6)	20.2% (68)	17.8% (41)	6.2% (1)	0.0% (0)	19.0% (12)		

<b>Table 5. Responses to Adapted 18-item NABQ-R According to Region of Practice</b>							
	Midwest n=195	Northeast n=224	Southeast n=124	Northwest n=109	Southwest n=102	P Value	$\chi^2$
<b>Breastfeeding improves maternal outcomes.</b>							
Favorable 85.7% (n=646)	80.0% (156)	87.9% (197)	80.6% (100)	91.7% (100)	91.2% (93)	.006	14.402
Unfavorable 14.3% (n=108)	20.0% (39)	12.1% (27)	19.4% (24)	8.3% (9)	8.8% (9)		
<b>Breastfeeding improves newborn outcomes.</b>							
Favorable 83.0% (n=626)	75.9% (148)	85.3% (191)	79.8% (99)	88.1% (96)	90.2% (92)	.006	14.414
Unfavorable 17.0% (n=128)	24.1% (47)	14.7% (33)	20.2% (25)	11.9% (13)	9.8% (10)		
<b>The breastfeeding rate should be reduced.</b>							
Favorable 90.1% (n=679)	85.6% (167)	91.1% (204)	87.1% (108)	92.7% (101)	97.1% (99)	.016	12.123
Unfavorable 9.9% (n=75)	14.4% (28)	8.9% (20)	12.9% (16)	7.3% (8)	2.9% (3)		
<b>Breastfeeding is safe for women with low-risk pregnancies.</b>							
Favorable 87.3% (n=658)	80.5% (157)	90.2% (202)	84.7% (105)	89.9% (98)	94.1% (96)	.004	15.456
Unfavorable 12.7% (n=96)	19.5% (38)	9.8% (22)	15.3% (19)	10.1% (11)	5.9% (6)		
<b>Low-risk women should be offered the option of breastfeeding.</b>							
Favorable 87.4% (n=659)	81.5% (159)	87.5% (196)	83.1% (103)	93.6% (102)	97.1% (99)	.000	20.622
Unfavorable 12.6% (n=95)	18.5% (36)	12.5% (28)	16.9% (21)	6.4% (7)	2.9% (3)		