Canadian Journal of Nursing Research, 2001, Vol. 32, No. 4, 43–56

Battering and Breastfeeding in a WIC Population

Linda F.C. Bullock, M. Kay Libbus, and Marjorie R. Sable

L'étude sur laquelle porte cet article a été fondée sur l'hypothèse selon laquelle les femmes victimes de violence conjugale ont moins tendance à choisir l'allaitement naturel que les femmes qui ne sont pas violentées. Un consentement éclairé a été obtenu auprès de 212 femmes desservies par deux cliniques du programme de supplément nutritionnel pour femmes, nourrissons et enfants (Women, Infants and Children [WIC] Nutritional Supplemental Program), de la région centrale-ouest (Midwest) des États-Unis. L'évaluation concernant le vécu en rapport à la violence chez les participantes a été faite dans le cadre d'entrevues. Les femmes ont été interrogées sur la méthode d'allaitement qu'elles avaient l'intention d'adopter. Elles ont aussi été interrogées à savoir si elles avaient déjà pratiqué l'allaitement naturel. Les résultats ont indiqué qu'il n'existait aucun lien entre la violence qu'elle subissait actuellement ou qu'elles avaient subie dans le passé et le fait de choisir l'allaitement naturel. Néanmoins, ces résultats sont considérés comme importants, en raison des deux points suivants : (1) il s'agissait d'une première étude qui se penchait sur le lien entre un vécu de violence et une capacité de choisir la méthode d'allaitement pour un nourrisson; et (2) la proportion de femmes dans l'échantillonnage qui disaient être victimes de violence présentement ou récemment et qui étaient capables de pratiquer l'allaitement naturel était la même que chez les femmes qui n'ont pas signalé de traitements violents à leur égard, ce qui suggère que la préoccupation que porte une femme envers son enfant est plus forte que ses peurs d'être potentiellement contrôlée par l'abuseur.

The study reported in this paper was based on the hypothesis that women who are victims of domestic violence may be less likely to select breastfeeding than women who are not abused. Informed consent was obtained from 212 women at 2 Women, Infants and Children (WIC) Nutritional Supplemental Program clinics in the Midwestern United States. The Abuse Assessment Screen was administered by interview and women were also questioned about intended feeding choice and whether they had breastfed any previous children. No association was found between present or previous abuse and infant-feeding choice. Nevertheless, the findings of this study can be considered important, for two reasons: (1) this was an initial inquiry examining the relationship between having been abused and ability to choose the feeding method of a newborn; and (2) women in the sample who reported present or current abuse were able to breastfeed their infants in the same proportion as those who did not report abuse, which suggests that a woman's concern for her child overcomes her possible fears of control by the batterer.

Linda F.C. Bullock, PhD, RN, and M. Kay Libbus, DrPH, RN, teach at the Sinclair School of Nursing, University of Missouri, Columbia, USA. Marjorie R. Sable, DrPH, MSW, teaches at the School of Social Work, University of Missouri.

The positive effects of breastfeeding on infant health (Bass & Groer, 1997; Lawrence, 1997; Raisler, Alexander, & O'Campo, 1999) and cognitive development (Johnson, Swank, Howie, Baldwin, & Owen, 1996; Lucas, Morley, Cole, Lister, & Leeson-Payne, 1992) are well documented. Breastfeeding is beneficial to the mother both physically (Lawrence) and emotionally (Pesa & Shelton, 1999). Finally, breastfeeding serves to strengthen infant-mother attachment, communication, and interaction (Dignam, 1995; Klaus & Kennell, 1982; Rowley & Dixon, 1997). Clearly, the choice of whether to breastfeed or bottlefeed breastmilk substitutes may affect both infant and maternal health and the development of parenting skills in the mother (Locklin & Naber, 1993).

Many demographic factors, including maternal age, residence, education, and ethnicity, are associated with the decision to initiate and continue breastfeeding. The infant-feeding decision is based on a complex interaction of these demographic factors with a woman's perceptions, attitudes and knowledge, and work or school intentions, and the influence of her significant other (Dix, 1991; Mulford, 1995). Cultural values and social environment may also influence the ways in which these factors are understood and applied in choosing the feeding method (Littman, Medendorp, & Goldfarb, 1994; Marchand & Morrow, 1994; McNatt & Freston, 1992). For example, Marchand and Morrow found that women's perceptions of social and emotional support and prohibition of breastfeeding in public played a larger role in the decision to initiate breastfeeding than knowledge of the nutritional and health benefits. Further, a developing body of literature suggests that the mother's decision often revolves around the infant-feeding preference of the father (Gamble & Morse, 1993; Littman et al.; Sciacca, Dube, Phipps, & Ratliff, 1995).

The results of breastfeeding research over the past 2 decades show that infant-feeding choice in the United States is associated with socioeconomic status. Specifically, low-income women are less likely to select breastfeeding than their more affluent counterparts (Jacobson, Jacobson, & Frye, 1991; Ryan et al., 1991). Locklin and Naber (1993) note that the decline in breastfeeding from 57.9% to 52.2% between 1984 and 1989 was greatest in women from lower socioeconomic groups. More recently, the United States General Accounting Office (1993) reports that between 1989 and 1992 inhospital breastfeeding rates were 38.9% for low-income women, compared to 66.1% for women in middle- and upper-class groups. This last finding was in spite of a 12% increase in breastfeeding inception among low-income women during the same period.

The Effect of Domestic Violence on Infant-Feeding Choice

Studies during the last decade estimate that the prevalence of domestic violence among pregnant women in the United States ranges from 7% to 20%. As these numbers are based only on women presenting for prenatal care (Gazmararian et al., 1996; McFarlane, Parker, Soeken, & Bullock, 1992; Parker, McFarlane, & Soeken, 1994), it is not unreasonable to suspect that the actual proportion of women battered during pregnancy is higher than these estimates.

The need to control the actions of the intimate partner provides one well-accepted theory for partner violence (Campbell, Harris, & Lee, 1995; Helton, McFarlane, & Anderson, 1987). The effects of this need are manifested, and perhaps magnified, during pregnancy. For example, men may fear disclosure of the violence during women's face-to-face meetings with health-care providers; as a result, victims of violence are not likely to begin prenatal care early nor to keep all of their appointments (McFarlane et al., 1992).

Jealousy is thought to be another reason for initiation of or increase in battering during pregnancy (Bohn & Parker, 1993; Campbell, Oliver, & Bullock, 1998). The abuser may view the infant as competition; jealousy and the desire for control may escalate as the woman's attention is focused increasingly on the infant (Helton et al., 1987). Jealousy may be exacerbated if the male partner views breasts as sexual objects. Morse (1990) and Dignam (1995) both found that many mothers are inhibited from breastfeeding because of the sexual connotations of the breasts. Finally, investigators have reported that some fathers perceive a qualitative difference between their relationship with the infant and the mother-infant relationship that develops during breastfeeding (Dignam; Gamble & Morse, 1993). Dignam describes breastfeeding as an intimate exchange between mother and infant. They share the harmony, emotional closeness, touching of skin, and reciprocity that are characteristic of intimate exchanges. This relationship by definition excludes the father.

This brief review of the literature suggests that partner support for breastfeeding, an important factor in a woman's success with breastfeeding, is unlikely to occur in an abusive relationship. Further, the need for the abuser to control all aspects of the woman's life indicates that he may not approve of breastfeeding. The relationship between domestic violence and a woman's infant-feeding decision has not been previously investigated. The purpose of this preliminary study was to

assess for the presence of a relationship between history of domestic violence and breastfeeding in a sample of women attending a Women, Infants and Children (WIC) clinic.

Methodology

A case-control design was selected to explore the possible association between reported abuse and infant-feeding choice. The study took place at a WIC Nutritional Supplemental Program site in each of two cities in the Midwestern United States. Data collection was carried out over a 10-month period. Although battering occurs in all socioeconomic groups, there is some evidence that it may be more common and more severe in families of lower socioeconomic status (Institute of Medicine, 1998). WIC serves low-income families under 185% of poverty; it provided an ideal setting for this study because women could be objectively identified as breastfeeding or bottlefeeding based on the type of food vouchers they received. Breastfeeding women may obtain vouchers to purchase nutritious food to supplement their diet. Bottlefeeding women may obtain vouchers for breast-milk substitutes. The limitation of measuring breastfeeding in this manner is that women may be partially breastfeeding but elect to receive the vouchers to buy formula for supplemental feeding. Although examination of type of voucher received runs the risk of misclassification or underreporting of breastfeeding, however, we believe this method is preferable to self-report. Self-report carries the risk of overestimating the number of breastfeeding women, since women might answer affirmatively because of the perceived social desirability of that response.

Sample and Procedure

A convenience sample was used for this preliminary study. Women attending WIC clinics were invited to participate if they were at least 28 weeks pregnant and 18 years of age. The study was introduced during the nutritional educational session that all women are required to attend in order to receive their food vouchers. Before the session began, the study was described to the group as an examination of the reasons why women select a particular infant-feeding method. If the study was introduced in this manner, we believed, a woman who was accompanied by an abuser to the educational session would be able to participate safely. After the session was over, women indicating a willingness to participate were taken individually to a private room where the investigator fully explained that the study would examine the relation-

ship between abuse and infant-feeding choice. Of the women who received the full explanation, only a few declined to continue. Once they agreed to participate, the women signed a consent form. Following the brief interview, all women were given a $5 incentive as well as community resource information about local agencies that provide services to victims of domestic violence. Respondents were also given a packet of information on health behaviours during pregnancy and infant-feeding choice. This package was intended to serve as evidence for a woman that the interview concerned pregnancy and feeding choice, in case the abuser was waiting for his partner.

Figure 1 *Abuse Assessment Screen (AAS) Questions*

1. Have you ever been emotionally or physically abused by your partner or someone important to you?
2. Within the last year, have you been hit, slapped, kicked, or otherwise physically hurt by someone?
3. Since you have been pregnant, have you been hit, slapped, kicked, or otherwise physically hurt by someone?
4. Within the last year, has anyone forced you to have sexual activities?
5. Are you afraid of your partner or anyone you have listed?

Instrumentation

After formal consent was obtained, a short questionnaire containing items on demographics, prior pregnancy and breastfeeding histories, intended infant-feeding method, and the Abuse Assessment Screen (AAS) was administered. The AAS, consisting of five questions about abuse (Figure 1), was developed by the Nursing Research Consortium on Violence and Abuse (Parker, Ulrich, & Nursing Research Consortium on Violence and Abuse, 1990). Criterion validity has been established (McFarlane et al., 1992) with the Conflict Tactics Scale (Straus, 1979), the Index of Spouse Abuse (Hudson & McIntosh, 1981), and the Danger Assessment Scale (Campbell, 1986). Although the AAS was designed primarily as a clinical screening tool, a positive response to questions 2, 3, or 4 has been used as a dichotomous measure of abuse in several studies (Berenson, Wiemann, Wilkinson, Jones, & Anderson, 1994; Martin, English, Clark, Cilenti, & Kupper, 1996; Parker et al., 1994).

As noted above, classification as either breastfeeding or bottlefeeding was determined by the type of food voucher the woman received postpartum. Duration of breastfeeding was determined by the number of months that women initially classified as breastfeeding their infant received breastfeeding vouchers. In order to ensure confidentiality, individual interview forms were coded using the number of the woman's WIC record. The interview forms were not seen by the WIC staff and were stored in a locked receptacle accessible only to the investigators, geographically removed from the WIC office. When the investigators returned to ascertain the types of vouchers women were receiving postpartum, only the code numbers were brought to the WIC program for use in data retrieval.

Table 1 *Demographics of WIC Participants*

Variable	*N*	Mean	*SD*	Minimum	Maximum
Age (years)	212	24.6	5.1	18	40
Number of Pregnancies	212	2.3	1.4	1	10
Marital Status					
Single	91	42.9%			
Married	98	46.2%			
Common law	9	4.2%			
Separated	14	6.6%			
Race					
Anglo-American	163	76.9%			
Afro-American	34	16.0%			
Other	15	7.1%			

Table 2 *Infant-Feeding History and Feeding Intentions for This Infant*

Variable	Frequency (*n*)	(%)
Last Infant		
Breastfed	43	20.3
Bottlefed	59	27.4
First pregnancy/no feeding history	111	52.4
Intentions for This Infant		
Breastfeed	152	71.7
Bottlefeed	50	23.6
Unsure	10	4.7

Results

A total of 212 women were interviewed, 98 at one site and 114 at the other. The two groups of clients did not differ significantly on important demographic variables. Therefore, data from the two sets were pooled for portions of the analysis. A description of the entire sample is provided in Table 1. Respondents were primarily Anglo-American (n = 163), with 16% (n = 34) reporting African-American ethnicity. The *other* category included the few Hispanics and Asian women and women from other ethnic groups who were interviewed. Approximately half of the study population were married or living in a common-law relationship.

Prior to administration of the AAS, the women were asked about infant-feeding history and their feeding intentions for the newborn. The results of these two questions can be seen in Table 2. Less than half of those women who had had a prior delivery had breastfed, but over 70% of the sample responded that they intended to breastfeed the infant they were carrying. We emphasize, however, that 55% (n = 84) of those indicating they were going to breastfeed were first-time mothers who had no feeding experience.

To ascertain if there were differences between the two sites regarding the proportion of women admitting to abuse, the data from the two sites were analyzed separately. Primary data analysis classified a woman as being abused if she answered *yes* to questions 2, 3, and/or 4 on the AAS (see Figure 1). These three questions refer to incidents of abuse within a specified period. Lifetime history of abuse, which included all of the above women (those answering *yes* to questions 2, 3, and/or 4) as well as those women answering *yes* to question 1 only, was used to determine whether the broader definition of abuse affected feeding choice. Additional analyses examined the relationship of other variables, such as age, marital status, and prior breastfeeding history, and the relationship of these variables to the research question.

Table 3 *Percentages of Positive Responses on Abuse Assessment Screen (AAS)*

Question	Clinic 1	Clinic 2
Q1: Ever been abused	47.2	57.2
Q2: Hit in last year	12.4	13.3
Q3: Hit since pregnant	8.5	5.1
Q4: Forced to have sex	2.8	2.0
Q5: Afraid of someone	10.4	9.2

The two sites were similar in proportion of women reporting abuse (Table 3), with 12% to 13% of all women admitting to having been abused in the preceding year and between 5% and 8.5% admitting to being physically abused during pregnancy. Almost one out of every two women reported that they had suffered some form of abuse in their lifetime.

Table 4 *Chi-Square Test for Frequency of Breastfeeding in Abused and Non-Abused Women*

	Breastfed	Bottlefed	Total
Abused	11	10	21
Non-abused	68	61	12
Total	79	71	150

χ^2 (1, N = 150) = 0.001 p = 0.98

Breastfeeding Initiation

This analysis operationalized breastfeeding as a dichotomous variable, determined by the type of food voucher obtained the first month after delivery. Chi-square was used to explore any possible association between the relative frequency of breastfeeding and abuse and other categorical variables. No significant difference was found in the proportions of abused women who breastfed and non-abused women who breastfed (Chi-square test, $p = 0.98$). The proportions were in fact almost identical (11/21 = 52.4% for abused, 68/129 = 52.7% for non-abused). While the sample proportions are very close, we recognize that the small number in the abused groups limits the power. However, with these sample sizes there is 80% power for detecting a 28% difference in proportions of breastfeeding when doing a one-sided test.

Further analysis was carried out to determine whether women who chose breastfeeding differed on other variables. No significant differences were found in the proportion who breastfed by marital status, ethnicity, or lifetime history of abuse (question 1 of the AAS) or by age (age was categorized). The only significant finding — which was not surprising — was an association between a woman's feeding method for a previous infant and her infant-feeding choice for this infant ($p = < 0.001$).

Breastfeeding Duration

As noted above, the duration of breastfeeding was determined by the number of months the woman obtained food vouchers for breastfeeding. At the end of the data-collection period, the number of months of postpartum data collected for each participant varied among the sample. Additionally, the women differed on duration of breastfeeding. Therefore, survival analysis techniques were used to examine duration of breastfeeding. Women who were still breastfeeding at the last recorded month of data collection had times that were censored — that is, we know that the duration of breastfeeding was at least n months, but we do not know the exact number of months. Our goal was to compare duration of breastfeeding for different groups, specifically those classified as abused and non-abused. This comparison was made using SAS and PROC LIFETEST. Kaplan Meier survival curves were estimated and were compared for different levels of the group variables by the Log-Rank test. The results were consistent with those given earlier for breastfeeding initiation. No significant differences were found between the curves for abused and non-abused women ($p < 0.65$). P-values for comparisons with lifetime history of abuse, age, marital status, and ethnicity were 0.65, 0.68, 0.15, and 0.48, respectively. Again, significant differences in duration were found for the questions on feeding method used for the last infant ($p = < 0.0001$) and feeding intentions for this infant ($p = < 0.0001$).

Discussion

This study was a preliminary attempt to see if *major* differences could be detected in feeding choices between women who admitted to abuse and those who did not. The women who were classified as breastfeeding, based on the fact that they did not receive vouchers for formula, were probably breastfeeding exclusively. However, the finding that the same percentage of abused and non-abused women were obtaining breastfeeding vouchers, in the same proportion, indicates that battered women are nevertheless able to choose to breastfeed their infants. Our results suggest that, by choosing to breastfeed, these women illustrate that they have their children's best interests at heart. This finding is consistent with a sentiment often expressed by women in shelters: that they decided to leave the abusive relationship when their children became a target of battering (Humphreys, 1998).

Although we had anticipated somewhat different findings when we began this study, the results are nevertheless important. We originally speculated that women who reported battering would be less

likely to initiate or continue with breastfeeding than women who did not report abuse. We postulated that in the reported cases of abuse, the man's need to control the woman would make it very difficult for her to find the time or energy required to breastfeed. We also speculated that the view of breasts as sexual objects could increase the man's possessiveness and that therefore he would not allow infant breastfeeding. This does not seem to be the case.

There are limitations in interpreting the results. The number of women classified as breastfeeding and the number of women classified as abused may have been underestimated. As acknowledged, some of the women classified as bottlefeeding could also have been partially breastfeeding, thus the overall rate of breastfeeding found for both groups may be low. Obtaining more exact numbers of partially breastfeeding women would require more in-depth research. Women would need to be screened for abuse during the antenatal period and then followed into the postpartum period. They would then need to be interviewed on a regular basis about infant-feeding patterns so that breastfeeding rates could include women who only partially breastfed.

Based on the body of work related to pregnancy and battering, we also suspect that we had a greater number of false negatives than false positives in the results concerning abuse. This study found reported abuse to be 12% to 13% in the year preceding pregnancy and 5% to 8% during pregnancy. These proportions are lower than the rates found by McFarlane, Parker, and Soeken (1996). Using the AAS, these authors found that 24.3% of respondents reported physical and sexual abuse in the preceding year and that 16% admitted to abuse during the pregnancy. In the present study, the AAS was administered shortly after we had first met the woman. Given the limited time to build rapport, many women may not have felt comfortable enough to reveal abuse. False negatives in the group would thus have been identified as non-abused. If our original hypothesis were true, that abused women are more likely to bottlefeed, then the rates of bottlefeeding in the non-abused group would have been inflated.

Additionally, we did not record whether women currently being abused were still with the abusive partner. However, there is evidence that abused women may suffer post-traumatic stress syndrome for years after the abuse stops (Institute of Medicine, 1998). For this reason the physical act of breastfeeding could result in emotional discomfort, and this could affect a woman's infant-feeding decision.

Other obvious limitations of this study were the small sample size and the self-selection of respondents. For example, we suspect that

there were eligible women attending the nutritional educational classes who did not volunteer to hear the full description of the study. Due to confidentiality issues and program restrictions, the researchers could not discover the age of a woman attending the educational session nor how far along she was in her pregnancy. Therefore it was impossible to estimate the number of eligible women who chose not to speak to them. It is possible that, after the initial description of the study, the women who had decided to breastfeed were more likely to participate than those who planned to bottlefeed. If abused women are indeed more likely to bottlefeed, this self-selection bias could have had a major impact on the results.

Another possible limitation was the homogeneity of the sample, the bulk of which was made up of Anglo-American women. The literature suggests that minority women have lower rates of breastfeeding than Anglo-American women (Raisler, 1993). If the study had been done in those WIC clinics that are attended by a higher proportion of minority women, the results might well have been different.

Implications for Nursing Practice

In spite of the limitations of this study, our results do have implications for nursing practice. First, it appears that if faced with limited resources for breastfeeding education, the best use of the funds would be to target first-time mothers. Our findings support the body of literature (Barber, Abernathy, Steinmetz, & Charlebois, 1997; Hill, 1988) that suggests that women who have already breastfed one infant will most likely breastfeed their other infants. Conversely, a woman who did not breastfeed her previous infant is not likely to breastfeed subsequent ones. It is the mother with no prior experience who stands to benefit most from information and education on the value of breastfeeding, and in many cases her significant other as well. Even if the results of our investigation underestimated the number of women who were battered, prior history of breastfeeding appears to be the strongest indicator of whether a woman will choose this method of infant-feeding.

Notwithstanding the obvious benefits of breastfeeding for mother and infant, the literature suggests that successful breastfeeding may have an empowering effect on women, particularly low-income women (Locklin, 1995; Locklin & Naber, 1993). If breastfeeding does indeed empower women, it seems reasonable that the increased sense of personal power could encourage a woman to alter or leave a battering relationship, exponentially increasing the benefits of breastfeeding for mother and infant. Given this premise, the importance of further

studies to explore and clarify a potential relationship between abuse of pregnant women and feeding choice should not be underestimated.

References

Barber, C.M., Abernathy, T., Steinmetz, B., & Charlebois, J. (1997). Using a breastfeeding prevalence survey to identify a population for targeted programs. *Canadian Journal of Public Health, 88,* 242–245.

Bass, S.M., & Groer, M.W. (1997). Relationship of breastfeeding and formula feeding practices with infant health outcomes in an urban poor population. *Journal of Perinatal and Neonatal Nursing, 11*(2), 1–9.

Berenson, A.B., Wiemann, C.M., Wilkinson, G.S., Jones, W.A., & Anderson, G.D. (1994). Perinatal morbidity associated with violence experienced by pregnant women. *American Journal of Obstetrics and Gynecology, 170,* 1760–1769.

Bohn, D., & Parker, B. (1993). Domestic violence and pregnancy: Health effects and implications for practice. In J. Campbell & J. Humphreys (Eds.), *Nursing care of victims of family violence* (2nd ed.). Reston, VA: Reston Publishing.

Campbell, J., Oliver, C., & Bullock, L. (1998). Why battering during pregnancy? In J. Campbell (Ed.) & Nursing Research Consortium on Violence and Abuse, *Empowering survivors of abuse: Health care for battered women and their children.* Thousand Oaks, CA: Sage.

Campbell, J.C. (1986). Nursing assessment for risk of homicide with battered women. *Advances in Nursing Science, 8,* 36–51.

Campbell, J.C., Harris, M.J., & Lee, R.K. (1995). Violence research: An overview. *Scholarly Inquiry in Nursing Practice, 9,* 105–122.

Dignam, D.M. (1995). Understanding intimacy as experienced by breastfeeding women. *Health Care for Women International, 16,* 477–485.

Dix, D. (1991). Why women decide not to breastfeed. *Birth, 18,* 222–225.

Gamble, D., & Morse, J.M. (1993). Fathers of breastfed infants: Postponing and types of involvement. *Journal of Gynecologic, Obstetric, and Neonatal Nursing, 22,* 358–365.

Gazmararian, J., Lazorick, S., Spitz, A., Ballard, T., Saltzman, L., & Marks, J.S. (1996). Prevalence of violence against pregnant women. *Journal of the American Medical Association, 275,* 1915–1920.

Helton, A.S., McFarlane, J., & Anderson, E.T. (1987). Battered and pregnant: A prevalence study. *American Journal of Public Health, 77,* 1337–1339.

Hill, P.D. (1988). Maternal attitudes and infant feeding among low-income mothers. *Journal of Human Lactation, 4,* 7–11.

Hudson, W.W., & McIntosh, S. (1981). The assessment of spouse abuse: Two quantifiable dimensions. *Journal of Marriage and the Family, 43,* 873–888.

Humphreys, J. (1998). Helping battered women take care of their children. In J. Campbell (Ed.) & Nursing Research Consortium on Violence and Abuse,

Empowering survivors of abuse: Health care for battered women and their children. Thousand Oaks, CA: Sage.

Institute of Medicine. (1998). *Violence in families.* Washington: National Academy Press.

Jacobson, S., Jacobson, J., & Frye, K. (1991). Incidence and correlates of breastfeeding in socioeconomically disadvantaged women. *Pediatrics, 8,* 728–736.

Johnson, D.L., Swank, P.R., Howie, V.M., Baldwin, C.D., & Owen, M. (1996). Breastfeeding and children's intelligence. *Psychology Report, 79,* 1179–1185.

Klaus, M.D., & Kennell, J.H. (1982). *Parent-infant bonding* (2nd ed.). St. Louis: Mosby.

Lawrence, R.A. (1997). *A review of the medical benefits and contraindications to breastfeeding in the United States: Maternal and Child Health Technical Information Bulletin.* Washington: Health Resources and Services Administration.

Littman, H., Medendorp, S., & Goldfarb, J. (1994). The decision to breastfeed: The importance of fathers' approval. *Clinical Pediatrics, 33,* 214–219.

Locklin, M. (1995). Telling the world: Low income women and their breastfeeding experiences. *Journal of Human Lactation, 11,* 285–291.

Locklin, M., & Naber, S. (1993). Does breastfeeding empower women? Insight from a selected group of educated, low-income women. *Birth, 20,* 30–35.

Lucas, A., Morley, R., Cole, T.J., Lister, G., & Leeson-Payne, C. (1992). Breastmilk and subsequent intelligence quotient in children born preterm. *Lancet, 339,* 261–264.

Marchand, L., & Morrow, M. (1994). Infant feeding practices: Understanding the decision-making process. *Clinical Research Methods, 26,* 319–324.

Martin, S.L., English, K.T., Clark, A.K., Cilenti, D., & Kupper, L.L. (1996). Violence and substance use among North Carolina pregnant women. *American Journal of Public Health, 86,* 991–998.

McFarlane, J., Parker, B., & Soeken, K. (1996). Abuse during pregnancy: Associations with maternal health and infant birth weight. *Nursing Research, 45,* 37–42.

McFarlane, J., Parker, B., Soeken, K., & Bullock, L. (1992). Assessing for abuse during pregnancy: Severity and frequency of injuries and associated entry into prenatal care. *Journal of the American Medical Association, 267,* 3176–3178.

McNatt, M., & Freston, M. (1992). Social support and lactation outcomes in postpartum women. *Journal of Human Lactation, 8,* 73–77.

Morse, J. (1990). "Euch, those are for your husband?" Examination of cultural values and assumptions associated with breastfeeding. *Health Care for Women International, 11,* 223–232.

Mulford, C. (1995). Swimming upstream: Breastfeeding care in a non-breastfeeding culture. *Journal of Gynecologic, Obstetric, and Neonatal Nursing, 24,* 464–473.

Parker, B., McFarlane, J., & Soeken, K. (1994). Abuse during pregnancy: Effects on maternal complications and birthweight in adult and teenage women. *Obstetrics and Gynecology, 84,* 323–328.

Parker, B., Ulrich, Y., & Nursing Research Consortium on Violence and Abuse (Bullock, L.F., Campbell, D., Campbell, J., King, C., Landenburger, K., McFarlane, J., Ryan, J., Sheridan, D., Smith-McKenna, L., & Torres, S.). (1990). A protocol of safety: Research on abuse of women. *Nursing Research, 39,* 248–250.

Pesa, J.A., & Shelton, M.M. (1999). Health-enhancing behaviors correlated with breastfeeding among a national sample of mothers. *Public Health Nursing, 16*(2), 120–124.

Raisler, J. (1993). Promoting breastfeeding among vulnerable mothers. *Journal of Nurse Midwifery, 8,* 1–4.

Raisler, J., Alexander, C., & O'Campo, P. (1999). Breastfeeding and infant illness: A dose-response relationship? *American Journal of Public Health, 89*(1), 25–30.

Rowley, C., & Dixon, L. (1997). Factors that influence women to breastfeed. *Health Visitor, 70,* 218–220.

Ryan, A., Pratt, W., Wysong, J., Lewandowski, G., McNally, J., & Krieger, F. (1991). A comparison of breastfeeding data from the National Survey of Family Growth and the Ross Laboratories Mothers Surveys. *American Journal of Public Health, 81,* 1049–1052.

Sciacca, J., Dube, D., Phipps, B., & Ratliff, M. (1995). A breast feeding education and promotion program: Effects on knowledge, attitudes, and support for breastfeeding. *Journal of Community Health, 20,* 475–489.

Straus, M. (1979). Measuring intra-family conflict and violence: The Conflict Tactics (CT) scales. *Journal of Marriage and the Family, 43,* 873–888.

United States General Accounting Office. (1993). *Breastfeeding: WIC's efforts to promote breastfeeding have increased* (pp. 11–12). Washington: U.S. Government Printing Service.

Authors' Note

Correspondence should be directed to Linda F.C. Bullock, S327 Sinclair School of Nursing, University of Missouri, Columbia, Missouri 65211 USA. Telephone: 573-882-0234. Fax: 573-884-4544. E-mail: <LBullock@missouri.edu>.