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REASONS WHY WOMEN DO NOT INITIATE BREASTFEEDING:

A Southeastern State Study

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Abstract

Purpose—Despite the increase in breastfeeding initiation and duration in the United States, only five states have met the three *Healthy People 2010* breastfeeding objectives. Our objectives are to study women's self-reported reasons for not initiating breastfeeding and to determine whether these reasons vary by race/ethnicity, and other maternal and hospital support characteristics.

Methods—Data are from the 2000–2003 Arkansas Pregnancy Risk Assessment Monitoring System, restricting the sample to women who did not initiate breastfeeding (unweighted n = 2,917). Reasons for not initiating breastfeeding are characterized as individual reasons, household responsibilities, and circumstances. Analyses include the χ^2 test and multiple logistic regression.

Results—About 38% of Arkansas mothers of live singletons did not initiate breastfeeding. There was a greater representation of non-Hispanic Blacks among those who did not initiate breastfeeding (32%) than among those who initiated breastfeeding (9.9%). Among those who never breastfed, individual reasons were most frequently cited for noninitiation (63.0%). After adjusting for covariates, Hispanics had three times the odds of citing circumstances than Whites (odds ratio [OR], 3.07; 95% confidence interval [CI], 1.31–7.18). Women who indicated that the hospital staff did not teach them how to breastfeed had more than two times greater odds of citing individual reasons (OR, 2.25; 95% CI, 1.30–3.91) or reasons related to household responsibilities (OR, 2.27; 95% CI, 1.19–4.36) as compared with women who indicated they were taught.

Conclusions—Findings suggest the need for targeting breastfeeding interventions to different subgroups of women. In addition, there are implications for policy particularly regarding breastfeeding support in hospitals.

Introduction

Research provides strong evidence that breastfeeding decreases the incidence and/or severity of a wide variety of infectious diseases in infants including bacterial meningitis, bacteremia,

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gastrointestinal illnesses, respiratory tract infection, necrotizing enterocolitis, otitis media, urinary tract infection, and late-onset sepsis in preterm infants (Ahluwalia, Morrow, & Hsia, 2005; Allen & Hector, 2005; American Academy of Pediatrics, 2005; American Dietetic Association, 2005; Ruowei, Rock, & Grummer-Strawn, 2007). Some studies have also shown that breastfeeding is protective against several childhood chronic diseases such as asthma, allergies, overweight and obesity, and diabetes (Allen & Hector, 2005; American Academy of Pediatrics, 2005; Khoury, Moazzem, Jarjoura, Carothers, & Hinton, 2005; Pan American Health Organization, 2002). There is a 21% reduction in postneonatal infant mortality rates in the United States among breastfed infants (American Academy of Pediatrics, 2005). In addition, breastfeeding has been found to eliminate the Black–White disparity in infant mortality rates (Forste, Weiss, & Lippincott, 2001).

Breastfeeding also offers important benefits for mothers, including increased child spacing, earlier return to prepregnancy weight, decreased risk of breast and ovarian cancers, and, possibly, decreased risk of hip fractures and osteoporosis in the postmenopausal period (Allen & Hector, 2005; American Academy of Pediatrics, 2005; American Dietetic Association, 2005; Khoury et al., 2005; Pan American Health Organization, 2002). Economic, family, and environmental benefits of breastfeeding have also been described (American Academy of Pediatrics, 2005; American Dietetic Association, 2005; Pan American Health Organization, 2002; South Carolina Breastfeeding Action Committee, 2007). Recognition of these benefits of breastfeeding has led to the promotion of breastfeeding recommendations in the United States (American Academy of Pediatrics, 2005; American College of Obstetricians and Gynecologists, 2007; American Dietetic Association, 2005) and internationally (World Health Organization, 2005).

In 2005, estimates for initiating breastfeeding and continuing to 6 months of age in the United States were 72.9% and 39.1%, respectively (Centers for Disease Control and Prevention [CDC], 2007). Twenty-one states achieved the first *Healthy People 2010* objective of 75% of mothers initiating breastfeeding (CDC, 2007). Several states, especially Southern states (Alabama, Arkansas, Mississippi, South Carolina, and West Virginia) have low breastfeeding initiation rates, ranging from 48% to 59%. Racial and ethnic disparities also exist in breastfeeding initiation rates. In 2005, the rate of ever breastfeeding was 79.0% among Hispanics, 74.1% among non-Hispanic Whites, and 55.4% among non-Hispanic Blacks (CDC, 2007).

Barriers to breastfeeding initiation include work-related issues, personal preferences, having an unsupportive partner, feeling embarrassed, concerns about pain, and physical/medical problems (Ahluwalia et al., 2005; American Dietetic Association, 2005; Bentley, Dee, & Jensen, 2003; Brownell, Hutton, Hartman, & Dabrow, 2002; Khoury et al., 2005; Kimbro, 2006; Taylor, Risica, & Cabral, 2003). Determinants of breastfeeding initiation include income, education, nationality, race/ethnicity, region of residence, age, marital status, breastfeeding intent, gestational age, birth weight, and participation in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC; Forste et al., 2001; Johnston & Esposito, 2007; Taylor et al., 2003; Zaghloul, Harrison, Fendley, Pierce, & Morrisey, 2004). Other determinants of breastfeeding initiation include maternal smoking, whether the pregnancy was intended (Ahluwalia et al., 2005), and mode of delivery (Ahluwalia et al., 2005; Taylor et al., 2003). Hospital support characteristics, such as breastfeeding support from hospital delivery nurses, lactation specialist or peer counselor, or receipt of free formula packets in the hospital, have also been described as important influences on women's breastfeeding decisions (Bentley et al., 2003; Hofvander, 2003; Khoury et al., 2005; Kuan et al., 1999).

Although Blacks are markedly less likely to initiate breastfeeding (Ahluwalia et al., 2005; Forste et al., 2001; Khoury et al., 2005; Taylor et al., 2003; Zaghloul et al., 2004), race-based differences in barriers to breastfeeding initiation and reasons for not initiating breastfeeding are seldom studied. Using data from the National Survey of Family Growth (Cycle 5, 1995), controlling for sociodemographic factors, Taylor et al. (2003) found that Blacks emphasized personal preferences (preferring to bottle feed) when presenting reasons for not initiating breastfeeding, whereas Whites emphasized work-related concerns and Hispanics emphasized physical/medical issues such as baby or mother being too ill or weak to breastfeed. The study, however, was restricted to primiparous women. Breastfeeding initiation rates, and reasons for not breastfeeding, may vary with the birth order of the infant.

Our study extends previous research in two useful ways. Racial/ethnic differences in the reasons why mothers do not initiate breastfeeding are examined using more recent data. The present study is based on both primiparous and multiparous women with live singleton births, so that differences associated with parity can be explored. We address two research questions: (1) What reasons do women give for not initiating breastfeeding? and (2) Do these reasons differ significantly by race/ethnicity or other demographic/explanatory variables?

Methods

Study Design and Study Sample

We conducted a cross-sectional analysis for women in Arkansas for 2000 through 2003. Data were obtained from the Arkansas Pregnancy Risk Assessment Monitoring System (PRAMS). The PRAMS is a surveillance project instituted by the CDC and state health departments in 1987. The PRAMS collects data on the attitudes and experiences of mothers during the preconception, gestation, and postpartum periods. Each participating state conducts its own survey. Mailings begin two to four months after delivery. Women are contacted and interviewed by telephone if there is no response to repeated mailings. Informed consents for women who participate via mailed surveys are written. For telephone interviews, oral consents are obtained. Each month a stratified systematic sample of 100–250 new mothers is drawn from a frame of eligible birth certificates. Most states, including Arkansas, oversample low-weight births. Mothers' responses are linked to birth certificate data for analysis. The data are statistically weighted to account for the sampling design, non-response, and noncoverage. By applying these weights in statistical analyses, the results become representative of the population from which the respondents are drawn. Additional details about PRAMS have been published elsewhere (Ahluwalia et al., 2005).

Arkansas was selected because that state's survey contained the complete set of breastfeeding-related questions, including questions about whether breastfeeding was initiated and reasons for noninitiation in all four years. We used four years of data to achieve an adequate sample size (n = 7,127). Eligible mothers were state residents who had in-state births. The response rate was greater than 70% for the study period. We restricted our analysis of reasons for noninitiation to mothers of live singletons who did not initiate breastfeeding (n = 2,917).

Variables

Dependent variables—The dependent variables were mothers' reasons for not initiating breastfeeding. Mothers were asked: "What were your reasons for not breastfeeding your new baby?" They could indicate up to 8 precoded options, plus "other." The "other" option allowed women to provide written responses. These written responses were reviewed and recoded by the first author into 10 groups. The eight precoded options/reasons were grouped into three broad categories: individual reasons, household responsibilities, and circumstances (Ahluwalia

et al., 2005). In addition, similar groups from the written responses were included in the three broad categories for analysis.

Individual reasons included not liking breastfeeding, not wanting to be tied down, feeling embarrassed, and wanting one's body back to self. Household responsibilities included having other children to take care of and having too many household duties. The circumstances category included going back to work or school and having a partner who did not want the woman to breastfeed. Because mothers were allowed to choose more than one of the nine main options, these three broad categories were not mutually exclusive.

Independent variables—Variable selection was based on the breastfeeding literature and the variables available to us in the PRAMS data set. The main independent variable of interest was race/ethnicity. This was coded as White, non-Hispanic (hereafter, White); Black, non-Hispanic (hereafter, Black); other, non-Hispanic (hereafter, other); and Hispanic. Other independent variables of interest that could help to explain why mothers do not initiate breastfeeding include age, marital status, number of previous births, education, income, insurance, breastfeeding intent, maternal smoking, and hospital support characteristics (whether the mother was informed by a health care worker about breastfeeding during the prenatal period and hospital policies regarding breastfeeding).

Analyses

Univariate analysis described the population of mothers who initiated breastfeeding and those who did not. The χ^2 test was used to test for associations between breastfeeding initiation status and the independent variables. The variable indicating whether a woman was talked to about breastfeeding by a health care worker was not a significant predictor of breastfeeding initiation status; hence, this variable was not included in subsequent analyses (bivariate and multivariable analyses).

The frequencies of reasons (all nine options) for not initiating breastfeeding were calculated. The χ^2 test was used to check for association between these nine options and race/ethnicity. Frequencies of the created groups (10 groups) from the written responses were calculated and associations with race/ethnicity were also tested. The frequencies for the three broad categories of reasons—individual reasons, household responsibilities, and circumstances (based on the eight main options and similar groups from the written responses)—were also calculated. The χ^2 test was used to check for associations between each independent variable and each of the three broad categories of reasons. Multiple logistic regression was used to predict the odds of choosing a particular category of reason for each level of the independent variable while controlling for all other variables. For all three models, we tested for interactions between race/ethnicity and parity. None of the interactions were significant; thus, results are presented together for all women, both primiparous and multiparous.

SAS-callable SUDAAN version 9.0 (Research Triangle Institute, 2004) was used to account for the complex survey design. This study was approved by the University of South Carolina Institutional Review Board and the Arkansas Department of Health and Human Services (DHHS).

Results

Descriptive Statistics

About 38% of women did not initiate breastfeeding. A greater proportion of the women who did not initiate breastfeeding as compared with those who initiated breastfeeding were Black (32% vs. 9.9%; $p < .0001$), not married (50.1% vs. 27.8%; $p < .0001$), had one or more children

(63.3% vs. 56.3%; $p < .0001$), and were earning less than $18,001 annually (55.9% vs. 39.7%; $p < .0001$; Table 1). A greater proportion of the women who did not initiate breastfeeding as compared with women who initiated breastfeeding did not receive a phone number for help, received a gift pack with formula, were not taught how to breastfeed, did not receive information about breastfeeding, and did not room-in with their babies. Breastfeeding initiation status was significantly associated with all but one of the independent variables (whether the mother was talked to about breastfeeding by the health care worker).

Bivariate Analysis

Among women who did not initiate breastfeeding, the most frequent reason given was not liking breastfeeding (48.2%) followed by returning to work or school (29.9%; Table 2). A greater proportion of Blacks (57.4%) chose "I did not like breastfeeding" as compared with Whites (45.9%) and Hispanics (10.9%; $p < .0001$). There was an association between most of the reasons for not initiating breastfeeding and race/ethnicity (Table 2).

About 28% ofthe women chosethe "other" option and provided written responses. These responses were reviewed and categorized into 10 groups. The most common group was lactational difficulties (21.0%; Table 3), followed by "other" (19.7%), which included responses such as lack of information on breastfeeding, delivery complications, advice of health professionals, and wanting to include other family members in the feeding of the baby. Personal preferences were cited by 18.0% of the women (Table 3). A greater proportion of Hispanic women (45.5%) cited lactational difficulties in their written responses as compared with Whites (22.6%) and Blacks (8.2%; $p = .0001$).

The majority of women who did not initiate breastfeeding cited individual reasons (63.0%; Table 4). Household responsibilities were cited by 34.1% of the women and circumstances were cited by 33.3% of them. There was some overlap across the three broad categories. Overall, 8.6% of the women cited reasons in all three categories.

Individual reasons—Black mothers who did not initiate breastfeeding were more likely to indicate individual reasons for noninitiation (67.4%) than were White (62.7%), and Hispanic women (27.9%; $p = .0004$; Table 4). A greater proportion of mothers who knew they would not breastfeed identified individual reasons (70.0%) as compared with mothers who did not know what to do about breastfeeding (58.0%); who knew they would breastfeed (29.1%); and who thought they might (42.9%; $p < .0001$). A higher proportion of mothers who indicated that they were not taught how to breastfeed by the hospital staff identified individual reasons (64.8%) as compared with those who indicated that they were taught (43.4%; $p = .0005$).

Household responsibilities—The proportion of mothers who indicated household responsibilities kept them from initiating breastfeeding varied by race. Among the groups with sufficient representation for valid estimates, White mothers were most likely to note household responsibilities (36.9%), followed by Black (29.0%) and Hispanic mothers (26.7%; $p = .0236$; Table 4). About 41% of married mothers cited household responsibilities as compared with 27.6% of nonmarried mothers ($p < .0001$). Thirty-five percent of mothers who indicated that they were not taught how to breastfeed by the hospital staff cited household responsibilities as compared with 20% of mothers who indicated that they were taught ($p = .0014$).

Circumstances—The proportion of mothers indicating that circumstances prevented them from initiating breastfeeding did not differ by race ($p = .0873$; Table 4). Teenage mothers (13–17 years old) were more likely to cite circumstances (53.3%) as compared with women aged 18–24 years (31.6%); 25–34 years (31.5%); and 35 years and older (35.1%; $p = .0007$). A

higher proportion of mothers who had insurance before pregnancy (41.4%) cited circumstances as compared with mothers without insurance before pregnancy (27.5%; p <.0001).

Multivariable Analysis

Individual reasons—Although Hispanics were markedly less likely than Whites or Blacks to cite individual reasons for not initiating breastfeeding in unadjusted analysis (Table 4), race/ethnicity was no longer significantly associated with this choice after controlling for other maternal and hospital support characteristics (Table 5). Mothers with a high school education were more likely to cite individual reasons than those with greater than high school education (odds ratio [OR], 1.40; 95% confidence interval [CI], 1.04–1.88). Women with low income (< $18,001) were 50% less likely to indicate individual reasons than those with high income (> $48,000). Of the hospital support variables, mothers who indicated that the staff did not teach them how to breastfeed had more than twice the odds of citing individual reasons than mothers who indicated the staff provided this education (OR, 2.25; 95% CI, 1.30–3.91). Similarly, mothers who reported that the staff did not give them information about breastfeeding were also more likely to cite individual reasons (OR, 1.35; CI, 1.02–1.79). Conversely, mothers who reported that the hospital did not offer a phone number for help with breastfeeding were less likely to cite individual reasons (Table 5).

Household responsibilities—Blacks were less likely than Whites to cite household responsibilities as a reason for not initiating breastfeeding (OR, 0.66; 95% CI, 0.47–0.92; Table 5). Hispanic women and women of other races did not differ from Whites. Mothers with no previous live birth were much less likely to cite household responsibilities compared with mothers with previous live births (OR, 0.13; 95% CI, 0.09–0.18). Mothers who received gift packs with formula were more likely to cite household responsibilities compared with mothers who did not (OR, 1.78; 95% CI, 1.02–3.11). In addition, mothers who indicated that staff did not teach them how to breastfeed had more than twice the odds of citing household responsibilities as compared with those who indicated that they were taught how to breastfeed by the staff (OR, 2.27; 95% CI, 1.19–4.36).

Circumstances—Although race was not significantly associated with citing circumstances as a reason for not initiating breastfeeding in bivariate analysis, with maternal and hospital characteristics held equal, Hispanics were markedly more likely than Whites to note circumstances asa reason for notinitiating breastfeeding (OR, 3.07; 95% CI, 1.31–7.18; Table 5). Mothers of other races did not differ from Whites. Low maternal age (13–17 years) was positively associated with noting circumstances, whereas education levels less than high school or high school reduced the odds of citing this reason. Women who were uninsured before pregnancy were less likely than insured mothers to choose this reason.

Discussion

Using four years of data from Arkansas, we found that 37.7% of women chose not to initiate breastfeeding. Addressing our first research question, reasons women provide for not initiating breastfeeding, we found that the most frequent reasons women identified were individual reasons, such as not wanting to be tied down, not liking breastfeeding, being embarrassed, and wanting the body back to oneself. The next most frequent reason was household responsibilities, such as having other children to care for, followed by circumstances such as going back to work or school. These findings are consistent with those of previous studies (Ahluwalia et al., 2005; Guttman & Zimmerman, 2000).

We found only modest support for the notion that the reasons women give for not initiating breastfeeding differ by race/ethnicity. In unadjusted analysis, Hispanic women were less likely

than Black or White women to cite individual reasons for not initiating breastfeeding. This difference was no longer significant after other characteristics of the mother and the delivery hospital were held constant. Similarly, Hispanics were less likely than Black or Whites to note household responsibilities as a reason for not initiating breastfeeding in bivariate analyses, but did not differ from Whites after controlling for other factors. In adjusted analyses, Black women remained less likely than White women to note household responsibilities as a deterrent to initiating breastfeeding. In unadjusted analyses, there were no race/ethnicity differences in whether women would cite circumstances as preventing them from initiating breastfeeding; with maternal and hospital characteristics held equal, however, Hispanics were more likely than Whites to choose this reason. In a study to identify racial/ethnic differences in the factors influencing the decision to breastfeed among adolescent mothers, the authors found that among Mexican-Americans, the important factors included the feeding preference of a partner and feeding decisions made early in pregnancy; among African-Americans, having a mother who breastfed, low family support, and living with a partner were significant factors in deciding to breastfeed; and for Caucasians, not being enrolled in the WIC program and having two or more breastfeeding role models were important factors (Wiemann, DuBois, & Berenson, 1998).

Hospital support for breastfeeding was significantly associated with the reasons cited by women for noninitiation. Women who indicated that the hospital staff did not teach them how to breastfeed had more than two times greater odds of citing individual reasons and household responsibilities than women who indicated that the staff taught them how to breastfeed.

Maternal age was also a significant factor in reasons cited by women for not breastfeeding: Teenage mothers were much more likely than older mothers to cite circumstances as the reason for noninitiation. This result is consistent with previous research (Hannon, Willis, Bishop-Townsend, Martinez, & Scrimshaw, 2000). This result may be due to the fact that carrying around a breast milk pump in school is a deterrent to initiating breastfeeding (Hannon et al., 2000).

Limitations

The data for the present study were drawn from one state, Arkansas, which had a very limited representation of women who were not White, Black, or Hispanic. This limitation, plus the unique circumstances of a rural Southern state, limited our ability to generalize to other areas. Second, the data were cross sectional, and do not provide a basis for causal inferences. There is also the possibility of reporting errors because women were asked about their infant feeding experience between 2 and 7 months after delivery. Further, in choosing the reasons for not initiating breastfeeding, mothers were asked to check all that apply. The fact that mothers were free to choose many reasons for not initiating breastfeeding makes it difficult to identify a mother's primary reason for noninitiation.

Implications

There are several implications for policy. Our finding that a relatively large percentage of women did not initiate breastfeeding may be related to public attitudes toward breastfeeding in the United States, which is generally in the direction of reduced acceptability (Ruowei et al., 2007). This may impact mothers' attitudes toward breastfeeding, causing them to feel embarrassed and to view formula feeding as a societal norm. More campaigns to promote breastfeeding are needed and there should be community-wide support for breastfeeding.

Currently, 47 states have legislation in effect regarding breastfeeding (National Conference of State Legislatures, 2007, 2008). These laws span a variety of issues such as breastfeeding in public; employment; breastfeeding promotion, information, and education; and international code of marketing of breast milk substitutes (National Conference of State Legislatures,

2007, 2008; United States Breastfeeding Committee, 2004). Currently, 21 states, including the District of Columbia and Puerto Rico have legislation related to breastfeeding in the work place (National Conference of State Legislatures, 2008). Arkansas, however, has only one breastfeeding legislation (Ark. Stat. Ann. § 5-14-112 and § 20-27-2001 [2007]). This law allows a woman to breastfeed in any public or private location where other individuals are present and also exempts breastfeeding women from indecent exposure laws (National Conference of State Legislatures, 2008).

Because returning to work is a major reason for not initiating breastfeeding, legislation that requires employers to provide flexible work schedules for new mothers and facilities that allow mothers to pump and store breast milk at work (Johnston & Esposito, 2007) may encourage working mothers to initiate breastfeeding (National Conference of State Legislatures, 2008), knowing that they can continue upon returning to work. Providing paid maternity leave policies for working mothers should also be advocated for so that they can invest the time needed to initiate and establish breastfeeding. The United States is one of the few countries that does not guarantee paid maternity leave for any worker (Heymann, Earle, & Hayes, 2007). Although the Family and Medical Leave Act of 1993 provides for 12 weeks of unpaid time away from work that can be used for child birth and new born care (Calnen, 2007; Eichner, 2008; Guthrie & Roth, 1999; Raju, 2006), it only applies to employers with 50 or more employees, which constitute about 5% of employers (Eichner, 2008).

Hospital policies also play an important role in promoting breastfeeding, as indicated in our study. Our results suggest that it is useful for hospital staff to provide mothers with information about breastfeeding, show mothers how to breastfeed, and show mothers how to maintain lactation even if they are separated from their infants. Given that the most frequent written response was lactational difficulties, the role of hospital staff knowledgeable in breastfeeding cannot be overemphasized. A recent study just released by the CDC on the breastfeeding-related maternity practices at hospitals and birth centers in the United States for 2007 showed that Arkansas State had the lowest mean total score (48/100; CDC, 2008). The scores were averaged over seven subscales (labor and delivery; breastfeeding assistance; mother–newborn contact; newborn feeding practices; breastfeeding support after discharge; nurse/birth attendant breastfeeding training and education; and structural and organizational factors related to breastfeeding; CDC, 2008). The Baby Friendly Hospital Initiative, which aims to ensure that every baby is given the best start in life by creating environments where breastfeeding is accepted as the norm (World Health Organization, 2006), has to become a high priority activity in Arkansas State hospitals and birth centers and the U.S. health system as a whole.

As for practice implications, identifying reasons for not initiating breastfeeding may help health care workers to provide targeted interventions that address particular areas of concern for different groups of women (Taylor et al., 2003). Our findings suggest that interventions for Hispanics and teenagers may yield better results if targeted to areas such as participating in work or school while breastfeeding.

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Biographies

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Table 1

Breastfeeding Initiation by Maternal and Hospital Support Characteristics, Arkansas 2000–2003*

Characteristics	Unweighted *n*	Initiated Breastfeeding	Did Not Initiate Breastfeeding	*p*¶
Total observations, *n* (%)	7,127 (100)†	4,091(62.3)‡	2,917(37.7)‡	
Maternal characteristics				
Race/ethnicity				
White, non-Hispanic	4,933 (71.5)	76.2	63.9	<.0001
Black, non-Hispanic	1,468 (18.2)	9.9	32.0	
Other, non-Hispanic	106 (1.9)	2.5	0.8§	
Hispanic	492 (8.4)	11.5	3.3	
Previous live births				
0	3,046 (41.1)	43.8	36.7	<.0001
≥1	3,958 (58.9)	56.3	63.3	
Maternal age (y)				
13–17	411 (5.3)	4.0	7.4	<.0001
18–24	3,304 (44.3)	41.6	49.4	
25–34	2,776 (43.6)	46.9	38.2	
≥35	515 (6.6)	7.6	5.1	
Marital status				
Married	4,282 (63.8)	72.2	49.9	<.0001
Other	2,701 (36.2)	27.8	50.1	
Maternal education (y)				
<High school	1,613 (20.9)	18.6	24.8	<.0001
High school	3,023 (40.7)	35.3	49.6	
>High school	2,340 (38.4)	46.1	25.6	
Annual household income ($)				
<18,001	3,385 (45.8)	39.7	55.9	<.0001
18,001–28,000	1,181 (17.5)	16.2	19.7	
28,001–48,000	1,031 (16.2)	18.2	13.0	
>48,000	1,032 (20.5)	26.0	11.4	
Health insurance before pregnancy				
No	3,768 (49.4)	44.1	58.3	<.0001
Yes	3,221 (50.6)	55.9	41.8	
Breastfeeding intent				
I knew I would	3,049 (50.0)	77.9	2.9	<.0001
I thought I might	1,422 (17.9)	18.1	17.7	
I knew I would not	2,110 (27.9)	1.1	72.9	
I did not know what to do	348 (4.2)	2.9	6.6	
Smoking				
No	5,493 (16.9)	87.3	76.0	<.0001
Yes	1,483 (83.1)	12.7	24.0	
Hospital support characteristics				

Characteristics	Unweighted *n*	Initiated Breastfeeding	Did Not Initiate Breastfeeding	*p*¶
Talked to about breastfeeding by health care worker during prenatal care				
No	1,367 (21.2)	21.0	21.5	.7279
Yes	5,446 (78.8)	79.0	78.5	
Phone number for help				
No	3,429 (46.0)	25.8	79.6	<.0001
Yes	3,433 (54.0)	74.2	20.4	
Gift pack with formula				
No	972 (14.0)	18.5	6.5	<.0001
Yes	5,920 (86.0)	81.5	93.5	
Staff helped me learn				
No	3,825 (51.8)	26.9	93.5	<.0001
Yes	3,044 (48.2)	73.1	6.5	
Staff gave me information				
No	1,024 (14.3)	8.0	24.8	<.0001
Yes	5,881 (85.7)	92.0	75.2	
Baby used pacifier				
No	2,559 (41.1)	47.9	29.8	<.0001
Yes	4,328 (58.9)	52.1	1.2	
Baby in the same room				
No	2,667 (27.4)	22.7	35.2	<.0001
Yes	4,217 (72.6)	77.3	64.8	

*Weighted percents shown.

†Sample consists of all mothers with live singleton births. Percentages are based on a weighted count of $n = 136,857$.

‡There were 119 missing observations for breastfeeding status that is why the two columns do not add up to 7,127.

¶*p*-Values are based on χ^2 tests.

§Sample size is <30; therefore, estimates may be unreliable.

Table 2

Reasons Why Women Did Not Initiate Breastfeeding, Among Women Who Never Breastfed, Arkansas 2000–2003*

		Race/Ethnicity (%)			
Reasons	**%**	**White**	**Black**	**Hispanic**	***p***
I did not like breastfeeding.	48.2	45.9	57.4	10.9	<.0001
I went back to work or school.	29.9	27.7	34.0	35.4	.0797
I had other children to take care of.	29.6	32.4	24.3	26.4	.0213
Other.	28.2	32.2	17.4	52.4	<.0001
I had too many household duties.	18.0	17.5	18.9	14.9	.6335
I was embarrassed to breastfeed.	11.8	14.3	6.7	8.3	<.0001
I wanted my body back to myself.	11.2	12.5	9.9	3.0	.0029
I did not want to be tied down.	10.8	12.2	9.0	2.6	.0005
My husband or partner did not want me to breastfeed.	4.9	5.3	3.4	11.9	.0036

Note. Mothers were given the option to choose all reasons that apply, so percentages do not add up to 100%. All percentages are weighted to provide population estimates. There were too few observations among women of other races for valid estimates to be provided.

*Unweighted observations = 2,917. The sample consists of mothers with live, singleton births who did not initiate breastfeeding. Percentages are based on a weighted count of n = 50,881.

Table 3

Reasons Why Women Did Not Initiate Breastfeeding, Among Women Who Chose the "Other" Option For Not Initiating Breastfeeding and Provided Written Explanations, Arkansas 2000–2003*

		Race/Ethnicity (%)			
Reasons	**%**	**White**	**Black**	**Hispanic**	***p***
Lactational difficulties	21.0	22.6	8.2	45.5	.0001
Other†	19.7	20.2	18.0	23.7	.2093
Personal preference‡	18.0	18.3	21.2	6.5	.2068
Mother on medication	10.7	9.1	15.8	12.3	.5075
Previous experience	10.1	13.0	1.21	6.1	.0001
Ill health in mother	8.1	7.0	11.4	1.3	.0214
Smoking	7.4	8.0	7.9	0.0	.0019
Pain/fear/stress	7.4	4.8	18.6	3.8	.0191
Breast surgery/other structural abnormalities in the breast	6.5	6.0	8.7	5.6	.8823
Premature child/child in NICU	1.6	1.7	1.7	1.3	.2422

Note. All percentages are weighted to provide population estimates. Percentages are based on a weighted count of n = 13,949. There were too few observations among women of other races for valid estimates to be provided.

NICU, neonatal intensive care unit.

*Unweighted observations = 838. The sample consists of mothers with live, singleton births who did not initiate breastfeeding, chose the "other" option, and provided written responses for noninitiation. Responses were coded into 10 categories. Percentages are based on a weighted count of n = 13,949.

†This category is made up of infrequent reasons: lack of information on breastfeeding, delivery complications, illness in baby, the advice of health professional, bottle introduced in the hospital, wanting to include the family in feeding of the baby, travel or busy schedule, returning to work or school, unhealthy lifestyle, having an unsupportive partner, no role model, having other kids to take care of, and reasons that could not be placed into any of the categories. Some reasons from this group were added to the major categories: Returning to work or school and having an unsupportive partner were added to the circumstances group, whereas having other kids to take care of was added to the household responsibilities category.

‡This group was added to the individual reasons category.

Table 4

Selection of Reasons for Not Initiating Breastfeeding, by Maternal and Hospital Support Characteristics Arkansas 2000–2003*

	Individual Reasons†		Household Responsibilities‡		Circumstances¶	
Characteristics	**Yes (%)**	***p***	**Yes (%)**	***p***	**Yes (%)**	***p***
Maternal characteristics						
Race/ethnicity						
White, non-Hispanic	62.7	.0004	36.9	.0236	31.4	.0873
Black, non-Hispanic	67.4		29.0			
Hispanic	27.9		26.7		44.3	
Previous live birth						
0	62.7	.8410	10.3	<.0001	38.7	.0016
≥1	63.2		47.8		30.3	
Maternal age (y)						
13–17	66.2	.5313	11.7	<.0001	53.3	.0007
18–24	63.8		32.9		31.6	
25–34	62.3		40.3		31.5	
≥35	55.6		31.6		35.1	
Marital status						
Married	60.4	.0408	40.5	<.0001	33.4	.9314
Other	65.7		27.6		33.1	
Maternal education (y)						
<High school	62.3	.1517	29.0	.0135	28.4	.0018
High school	65.3		33.8		31.8	
>High school	59.2		39.5		41.1	
Annual household income ($)						
<18,001	63.7	.0028	33.8	.8718	29.9	.0032
18,001–28,000	56.2		35.4		34.5	
28,001–48,000	59.0		36.9		40.4	
>48,000	74.0		35.6		44.2	
Health insurance before pregnancy						
No	63.1	.9577	34.1	.9662	27.5	<.0001
Yes	62.9		34.2		41.4	

Characteristics	Individual Reasons† Yes (%)	*p*	Household Responsibilities‡ Yes (%)	*p*	Circumstances¶ Yes (%)	*p*
Breastfeeding intent						
I knew I would	29.1	<.0001	18.3	.0015	16.0	.0113
I thought I might	42.9		27.2		36.2	
I knew I would not	70.0		37.1		34.0	
I did not know what to do	58.0		32.6		24.3	
Smoking						
No	62.5	.4741	33.4	.3763	36.7	<.0001
Yes	64.6		36.0		22.8	
Hospital support characteristics						
Phone number for help						
No	62.4	.1449	32.7	.1157	32.4	.2393
Yes	67.0		38.0		36.3	
Gift pack with formula						
No	62.3	.8071	42.9	.0787	30.5	.5689
Yes	63.5		33.2		33.3	
Staff helped me learn						
No	64.8	.0005	35.0	.0014	33.4	.5659
Yes	43.4		20.0		30.2	
Staff gave me information						
No	68.0	.0361	36.6	.2426	27.1	.0041
Yes	61.9		33.1		35.3	
Baby used pacifier						
No	63.7	.8448	33.0	.6494	32.0	.5222
Yes	63.2		34.3		33.8	
Baby in the same room						
No	60.9	.1531	34.5	.6912	30.9	.1492
Yes	64.7		33.5		34.6	

Note. All percentages are weighted to reflect population estimates. The three categories of reasons are not mutually exclusive. There is some overlap across categories (22.1% cited both individual reasons and household responsibilities; 17.6% cited both individual reasons and circumstances; 14.2% cited both circumstances and household responsibilities; and 8.6% cited reasons in all three categories). There were too few observations among women of other races for valid estimates to be provided.

[*] Unweighted observations = 2,917. The sample consists of mothers with live, singleton births who did not initiate breastfeeding. Percentages are based on a weighted count of n = 50,881. (Table footnote continued on page 275)

[†] Individual reasons include not liking breastfeeding, not wanting to be tied down, being embarrassed, wanting body back to self, and similar categories from the written responses (86 responses were added from the written reasons). Of the women who did not breastfeed, 63.0% chose individual reasons.

[‡] Household responsibilities include having other children to take care of, household duties, and similar categories from the written responses (2 responses were added from the written reasons). Of the women who did not breastfeed, 34.1% chose household responsibilities.

[¶] Circumstances include going back to work or school, having a partner who did not want the woman to breastfeed, and similar categories from the written responses (two responses were added from the written reasons). Of women who did not breastfeed, 33.3% chose circumstances.

Table 5

Adjusted Analysis of Reasons for Not Initiating Breastfeeding, by Maternal and Hospital Support Characteristics, Arkansas 2000–2003*

	Individual Reasons†		Household Responsibilities‡		Circumstances¶	
Characteristics	**AOR§**	**95% CI**	**AOR§**	**95% CI**	**AOR§**	**95% CI**
Maternal characteristics						
Race/ethnicity						
White, non-Hispanic	1.00	Ref.	1.00	Ref.	1.00	Ref.
Black, non-Hispanic	1.28	0.94–1.75	0.66	0.47–0.92	1.28	0.94–1.75
Other, non-Hispanic‖	1.07	0.27–4.21	1.41	0.45–4.44	0.87	0.18–4.26
Hispanic	0.50	0.22–1.13	0.96	0.37–2.52	3.07	1.31–7.18
Previous live birth						
0	1.00	0.76–1.32	0.13	0.09–0.18	1.24	0.93–1.66
≥1	1.00	Ref.	1.00	Ref.	1.00	Ref.
Maternal age (years)						
13–17	1.28	0.57–2.88	1.76	0.63–4.90	3.17	1.45–6.92
18–24	1.30	0.77–2.20	1.54	0.88–2.67	1.14	0.64–2.01
25–34	1.06	0.63–1.78	1.19	0.69–2.06	0.92	0.53–1.61
≥35	1.00	Ref.	1.00	Ref.	1.00	Ref.
Marital status						
Married	1.00	Ref.	1.00	Ref.	1.00	Ref.
Other	1.11	0.82–1.48	0.76	0.55–1.04	1.08	0.80–1.47
Maternal education (y)						
<High school	1.33	0.88–2.02	0.60	0.38–0.93	0.43	0.28–0.66
High school	1.40	1.04–1.88	0.70	0.50–0.97	0.71	0.52–0.98
>High school	1.00	Ref.	1.00	Ref.	1.00	Ref.
Annual household income ($)						
<18,001	0.48	0.28–0.80	1.65	0.98–2.80	0.66	0.40–1.08
18,001–28,000	0.41	0.25–0.68	1.43	0.85–2.40	0.74	0.46–1.21
28,001–48,000	0.42	0.25–0.71	1.14	0.67–1.96	0.86	0.52–1.42
>48,000	1.00	Ref.	1.00	Ref.	1.00	Ref.
Health Insurance before pregnancy						

	Individual Reasons†		Household Responsibilities‡		Circumstances¶	
Characteristics	**AOR§**	**95% CI**	**AOR§**	**95% CI**	**AOR§**	**95% CI**
No	1.02	0.75–1.39	1.00	0.72–1.40	0.68	0.50–0.92
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.
Breastfeeding intent						
I knew I would	0.24	0.10–0.57	0.46	0.20–1.04	0.34	0.14–0.86
I thought I might	0.32	0.24–0.44	0.77	0.53–1.12	1.09	0.79–1.52
I knew I would not	1.00	Ref.	1.00	Ref.	1.00	Ref.
I did not know what to do	0.51	0.33–0.79	0.92	0.54–1.55	0.59	0.34–1.01
Smoking						
No	1.00	Ref.	1.00	Ref.	1.00	Ref.
Yes	1.20	0.89–1.61	1.06	0.76–14.7	0.76	0.55–1.05
Hospital support characteristics						
Phone number for help						
No	0.56	0.40–0.77	0.64	0.45–0.90	0.87	0.64–1.18
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.
Gift pack with formula						
No	0.75	0.47–1.21	1.78	1.02–3.11	1.13	0.68–1.89
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.
Staff helped me learn						
No	2.25	1.30–3.91	2.27	1.19–4.36	1.14	0.64–2.01
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.
Staff gave me information						
No	1.35	1.02–1.79	1.12	0.82–1.52	0.70	0.51–0.96
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.
Baby used pacifier						
No	1.09	0.83–1.42	0.95	0.71–1.27	0.82	0.62–1.08
es	1.00	Ref.	1.00	Ref.	1.00	Ref.
Baby in the same room						
No	0.87	0.68–1.12	1.03	0.79–1.34	0.84	0.65–1.08
Yes	1.00	Ref.	1.00	Ref.	1.00	Ref.

Note. All percentages are weighted to reflect population estimates. The three categories of reasons are not mutually exclusive. There is some overlap across categories (22.1% cited both individual reasons and household responsibilities; 17.6% cited both individual reasons and circumstances; 14.2% cited both circumstances and household responsibilities; and 8.6% cited reasons in all three categories).

[*] Unweighted observations = 2,917. The sample consists of mothers with live, singleton births who did not initiate breastfeeding. Percentages are based on a weighted count of n = 50,881.

[†] Individual reasons include not liking breastfeeding, not wanting to be tied down, being embarrassed, wanting body back to self, and similar categories from the written responses(86 responses were added from the written reasons). Of the women who did not breastfeed, 63.0% chose individual reasons. (Table footnote continued on page 277)

[‡] Household responsibilities include having other children to take care of, household duties, and similar categories from the written responses (two responses were added from the written reasons). Of the women who did not breastfeed, 34.1% chose household responsibilities.

[¶] Circumstances include going back to work or school, having a partner who did not want the woman to breastfeed, and similar categories from the written responses (two responses were added from the written reasons). Of women who did not breastfeed, 33.3% chose circumstances.

[§] Odds ratio adjusted for all variables included on the table: race/ethnicity, age, marital status, education, income, number of previous live birth, insurance, breastfeeding intent, smoking, alcohol use, and hospital variables.

[||] Sample size is <30; therefore, estimates may be unreliable.