Maternal Employment and Breast-Feeding: Findings from the 1988 National Maternal and Infant Health Survey

Cynthia M. Visness, MA, MPH, and Kathy I. Kennedy, DrPH

ABSTRACT

Objectives. This analysis uses nationally representative data from the 1988 National Maternal and Infant Health Survey to explore the factors, including employment, associated with breast-feeding initiation and duration.

Methods. Multiple logistic regression was used to model the determinants of breast-feeding initiation among 9087 US women. Multiple linear regression was used to model the duration of breast-feeding among women who breast-fed.

Results. Fifty-three percent of mothers initiated breast-feeding in 1988, and the decision to breast-feed was not associated with maternal employment. However, among breast-feeders, returning to work within a year of delivery was associated with a shorter duration of breast-feeding when other factors were controlled. Among employed mothers, the duration of maternity leave was positively associated with the duration of breast-feeding.

Conclusions. The low rates of breast-feeding initiation in the United States are not attributable to maternal participation in the labor force. However, returning to work is associated with earlier weaning among women who breast-feed. (*Am J Public Health.* 1997;87:945–950)

Introduction

Breast-feeding and working outside the home are commonly believed to be incompatible activities, and increased female labor force participation is frequently blamed for the low rates of breast-feeding in the United States. Were this the case, the trend would be important, because women's labor force participation continues to increase, and associated decreases in breastfeeding could have profound health consequences.

Data from Current Population Surveys show that during the period 1986 through 1988 about half of new mothers in the United States were employed during the first year of their child's life. Two months after delivery, 60% of these employed mothers were actually back at work, and 40% were on leave from their jobs. By the fourth month after delivery, 90% of mothers with jobs were back at work. These data indicate that American women either do not work at all for the first year following the birth of a child, or they remain employed and take a relatively short leave from their predelivery job.[1] We were interested in knowing whether women who remain at home are more likely to breast-feed than women who return to work outside the home, and whether the duration of breast-feeding is associated with the length of maternity leave.

The 1988 Ross Laboratories' Mother's Survey found that full-time work had no effect on the *initiation* of breast-feeding but had a profound effect on breast-feeding *duration.* The survey found that equal numbers of employed and nonemployed mothers began breast-feeding, but at 6 months postpartum, only 10% of full-time working women reported that they were still breast-feeding, compared with 24% of nonemployed women.[2] A prospective study of the effect of women's work on breast-feeding in the Washington, DC, area confirmed the general findings of the Ross survey, although those results cannot be generalized to the country as a whole.[3] Lindberg used data from the National Survey of Family Growth to demonstrate that women who breast-feed and work have an increased likelihood of stopping breast-feeding in the month they enter employment.[4]

In this paper we use data from the 1988 National Maternal and Infant Health Survey (NMIHS) to explore the factors associated with breast-feeding initiation and duration. The role of postpartum employment is given particular emphasis. The NMIHS is a nationally representative study that can be used to make inferences about the entire US population of childbearing women for 1988.[5] It can be considered the most current representative source of information on selected questions about breast-feeding in the United States.

At the time the study was conducted, both authors were with Family Health International, Research Triangle Park, NC. Kathy I. Kennedy is currently with the Department of Public Health, University of Denver, Colo.

Requests for reprints should be sent to Cynthia M. Visness, MA, MPH, Family Health International, PO Box 13950, Research Triangle Park, NC 27709.

This paper was accepted October 2, 1996.

Note. The views expressed here are those of the authors and do not necessarily reflect those of the National Center for Health Statistics, the US Agency for International Development, or Family Health International.

Editor's Note. See related article by Kuhn and Stein (p 926), editorial by Zimmer and Garza (p 904), and letter by Labbok et al. (p 1060) in this issue.

TABLE 1—Percentage of Women with Live Births Who Ever Breast-Fed, 1988 National Maternal and Infant Health Survey, by Selected Characteristics

	Weighted % in Category	Weighted % Who Breast-Fed	Chi-Square *P*
Total	100.0	53.4	
Maternal ethnicity			
White	67.5	59.1	
Black	15.4	24.1	
Hispanic	12.7	52.4	
Other	4.4	70.2	.000
Maternal age, y			
<20	12.2	31.1	
20–24	27.5	44.2	
25–29	31.9	57.8	
30–34	20.6	65.9	
≥35	7.9	69.0	.000
Household income, $			
<10 000	21.5	32.3	
10 000–15 999	13.6	46.9	
16 000–24 999	17.2	52.8	
≥25 000	47.7	64.9	.000
Maternal education			
High school	58.2	41.2	
College	41.8	70.3	.000
Marital status			
Married	74.9	59.8	
Unmarried	25.1	34.2	.000
Parity			
Primiparous	34.4	53.1	
Multiparous	65.6	53.5	.769
Infant birthweight			
Low (<2500 g)	6.4	35.8	
Normal (>2500 g)	93.6	54.5	.000
Sex of infant			
Male	52.1	52.9	
Female	47.9	53.8	.545
WIC during pregnancy			
Participant	29.3	37.3	
Nonparticipant	70.7	60.0	.000
WIC for infant			
Participant	35.6	36.8	
Nonparticipant	64.4	62.5	.000
Region of residence			
New England	4.2	48.8	
Mid-Atlantic	14.1	53.8	
East North Central	17.7	52.3	
West North Central	7.6	50.0	
South Atlantic	17.1	46.3	
East South Central	6.5	34.6	
West South Central	12.2	46.1	
Mountain	6.3	72.2	
Pacific	14.1	72.6	.000
Employment before delivery			
Employed	68.6	56.5	
Not employed	31.4	46.5	.000
Employment in year after delivery			
Employed	52.4	53.9	
Not employed	47.6	52.7	.404
Return to work after delivery			
Within 6 weeks	13.0	49.8	
After 6 weeks	87.0	53.9	.058
Maternal occupation postpartum			
Professional	11.9	73.6	
Technical/sales/administrative	23.6	51.3	
Service	9.4	48.9	
Manufacturing	5.5	34.8	
Not working[a]	49.6	52.4	.000

Note. WIC = Special Supplemental Food Program for Women, Infants, and Children.
[a]Includes 50 women with occupation categorized as "other."

Methods

The NMIHS was designed to study factors associated with poor pregnancy outcomes. The survey instruments and research methodology used by the National Center for Health Statistics for the NMIHS have been described in detail elsewhere.[5] A systematic sample, stratified by race, infant birthweight, maternal age, and marital status, was drawn from vital records of 48 states, the District of Columbia, and New York City. The original sample includes 13 417 live births, 4772 reports of fetal death, and 8166 infant deaths. For those respondents with a live birth, the study includes linked data from birth certificates, a 35-page questionnaire mailed to the mother, and information about delivery provided by prenatal care providers and hospitals. One in every 354 live births in calendar year 1988 was included, and 74% of the mothers contacted responded to the NMIHS followback questionnaire. Black mothers and low-birthweight infants were oversampled, but the data are weighted to reflect the composition of the national population.

Of the 26 355 mothers sampled in the NMIHS Followback Study, only those 9953 women who had live births and who responded to the survey were of interest. Among these, a total of 866 were excluded because the baby was never brought home after delivery or because data were missing for birthweight, marital status, or whether the child had been breast-fed. Thus, 9087 cases were available for analysis. NMIHS respondents were asked if they had ever breast-fed their baby and how old the baby was when breast-feeding was stopped. Respondents were allowed to answer in days, weeks, or months, and the information was coded in days. For this analysis, breast-feeding duration was recoded by rounding to the nearest week.

Data analyses were performed with SUDAAN software that can adjust for the oversampling of Blacks and low-birthweight infants in the NMIHS.[6] Chi-square analyses were first used to test for associations of selected variables with the proportion of women breast-feeding. Those variables showing a significant association with breast-feeding were subsequently entered into a logistic regression model to determine which variables were important predictors of the decision to breast-feed when all variables were controlled simultaneously. Collinearity among the explanatory variables was

sought and was found to be absent. Interactions among the variables were also tested in the model, and significant interactions were found for region of residence with participation in the government-funded Special Supplemental Food Program for Women, Infants, and Children (WIC) and for level of education with age and with length of maternity leave. Because the presence of interaction means that a variable does not have the same type of effect among different groups, regression results are presented stratified by region of residence and level of education.

The duration of breast-feeding, as a continuous variable, was examined in a similar manner by means of multiple linear regression. Only those who initiated breast-feeding (n = 2968) are included. Again, each variable was modeled separately (data not shown) to determine whether it was associated with the duration of breast-feeding. Those variables found to be significant were then modeled simultaneously. An examination of residuals from the model displayed nonconstant error variance. Transforming the outcome variable by taking its natural logarithm resulted in a better fitting model. Again, no significant collinearity among the variables was found, but there was a significant interaction of several variables with race, and so the results are stratified by race. Predicted values for duration of breast-feeding by race and postpartum employment status were output from the regression model and plotted.

An additional set of models was run for employed breast-feeding women (n = 1506), which included duration of maternity leave as a predictor of breast-feeding. The day the mother returned to work was available for 95% of the working mothers. (When only month and year were known, day was imputed as the middle day of the month.) Mothers without a valid date (n = 80), those who did not work in the first year postpartum (n = 1337), and those whose occupation could not be categorized (n = 45) were excluded from this analysis.

TABLE 2—Likelihood of Breast-Feeding among Different Groups of Women in the 1988 National Maternal and Infant Health Survey

	Women from Pacific and Mountain States (n = 921)[a]		Women from Other States: With College Education (n = 2513)[a]		Women from Other States: Without College Education (n = 4572)[a]	
	OR	(95% CI)	OR	(95% CI)	OR	(95% CI)
College education	2.31	(1.46, 3.68)	...	...	...	...
White race	2.52	(1.67, 3.80)	2.72	(2.14, 3.47)	2.36	(1.91, 2.92)
Mother's age ≥30 y	2.08	(1.23, 3.50)	1.61	(1.26, 2.05)	1.21	(0.94, 1.55)
Income >$25 000	1.60	(0.98, 2.61)	1.09	(0.83, 1.43)	1.03	(0.80, 1.31)
Married	1.72	(1.02, 2.91)	1.19	(0.83, 1.71)	1.81	(1.39, 2.36)
Birthweight <2500 g	0.44	(0.29, 0.67)	0.62	(0.48, 0.80)	0.55	(0.44, 0.68)
Worked before delivery	1.27	(0.76, 2.14)	1.16	(0.84, 1.59)	1.44	(1.13, 1.82)
Type of employment after delivery						
Professional	1.60	(0.65, 3.96)	0.98	(0.70, 1.38)	1.08	(0.59, 1.98)
Technical/sales/administrative	0.69	(0.39, 1.25)	0.64	(0.47, 0.88)	0.77	(0.58, 1.02)
Service	1.14	(0.50, 2.64)	0.80	(0.50, 1.29)	0.82	(0.59, 1.14)
Manufacturing	0.56	(0.14, 2.27)	0.53	(0.27, 1.03)	0.60	(0.40, 0.92)
≤6 weeks maternity leave	0.54	(0.28, 1.07)	0.66	(0.47, 0.93)	1.03	(0.75, 1.41)
WIC during pregnancy	2.17	(0.96, 4.88)	0.91	(0.57, 1.44)	1.07	(0.78, 1.46)
WIC for infant	0.81	(0.38, 1.75)	0.68	(0.44, 1.05)	0.64	(0.47, 0.87)
Breast-feeding initiation rate		76%		66%		35%

Note. Odds ratios (ORs) and 95% confidence intervals (CIs) are from a logistic regression analysis. WIC = Special Supplemental Food Program for Women, Infants, and Children.
[a]Unweighted n's.

Results

Initiation of Breast-Feeding

Table 1 presents the proportions of mothers ever breast-feeding by 10 variables suspected to be related to breast-feeding and four different variables related to employment status. The total weighted percentage of women in the NMIHS who ever breast-fed their newborns was 53.4%. Only 24% of Black women ever breast-fed, compared with more than 50% in the other ethnic categories. Breast-feeding initiation increased with mother's age, education, and income level, and breast-feeding was more common among married than unmarried women. Parity made no difference in breast-feeding initiation when primiparas were compared with multiparas, nor did the sex of the infant influence the decision to breast-feed. Babies with low birthweights were much less likely to be breast-fed (35.8%) than babies of normal birthweight (54.5%).

Breast-feeding initiation is not consistent across the regions of the United States. In the Pacific and Mountain regions over 70% of women ever breast-fed, while only about half that percentage ever breast-fed in the East South Central region. Participation in the WIC program was negatively associated with breast-feeding initiation.

Women employed before delivery were significantly more likely to breast-feed than women not employed. There was no difference in breast-feeding initiation in general between women who returned to work in the first year postpartum vs those who did not; however, the type of occupation the mother held was significantly associated with breast-feeding initiation. Women with professional occupations were much more likely to breast-feed, and women with manufacturing occupations were much less likely to breast-feed, than women not working or women in the other occupational categories. Additionally, women who returned to work quite soon after delivery—within the first 6 weeks—were somewhat less likely to breast-feed than women who returned to work later in the year or who did not work.

Table 2 presents the results of the logistic regression analysis of factors related to breast-feeding initiation among White and Black women. (Hispanic

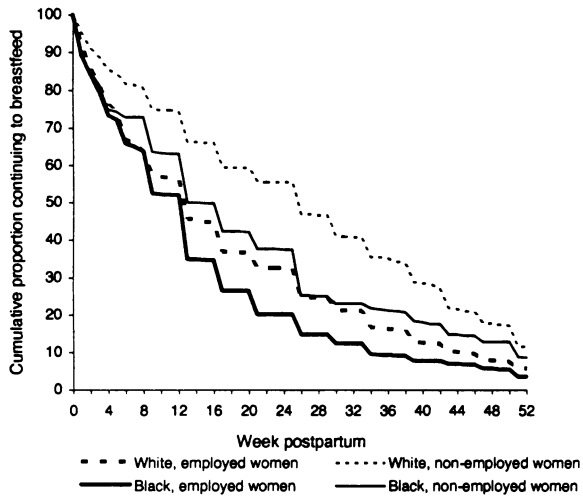

FIGURE 1—Cumulative proportion of mothers continuing to breast-feed, by race and postpartum employment status: breast-feeding women in the 1988 National Maternal and Infant Health Survey (n = 2968).

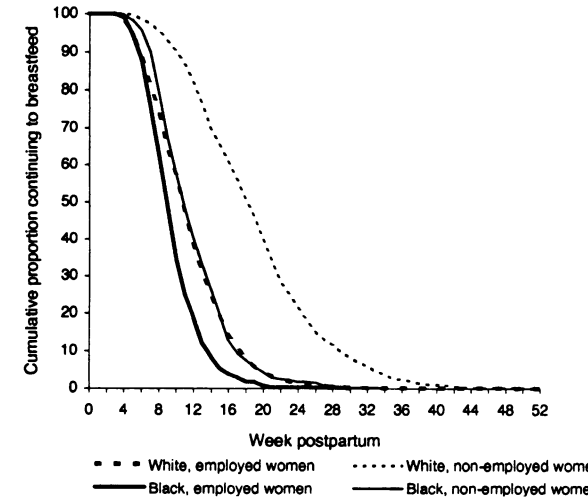

FIGURE 2—Adjusted cumulative proportion of mothers continuing to breast-feed, by race and postpartum employment status: breast-feeding women in the 1988 National Maternal and Infant Health Survey (n = 2968).

women and women of other ethnicities were excluded from further analysis because of small numbers. Information regarding breast-feeding initiation among these women is available from the authors.) The variables from Table 1 that were significantly associated with breast-feeding initiation were included in the model, that is, all except parity, infant sex, and the simple employed/not employed variable. At the bottom of the table is the overall proportion of women in each category who reported that they breast-fed. It can be seen that the variables for which interactions were found (region of residence and education level) are also variables that significantly affect the probability of breast-feeding, as the proportions who ever breast-fed vary dramatically from one category to another. Seventy-six percent of western women, 66% of nonwestern women who had attended college, and 35% of nonwestern women who had never attended college breast-fed.

Interactions are evident in Table 2 in that the explanatory variables do not behave in the same manner for women in the three groups. In all three models, the likelihood of breast-feeding was significantly greater for White women, women with normal-birthweight infants, and women over age 30 (although in one of the models age was only borderline significant). In the first model, women from the Pacific and Mountain states were significantly more likely to breast-feed if they were married and college educated, and WIC participation during pregnancy had a borderline significant effect, enhancing the likelihood of breast-feeding. In the second model, among college-educated women from nonwestern states, only two additional factors affected the likelihood of breast-feeding—working after delivery in a technical, sales, or administrative occupation and returning to work within 6 weeks of delivery were both associated with a lower probability of breast-feeding. In the third model, among nonwestern women without college educations, being married and having worked before delivery were associated with a greater likelihood of breast-feeding, while postpartum work in manufacturing occupations and infant participation in WIC were associated with a reduced probability of breast-feeding.

Duration of Breast-Feeding

Among all parturients (including bottle-feeders) in the 1988 NMIHS, the national median duration of breast-feeding was less than 1 week (data not shown). Only 25% of all mothers breast-fed for more than 9 weeks. Among those who initiated breast-feeding, the median duration of breast-feeding was 13 weeks. One quarter of the breast-feeding mothers breast-fed for 6 weeks or less, and about 10% breast-fed for more than a year, with a maximum observed value of 113 weeks.

Figure 1 displays the proportion of breast-feeding mothers continuing to breast-feed during the child's first year by race and postpartum employment status as observed in the NMIHS. The proportion breast-feeding drops steeply in the first 8 weeks postpartum for all women except White, nonemployed women. At least some women in all groups are continuing to breast-feed at 1 year postpartum.

Multivariate regression analysis to identify predictors of breast-feeding duration showed that for both Black and White women, older age and residence in the Pacific or Mountain states were associated with longer durations of breast-feeding, while having a low-birthweight baby and infant participant in WIC were associated with shorter durations of breast-feeding. More education and higher parity were associated with a longer duration of breast-feeding among White women, but not among Black women. For White women, but not Black women, having a male infant was associated with shorter breast-feeding durations. Among Black women, but not White women, higher income and having received WIC assistance while pregnant were associated with a longer duration of breast-feeding. Among White women, those employed after delivery in all of the occupation categories

breast-fed for a significantly shorter duration than those who did not work; this was also true for Black women, but the differences were not significant for women employed in service and manufacturing occupations.

Figure 2 shows the proportions continuing to breast-feed adjusted by the variables included in the regression models. After adjustment, the difference in breast-feeding duration by employment status remains. For both White and Black women, those not employed breast-fed for a longer time than those employed. The negative effect of postpartum employment on breast-feeding duration is strongest among White women.

TABLE 3—Weighted Median Duration of Breast-Feeding, Median Length of Maternity Leave, and Percentage Breast-Feeding after Return to Work among Women Who Returned to Work Postpartum, by Race and Occupational Category

	White Women (n = 1019)[a]			Black Women (n = 487)[a]		
Occupation	Breast-Feeding	Maternity Leave	% Breast-Feeding after Return to Work	Breast-Feeding	Maternity Leave	% Breast-Feeding after Return to Work
Professional	17	9	64	13	12	42
Technical/sales/administrative	12	10	47	13	9	46
Service	13	10	48	13	14	36
Manufacturing	10	9	38	13	9	46
All employed breast-feeding women	13	10	53	13	11	43

[a]Unweighted n's.

Duration of Breast-Feeding for Employed Women

Table 3 shows the median duration of breast-feeding, the median length of maternity leave, and the percentage who continued to breast-feed after returning to work for each occupational category by race. White professional women were the most likely to continue breast-feeding after returning to work and had the longest median breast-feeding duration.

Regression models were also run for duration of breast-feeding among working women as described above, but with the following differences: the duration of maternity leave was added to the model as a possible predictor, and, as nonworking women are now excluded, "professional" was used as the reference category for occupation. In this model, the duration of maternity leave proved to be highly significantly associated with the duration of breast-feeding for both Black and White women ($P < .01$). Among Black women, the type of employment was not significantly associated with duration of breast-feeding when duration of leave was included in the model. Among White women, those in service occupations breast-fed for a significantly longer time than women in professional occupations, even after controlling for the significant effect of duration of maternity leave.

Discussion

The NMIHS indicates that only 53% of women in the United States ever breast-fed their newborns in 1988. This is a far cry from the year 2000 goal of 75% breast-feeding in hospital after delivery.[7] Among those who initiated breast-feeding, the median duration was 3 months, again well short of the year 2000 goal of 50% still breast-feeding at 6 months.

The NMIHS data suggest that well-educated, White, older women with higher incomes who live in the western United States are the most likely to breast-feed their children. This is consistent with findings of other researchers.[8,9] Maternal employment per se had little effect on the decision to breast-feed, and different factors are significant predictors of breast-feeding initiation among different groups of women.

For the most part, the variables associated with breast-feeding initiation and duration are those one would expect from the preliminary chi-square analysis; however, the WIC participation variables are an exception. When the other variables were controlled, WIC participation during pregnancy was associated with a (borderline) increased likelihood of breast-feeding in the western United States and was not significantly associated with the decision to breast-feed in the rest of the country. Among nonwestern women, infant WIC participation was associated with a reduced likelihood of breast-feeding (although this reduction was only borderline significant for women with college educations). Finally, among Black and White women who breast-fed, receipt of free WIC foods for the baby (infant formula being among the items available) was associated with earlier weaning. Other researchers have used the NMIHS data to show that WIC participation during pregnancy, combined with breast-feeding advice, significantly increases the likelihood of breast-feeding initiation but not breast-feeding duration.[10] This analysis shows that the effect of WIC participation differs by region (which may reflect differences in breast-feeding advice) and by whether the pregnant woman or her infant is considered the participant.

The variation in breast-feeding initiation in different regions of the United States is striking. This variation may reflect a cultural difference—a difference in what is considered the "normal" way to feed infants in different regions of the country. The apparent normality of breast-feeding in the Pacific and Mountain states may account for the relative success of the WIC programs in these regions in promoting breast-feeding.

This analysis refutes the notion that postpartum maternal employment per se is responsible for the low rates of breast-feeding initiation in the United States. There was no meaningful difference in breast-feeding initiation according to whether or not the mother returned to work during her child's first year. Half of both the working and nonworking women opted not to breast-feed. The analysis does indicate that, in general, breast-feeding women who return to work wean earlier than breast-feeding women who do not work.

Among those breast-feeding mothers who did return to work, those with longer leaves breast-fed for longer durations. White professional women were the most likely to combine work and breast-feeding and breast-fed for the longest durations. Kurinij et al. reported the same finding and speculated that women employed as professionals may have more control over

their work environment and more flexibility to accommodate both the demands of work and the needs of their infants.[3] Unfortunately, these data do not contain information about the number of hours worked, so we were unable to control for differences between women working part-time and women working full-time.

The World Alliance for Breastfeeding Action has identified *time, space,* and *support* as the essential elements of a "mother-friendly workplace."[11] Professional women may have heretofore been the most successful in obtaining these elements in their workplaces. The Alliance suggests that time for breast-feeding is best provided by allowing for paid or unpaid maternity leave. This analysis demonstrated that in the United States, where leave is almost exclusively unpaid, breast-feeding durations are quite short. Additionally, when mothers have returned to work, time for breast-feeding can be provided by offering flexible and reduced hours, nursing breaks, or, at a minimum, sufficient break time to express breast milk.

The Alliance also recommends providing child care at the work site as a potential way to ensure space for breast-feeding by allowing mothers to work with their infants in close proximity. If a breast-feeding mother has to be separated from her infant, she should be allowed a place where she can express breast milk in comfort and privacy.

Support is undoubtedly the most difficult of the three elements to ensure. Support for working women who breast-feed would be easier if breast-feeding were better supported by society in general. However, pervasive social and economic forces support the separation of mothers and infants and, accordingly, bottle-feeding.

Other research suggests that the level of support for breast-feeding may influence breast-feeding initiation and duration. In a small, qualitative study, Dix found that mothers chose to bottle-feed because of negative perceptions about breast-feeding, despite stating that they knew that breast-feeding was best for the baby.[12] O'Campo et al. showed that, among other indicators, breast-feeding women who believed that other people preferred them to bottle-feed were at risk for a short breast-feeding duration.[13] This factor proved to be more significant in their analyses than the usual socioeconomic indicators of ethnicity, age, education, and so forth. The regional difference in breast-feeding patterns seen in this analysis suggests that the decision to breast-feed is based, in large part, on relatively local cultural factors. It is possible that social support for breast-feeding is strongest in the regions of the United States with the highest rates of breast-feeding initiation.

Conclusions

The low rates of breast-feeding initiation in the United States are not attributable to maternal participation in the labor force. However, returning to work is associated with earlier weaning among women who breast-feed. Women who are presumed to have the most influence over their working conditions (White professional women) are the most likely to breast-feed after returning to work and have the longest duration of breast-feeding, despite a median duration of maternity leave as short as or shorter than that of other employed women.

The duration of maternity leave was shown to be highly significantly associated with the duration of breast-feeding. However, the analysis does not mean that returning to work directly causes weaning. Some women may wean in anticipation of returning to work, while others may wean in the face of difficulties in managing work and breast-feeding. There are probably other women who have the opportunity to arrange for maternity leave based on their desire to breast-feed for a certain length of time. And, of course, there are working women with the commitment and support to continue breast-feeding for extended periods. Qualitative studies of the effect of maternity leave on breast-feeding are clearly indicated. □

Acknowledgments

This work was partially supported by the United States Agency for International Development (USAID) through its cooperative agreement with Family Health International.

Data for this analysis were provided by the National Center for Health Statistics (NCHS). We would like to thank Dr Patricia Bailey and Dr Eilene Bisgrove for their helpful reviews of this paper and Ms Lucinda Glover for her invaluable statistical guidance.

References

1. Klerman JA, Leibowitz A. The work-employment distinction among new mothers. *J Hum Resources.* 1994;29:277–303.
2. Ryan AS, Martinez GA. Breastfeeding and the working mother: a profile. *Pediatrics.* 1989;83:524–531.
3. Kurinij N, Shiono PH, Ezrine SF, et al. Does maternal employment affect breast-feeding? *Am J Public Health.* 1989;79:1247–1250.
4. Lindberg LD. Women's decisions about breastfeeding and maternal employment. *J Marriage Fam.* 1996;58:239–251.
5. Sanderson M, Placek PJ, Keppel KG. The 1988 National Maternal and Infant Health Survey: design, content and data availability. *Birth.* 1991;18:26–32.
6. Shah BV, Barnwell BG, Hunt PN, LaVange LM. *SUDAAN User's Manual: Professional Software for SUrvey DAta ANalysis for Multi-Stage Sample Designs.* Release 6.0. Research Triangle Park, NC: Research Triangle Institute; 1992.
7. *Healthy People 2000: National Health Promotion and Disease Prevention Objectives.* Washington, DC: US Dept of Health and Human Services; 1991. DHHS publication PHS 91-50212:379.
8. Ford K, Labbok M. Who is breastfeeding? Implications of associated social and biomedical variables for research on the consequences of method of infant feeding. *Am J Clin Nutr.* 1990;52:451–456.
9. Ryan AS, Rush D, Krieger FW, Lewandowski GE. Recent declines in breastfeeding in the United States, 1984 through 1989. *Pediatrics.* 1991;88:719–727.
10. Schwartz JB, Popkin BM, Tognetti J, Zohoori N. Does WIC participation improve breast-feeding practices? *Am J Public Health.* 1995;85:729–731.
11. *Women, Work and Breastfeeding: Everybody Benefits!* Penang, Malaysia: World Alliance for Breastfeeding Action Secretariat; 1993.
12. Dix DN. Why women decide not to breastfeed. *Birth.* 1991;18:222–225.
13. O'Campo P, Faden RR, Gielen AC, Wang MC. Prenatal factors associated with breast-feeding duration: recommendations for prenatal interventions. *Birth.* 1992;19:195–201.