

# Why Mothers Stop Breastfeeding: Mothers' Self-reported Reasons for Stopping During the First Year

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## ABSTRACT

**OBJECTIVES.** Our goal was to determine why women stop breastfeeding at various times during their infant's first year.

**METHODS.** We analyzed self-reported data from 1323 mothers who participated in the Infant Feeding Practice Study II. Mail questionnaires were sent to mothers ~2, 3, 4, 5, 6, 7, 9, 10<sup>1/2</sup>, and 12 months after their child's birth, in which they were asked to rate the importance of 32 reasons for their decision to stop breastfeeding. We applied exploratory factorial analysis to extract meaningful constructs of mothers' responses to the 32 reasons. We then compared the percentages of mothers who indicated that each reason was important in their decision to stop breastfeeding among various weaning ages and used multiple logistic regression models to examine sociodemographic differences in the most frequently cited reasons for stopping breastfeeding.

**RESULTS.** The perception that their infant was not satisfied by breast milk alone was cited consistently as 1 of the top 3 reasons in the mothers' decision to stop breastfeeding regardless of weaning age (43.5%–55.6%) and was even more frequent among Hispanic mothers and mothers with annual household incomes of <350% of the federal poverty level. Mothers' concerns about lactation and nutrition issues were the most frequently cited reasons for stopping breastfeeding during the first 2 months. Starting from the third month, self-weaning reasons were increasingly cited as important, with the statements "My baby began to bite" (31.7%), "My baby lost interest in nursing or began to wean himself or herself" (47.3%), and "Breast milk alone did not satisfy my baby" (43.5%) cited as the top 3 reasons at ≥9 months of age.

**CONCLUSIONS.** Our findings about the major reasons why mothers stop breastfeeding at various times during their child's first year should be useful to health professionals when attempting to help mothers overcome breastfeeding barriers and to health officials attempting to devise targeted breastfeeding interventions on those issues prominent for each infant age. *Pediatrics* 2008;122:S69–S76

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### Key Words

breastfeeding, lactation, weaning, infant

### Abbreviations

IFPS—Infant Feeding Practices Study  
WIC—Supplemental Nutrition Program for Women, Infants, and Children

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**T**HE SIGNIFICANT BENEFITS of breastfeeding for children, mothers, and society are widely recognized. A series of studies conducted in industrialized countries has shown that children who are not breastfed for at least 6 months are 3.5 times more likely than those who are to be hospitalized for respiratory infections such as pneumonia or asthma,<sup>1–6</sup> 2 times more likely to suffer from diarrhea,<sup>1,2,7,8</sup> 1.6 times more likely to suffer from ear infection,<sup>1,7,8,9–11</sup> and 1.5 times more likely to become overweight during childhood.<sup>12–17</sup> Because of the numerous benefits of breastfeeding, the American Academy of Pediatrics Section on Breastfeeding recommends that mothers breastfeed exclusively for approximately the first 6 months after their child's birth and continue breastfeeding for at least the first year of their child's life.<sup>18</sup>

Despite the many benefits of breastfeeding, the most recent National Immunization Survey indicated that only 55% of US infants born in 2004 were breastfed at 3 months, only 42% at 6 months, and only 21% at 12 months.<sup>19</sup> Factors associated with breastfeeding include hospital practices and maternal sociodemographic characteristics, as well as biomedical, environmental-support, and psychosocial factors.<sup>20–22</sup> The reasons women give for weaning their child within the first year have been shown to vary with the age of the child at the time of breastfeeding cessation. For example, the results of 1 study showed that women who stopped breastfeeding before 4 weeks most frequently cited sore nipples, insufficient milk production, and their infant's breastfeeding difficulty, as well as their infant's lack of satisfaction with breast milk as reasons for doing so, whereas women who stopped breastfeeding after 4 weeks

most frequently cited their infant's not being satisfied with breast milk.<sup>23</sup> In another study, initial lactation problems were more associated with weaning before 3 months, whereas breastfeeding's interference with mothers' lifestyle was more associated with later breastfeeding cessation.<sup>24</sup>

We conducted this study in part because previous studies of why women terminate breastfeeding before 1 year have either involved relatively small samples or are out of date, and accurate information about mothers' reasons for premature breastfeeding termination will be useful for designing breastfeeding interventions that address issues most likely to affect mothers of infants at various ages. In this study, we sought to answer 3 specific questions related to breastfeeding cessation: (1) What are the predominant reasons that mothers stop breastfeeding during the first year of their child's life? (2) Do these reasons vary with the age of their child at weaning? and (3) Are any sociodemographic characteristics associated with the most frequently cited reasons?

## METHODS

### Sample

The sample consisted of participants in the Infant Feeding Practices Study II (IFPS II), drawn from a US national consumer opinion panel of ~500 000 households. Approximately 4900 pregnant women aged  $\geq 18$  years participated in the IFPS II prenatal survey, and of these, ~2000 received 1 neonatal and 9 postnatal questionnaires mailed approximately monthly throughout the first year of their infant's life. All members of the sample were mothers of healthy singleton infants born between May 2005 and March 2006. The details of the overall IFPS II design and response rates are presented elsewhere in this supplement.<sup>25</sup>

### Key Variables Studied

Each postnatal questionnaire (sent to participants when their infants were ~2, 3, 4, 5, 6, 7, 9, 10<sup>1/2</sup>, and 12 months old) asked the mothers whether they had completely stopped breastfeeding or pumping milk for their infant. Those who answered "yes" were then asked the age of their infant when they stopped breastfeeding and to rate the importance of 32 reasons in their decision to stop breastfeeding on a 4-point Likert scale ("not at all important," "not very important," "somewhat important," or "very important").

### Statistical Analysis

We first categorized mothers according to their infant's age when they stopped breastfeeding: <1, 1 to 2, 3 to 5, 6 to 8, and  $\geq 9$  months and used 1-way analysis of variance to test for the significance of the relationship between the infants' weaning age and the mothers' sociodemographic characteristics.

An exploratory factorial analysis was used to extract factors representing meaningful dimensions of the data. Principal-components analysis with varimax rotation of factors was performed on the reasons for stopping breastfeeding. A decision on number of factors to be

extracted was based on the Scree test and inspection of factors provided by possible solutions. To place the items into factors, we first deleted items in each factor with loading values of <0.30. If an item was loaded onto multiple factors, placement was based on the combination of higher loading value and interpretability of the factor. Cronbach's coefficient  $\alpha$  was calculated to test the reliability of the data.

We dichotomized the mothers' rating of the importance of the various reasons for deciding to stop breastfeeding as either "important" (3 or 4 on the Likert scale) or "not important" (1 or 2 on the Likert scale) and then calculated the percentage of mothers who considered a reason as being important for each weaning age. To examine whether reasons considered to be important were independently associated with the age of their infants when weaned, we used multiple logistic models to regress each reason on the weaning age after controlling for maternal age, marital status, parity, education, income as a percentage of the federal poverty level, postpartum Supplemental Nutrition Program for Women, Infants, and Children (WIC) participation, race/ethnicity, and national region of residence.

To examine sociodemographic differentials for the most frequently cited reasons, we selected the item with the highest average percentage over time from each factor and then applied multiple logistic regression analysis to identify demographic predictors of the reasons. The dependent variables included in the logistic model were the reasons chosen, whereas the independent variables included a series of sociodemographic variables plus weaning age. All analyses were conducted by using SAS 9.2 (SAS Institute, Inc, Cary, NC).

## RESULTS

Of 2586 IFPS II participants who initiated breastfeeding, 1669 mothers stopped breastfeeding during the study period, 437 were still breastfeeding after 12 months, and 480 were still breastfeeding when they dropped out of the study before 12 months. Of the 1669 who stopped breastfeeding while they remained in the study, 196 did not have complete sociodemographic data, and 150 did not answer the questions concerning why they stopped breastfeeding, which left us with 1323 mothers for our analyses. Among these women, we found that being younger, unmarried, primiparous, less educated, poorer, a WIC participant, and a resident of the Midwest or the South were each associated with early discontinuation of breastfeeding (Table 1).

The Scree test of factorial analysis yielded 7 factors that had eigenvalues of >1. As shown in Table 2, these 7 factors were (1) lactational (6 reasons related to latch-on and nipple or breast problems), (2) psychosocial (7 reasons related to breastfeeding attitudes and social support), (3) nutritional (5 reasons related to concerns about milk supply), (4) lifestyle related (5 reasons related to diet, smoking, and personal freedom), (5) medical (4 reasons related to the mother's or infant's sickness or to the mother's pregnancy or plan for her next pregnancy), (6) milk pumping (2 reasons related to mothers not being able to or not wanting to express breast milk),

**TABLE 1** Characteristics of the Study Sample According to Infants' Age at Weaning

Characteristic	Total (N = 1323), %	Infants' Age When Breastfeeding Was Completely Stopped, mo				
		<1 (n = 320), %	1–2 (n = 302), %	3–5 (n = 268), %	6–8 (n = 183), %	≥9 (n = 250), %
Age, y <sup>a</sup>						
18–24	22.6	35.3	24.8	21.3	13.7	11.6
25–29	34.0	32.2	33.8	34.7	35.0	35.2
30–34	28.0	21.9	24.5	29.5	32.2	35.6
≥35	15.3	10.6	16.9	14.6	19.1	17.6
Marital status <sup>a</sup>						
Unmarried	21.3	30.9	28.5	20.2	11.5	8.8
Married	78.7	69.1	71.5	79.9	88.5	91.2
Parity <sup>a</sup>						
Primiparous	32.7	41.6	33.4	33.6	26.2	24.4
Multiparous	67.3	58.4	66.6	66.4	73.8	75.6
Education <sup>a</sup>						
High school or less	20.0	28.1	22.5	16.0	16.4	13.2
Some college	40.6	47.5	44.0	38.8	32.8	35.2
College graduate	39.5	24.4	33.4	45.2	50.8	51.6
Income as percentage of federal poverty level <sup>a</sup>						
<185%	39.0	46.6	42.0	34.3	32.8	35.2
185%–349%	35.0	31.9	33.8	34.7	39.3	37.6
≥350%	26.0	21.6	24.2	31.0	27.9	27.2
Postpartum WIC participation <sup>a</sup>						
No	62.1	48.8	53.6	65.3	79.8	72.8
Yes	37.9	51.3	46.4	34.7	20.2	27.2
Race						
Non-Hispanic white	84.1	84.7	79.5	84.0	85.8	87.6
Non-Hispanic black	4.4	6.6	4.3	4.5	2.7	2.8
Hispanic	7.3	6.9	9.3	7.8	6.6	5.6
Other	4.2	1.9	7.0	3.7	4.9	4.0
Region <sup>a</sup>						
Northeast	15.3	13.4	16.6	14.6	14.2	18.0
Midwest	30.8	34.7	29.5	31.7	29.0	28.0
South	33.2	37.5	35.4	32.1	30.6	28.0
West	20.6	14.4	18.5	21.6	26.2	26.0

<sup>a</sup>  $P < .01$  for association between characteristic and weaning age.

and (7) self-weaning (3 reasons related to infants' biting, losing interest, or otherwise indicating that they were old enough to be weaned). These 7 factors accounted for 54% of the total variance in mothers' responses to the reasons why they stopped breastfeeding.

For mothers who stopped breastfeeding within the first month and those who stopped between the first and second months after their child's birth, the 3 most frequently chosen reasons were "Baby had trouble sucking and latching on" (53.7% and 27.1%, respectively), "Breast milk alone didn't satisfy my baby" (49.7% and 55.6%), and "I didn't have enough milk" (51.7% and 52.2%). Among the mothers who discontinued breastfeeding when their infant was aged 3 to 8 months, perception of the infant's lack of satisfaction by breast milk alone (49.1%–49.5%) and concern about not having enough milk (43.8%–54.0%) continued to be important, and "My baby lost interest in nursing or began to wean himself or herself" became the third most frequent reason (33.1%–47.9%). Starting at 9 months, the 3 reasons most frequently described as important were "Breast milk alone didn't satisfy my baby" (43.5%), "My baby began to bite" (31.7%), and "My baby lost interest in nursing or began to wean himself or herself" (47.3%).

The perception that their infant was not satisfied by breast milk alone was the only reason in the top 3 most frequently rated as important among mothers in all weaning-age categories (43.5%–55.6%).

Comparing the reasons cited over time, lactational and nutritional reasons were most frequently cited as important in the decision to stop breastfeeding among the mothers who did so within the first month, whereas psychosocial and milk-pumping reasons became more frequently cited among those who stopped between 1 and 2 months. Starting at the third month, self-weaning reasons progressively increased in importance, with the highest percentages for "My baby began to bite" (38.5%) and "My baby lost interest in nursing or began to wean himself or herself" (47.9%) among mothers who weaned their infant at 6 to 8 months. Generally speaking, all the reasons under the lactational, psychosocial, and milk-pumping factors were less frequently cited as important as weaning age increased. In contrast, the percentage of mothers who cited "I wanted my body back to myself," "I became pregnant or wanted to become pregnant again," and all the reasons in the self-weaning category as being important increased with infants' age at weaning. There are 4 reasons among the 32

**TABLE 2** Percentage of Mothers Who Indicated That Specified Reasons Were Important in Their Decision to Stop Breastfeeding, According to Infants' Age at Weaning

Reasons Cited as Important	Infants' Age When Breastfeeding Was Completely Stopped, mo					Average
	<1	1–2	3–5	6–8	≥9	
<b>Lactational factor</b>						
My baby had trouble sucking or latching on <sup>a</sup>	53.7	27.1	11.0	2.6	1.5	19.2
My nipples were sore, cracked, or bleeding <sup>a</sup>	36.8	23.2	7.2	5.7	4.2	15.4
My breasts were overfull or engorged <sup>a</sup>	23.9	12.3	4.8	1.6	1.2	8.8
My breasts were infected or abscessed <sup>a</sup>	8.1	5.7	3.1	3.1	3.1	4.6
My breasts leaked too much <sup>a</sup>	14.1	8.0	3.8	1.6	1.9	5.9
Breastfeeding was too painful <sup>a</sup>	29.3	15.8	3.4	3.7	4.2	11.3
<b>Psychosocial factor</b>						
Breastfeeding was too tiring <sup>a</sup>	19.8	17.2	11.0	7.8	5.3	12.2
Breastfeeding was too inconvenient <sup>a</sup>	20.4	22.4	18.6	12.5	4.2	15.6
I wanted to be able to leave my baby for several hours at a time <sup>a</sup>	11.2	24.1	18.2	15.6	7.3	15.3
I had too many household duties <sup>a</sup>	12.6	14.0	9.6	5.2	3.8	9.0
I wanted or needed someone else to feed my baby <sup>a</sup>	16.4	23.2	21.0	17.2	6.1	16.8
Someone else wanted to feed the baby <sup>a</sup>	13.5	15.5	12.0	5.7	3.4	10.0
I did not want to breastfeed in public <sup>a</sup>	14.9	18.6	15.1	4.7	4.6	11.6
<b>Nutritional factor</b>						
Breast milk alone did not satisfy my baby	49.7	55.6	49.1	49.5	43.5	49.5
I thought that my baby was not gaining enough weight <sup>a</sup>	23.0	18.3	11.0	14.1	8.4	15.0
A health professional said my baby was not gaining enough weight <sup>a</sup>	19.8	15.2	8.6	9.9	5.0	11.7
I had trouble getting the milk flow to start <sup>a</sup>	41.4	23.2	19.6	14.6	5.7	20.9
I didn't have enough milk <sup>a</sup>	51.7	52.2	54.0	43.8	26.0	45.5
<b>Lifestyle factor</b>						
I did not like breastfeeding <sup>a</sup>	16.4	10.9	6.2	3.1	1.9	7.7
I wanted to go on a weight-loss diet	6.6	7.2	10.3	10.9	6.5	8.3
I wanted to go back to my usual diet	5.5	9.5	7.2	5.2	5.0	6.5
I wanted to smoke again or more than I did while breastfeeding <sup>a</sup>	6.0	5.2	3.4	1.0	0.8	3.3
I wanted my body back to myself <sup>a</sup>	8.9	13.2	16.8	18.8	15.7	14.7
<b>Medical factor</b>						
My baby became sick and could not breastfeed <sup>a</sup>	9.5	7.4	5.5	6.3	1.9	6.1
I was sick or had to take medicine <sup>a</sup>	14.4	16.3	14.8	12.5	8.0	13.2
I was not present to feed my baby for reasons other than work	3.2	6.9	5.2	5.2	2.7	4.6
I became pregnant or wanted to become pregnant again <sup>a</sup>	1.7	3.4	3.4	6.8	12.2	5.5
<b>Milk-pumping factor</b>						
I could not or did not want to pump or breastfeed at work <sup>a</sup>	11.2	22.4	21.3	13.5	4.6	14.6
Pumping milk no longer seemed worth the effort that it required <sup>a</sup>	16.7	21.2	23.7	17.7	11.5	18.2
<b>Infant's self-weaning factor</b>						
My baby began to bite <sup>a</sup>	5.2	5.7	13.4	38.5	31.7	18.9
My baby lost interest in nursing or began to wean himself or herself <sup>a</sup>	13.2	19.7	33.1	47.9	47.3	32.2
My baby was old enough that the difference between breast milk and formula no longer mattered <sup>a</sup>	5.2	11.4	16.5	26.6	28.2	17.6

<sup>a</sup>  $P < .01$  for association between each reason and weaning age after adjustments for maternal age, marital status, parity, education, poverty, WIC participation, race, and region.

items that had the same percentage of being cited as important across ages: “Breast milk alone did not satisfy my baby”; “I wanted to go on a weight-loss diet”; “I wanted to go back to my usual diet”; and “I was not present to feed my baby for reasons other than work.”

Table 3 shows the relationship between the mothers' sociodemographic status and the likelihood of their considering reasons to be important. There were no significant sociodemographic differentials in the reasons “I wanted or needed someone else to feed the baby” and “I

**TABLE 3** Relative Likelihood (Adjusted Odds Ratio) That Women in Various Sociodemographic Categories Considered Selected Reasons as Important in Their Decision to Stop Breastfeeding

Variable	My Baby Had Trouble Sucking or Latching On	I Wanted or Needed Someone Else to Feed the Baby	Breast Milk Alone Did not Satisfy My Baby	I Wanted My Body Back to Myself	I Was Sick or Had to Take Medicine	Pumping Milk no Longer Seemed Worth the Effort That It Required	My Baby Lost Interest in Nursing or Began to wean Himself or Herself
Age, y							
18–24	0.90	1.46	0.78	1.73	0.75	1.37	0.73
25–29	1.11	1.05	0.94	1.21	0.87	1.33	0.88
30–34	0.61	1.05	1.12	1.00	0.95	1.27	1.07
≥35	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Marital status							
Unmarried	0.75	1.19	1.00	1.08	1.14	1.01	1.08
Married	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Parity							
Primiparous	1.70 <sup>a</sup>	0.88	1.08	0.56 <sup>a</sup>	0.79	1.41 <sup>a</sup>	1.39 <sup>a</sup>
Multiparous	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Education							
High school or less	0.95	0.67	0.89	0.52 <sup>a</sup>	0.99	0.33 <sup>a</sup>	0.87
Some college	0.84	0.73	0.84	0.65 <sup>a</sup>	0.88	0.61 <sup>a</sup>	0.93
College graduate	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Income as percentage of federal poverty level							
<185%	1.06	1.19	1.45 <sup>a</sup>	0.82	1.38	0.73	1.40
185%–349%	0.93	1.14	1.36 <sup>a</sup>	0.74	1.04	0.94	1.40
≥350%	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Postpartum WIC participation							
No	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Yes	1.15	0.99	1.18	0.77	1.11	0.96	1.10
Race							
Non-Hispanic white	Referent	Referent	Referent	Referent	Referent	Referent	Referent
Non-Hispanic black	1.07	0.94	1.06	1.36	1.00	0.40	1.84
Hispanic	1.10	0.98	1.63 <sup>a</sup>	1.35	0.92	0.98	0.89
Other	1.12	1.35	1.12	1.28	1.50	0.72	1.09
Region							
Northeast	0.72	1.21	0.80	0.99	1.24	1.10	0.88
Midwest	0.82	1.39	0.91	0.94	0.64	1.04	0.82
South	0.56 <sup>a</sup>	1.02	0.93	0.81	0.96	0.85	0.93
West	Referent	Referent	Referent	Referent	Referent	Referent	Referent

Adjusted Odds ratios listed for each sociodemographic category were obtained after controlling for all the others shown plus weaning age.

<sup>a</sup> Significantly different from the referent category (95% confidence interval did not include 1).

was sick or had to take medicine.” However, primiparous mothers were more likely than multiparous mothers to cite “My baby had trouble sucking or latching on,” “Pumping milk no longer seemed worth the effort that it required,” and “My baby lost interest in nursing or began to wean himself or herself” as important reasons to stop breastfeeding, whereas primiparous mothers were 44% less likely than multiparous mothers to cite “I wanted my body back to myself” as an important reason. Hispanic mothers and those with a household income of <350% of the federal poverty level were more likely to cite “Breast milk alone did not satisfy my baby” than were white mothers and those with household income of at least 350% of the federal poverty level. Mothers with college degrees were more likely than those without degrees to cite “I wanted my body back to myself” and “Pumping milk no longer seemed worth the effort that it required” as important reasons for why they stopped breastfeeding.

## DISCUSSION

Among mothers who stopped breastfeeding through the first 8 months of their infant’s life, the perception of their child’s dissatisfaction with breast milk alone and concerns about milk supply were both consistently cited as important reasons for stopping, and their child’s dissatisfaction with breast milk was continuously cited as a top reason even among women who stopped breastfeeding after 8 months. When a mother does not have confidence that she is providing an adequate quantity or quality of milk for her infant, she is likely to stop breastfeeding regardless of her infant’s age. Hispanic mothers and those with low household incomes were particularly likely to cite their child’s lack of satisfaction with breast milk as a reason for stopping. Results of previous studies have similarly suggested that insufficient milk supply was a leading reason that mothers reported for their decision to stop breastfeeding.<sup>26,27</sup> Two studies from industrialized nations showed that >50% of breastfeeding

women perceived their milk supply to be low during the early months of breastfeeding, although their infants seemed satisfied and were not underweight.<sup>28,29</sup> Because of difficulty in estimating the percentage of mothers whose milk supply is truly insufficient, data on the prevalence of insufficient milk supply among breastfeeding mothers are limited. However, in 4 studies of self-selected populations of women who decided to breastfeed exclusively for at least 3 to 4 months, <5% of the mothers were unable to produce enough milk to accomplish their infant's weight gain.<sup>30-33</sup> These results suggest that women's perception of having a low milk supply might, in many cases, be attributable to their lack of knowledge regarding the normal process of lactation or to technical difficulties in feeding rather than to an actual inability to produce a sufficient quantity of milk. They also suggest that most mothers can overcome temporary breastfeeding problems without resorting to supplementation if they receive appropriate guidance from health professionals, including reassurance that what they perceive to be a low milk supply is actually sufficient and that infant growth is uneven and often occurs in spurts.

Our data also suggest that the reasons why mothers stop breastfeeding vary with the age of their infant when they were weaned. The most frequently reported reasons for discontinuing breastfeeding within the first month were related to lactational and nutritional factors. This finding supports a recommendation by Taveras et al<sup>34</sup> that breastfeeding interventions should focus on lactational and nutritional counseling for mothers during their postpartum hospitalization and shortly after they are discharged. The Baby Friendly Hospital Initiative, a program designed to help mothers get a good start in nursing, has been shown to be effective in helping mothers initiate and maintain breastfeeding.<sup>35</sup>

Although lactational and nutritional reasons for ceasing to breastfeed were still described as important most frequently by women who stopped breastfeeding during their infant's first or second month, reasons related to psychosocial and milk-pumping factors became more frequently cited. The large increases in the percentage of mothers who wanted to have someone else feed their infant or to leave their infant for several hours at a time point to the importance of a social support network for mothers with infants at this age. Paternal involvement in breastfeeding and household chores has been shown to be significantly associated with breastfeeding duration.<sup>36</sup> In addition, if society perceives breastfeeding in public as normal behavior, the need for mothers to leave infants at home might be eased.<sup>37</sup> Mothers' attitudes and concerns about pumping reflect, at least partially, the challenges that many mothers face when they return to work or school while still nursing. One reason that mothers with a college degree were more likely than less-educated mothers to cite "pumping milk no longer seemed worth the effort that it required" as a reason for weaning their infant is probably that they were more likely to pump milk from the beginning. For mothers who return to work or school, lactation programs, including flexible work schedules and easier access to a

private lactation room, have been shown to have a significant impact on breastfeeding duration.<sup>38</sup>

Among the mothers who stopped breastfeeding when their infant was aged 3 to 8 months, "Breast milk alone did not satisfy my baby" and "I didn't have enough milk" remained the most frequently cited reasons for doing so, whereas "My baby lost interest in nursing or began to wean himself or herself" replaced "My baby had trouble sucking or latching on" as the third most frequently cited. Among the mothers who stopped when their infant was 9 months old, self-weaning and "Breast milk alone did not satisfy my baby" were the most frequently cited reasons. Parity seems to play a role in the mothers' perception that their infant had begun self-weaning, because mothers who did not have older children were ~40% more likely than multiparous mothers to consider "My baby lost interest in nursing or began to wean himself or herself" as being an important reason for their decision to stop breastfeeding. Sociocultural norms could also influence mothers' breastfeeding behaviors. Although breast milk alone cannot provide complete nutrition for infants older than 6 months who need to be introduced to complementary feeding, breast milk can continue to make a significant nutritional and protective contribution to their development.<sup>18</sup> A dose-response association between breastfeeding duration and infant health has been documented previously,<sup>7</sup> as have the health benefits of breastfeeding in later life.<sup>39,40</sup> However, despite the numerous benefits associated with extended breastfeeding, a large proportion of US adults think that 1-year-old children should not be breastfed.<sup>41</sup> As a result, mothers may receive negative feedback for attempting to nurse older infants, and this negative feedback may tend to convince them that their infant has lost interest in nursing or has begun to wean himself or herself.

Overall, all the 32 reasons surveyed varied significantly according to weaning age except for 4 items: "Breast milk alone did not satisfy my baby"; "I wanted to go on a weight-loss diet"; "I wanted to go back to my usual diet"; and "I was not present to feed my baby for reasons other than work." Although some reasons for ceasing to breastfeed were described as important only by a relatively small percentage of women, that may simply reflect the low prevalence of the problem rather than the importance of the problem. For example, although overall only 3.3% of the survey participants cited "I wanted to smoke again or more than I did while breastfeeding" and only 13.2% cited "I was sick or had to take medicine," these low percentages are largely because most women do not smoke, get seriously sick while breastfeeding, or take medicines that interfere with breastfeeding. However, for those who do, these could be very important reasons to stop breastfeeding.

The strengths of this study include a minimization of recall bias through the use of data from a short-term retrospective survey that asked mothers to give their reasons for deciding to terminate breastfeeding within a month of doing so. In addition, the study sample was nationally distributed and relatively large, and the study addressed the mothers' reasons for ceasing to breastfeed for a full year postpartum.

However, the study also has at least 3 limitations: (1) the findings, drawn primarily from a study sample of white, middle-class, English-literate mothers, cannot be generalized to the entire US population; (2) the 32 reasons surveyed may not include all of the reasons why the mothers decided to discontinue breastfeeding; and (3) the closed-ended questionnaire did not allow us to explore the rationales for the reasons given, and so the reasons mothers rated as important were not necessarily a direct cause of their breastfeeding cessation.

Despite these limitations, we were able to show that the mothers' perception that "breast milk alone did not satisfy my baby" was consistently among the 3 reasons most frequently rated as important for ceasing to breastfeed, and this reason was cited more often by Hispanic mothers and those with a household income of <350% of the federal poverty level than by white mothers and those with a household income of at least 350% of the federal poverty level. We also showed that the reasons mothers described as important for their decision to stop breastfeeding varied according to the age of their child when they were weaned: reasons related to lactational and nutritional factors were described as important most often by women who stopped breastfeeding during the first 2 months postpartum, whereas reasons related to their infant's self-weaning were cited increasingly more often thereafter.

## CONCLUSIONS

Our findings about why mothers are most likely to stop breastfeeding at various infant ages can be used by doctors, nurses, and lactation consultants to help mothers overcome breastfeeding barriers. They should be also useful to health officials when attempting to design targeted interventions to prolong breastfeeding by focusing on the issues that constitute the most important barriers to breastfeeding among mothers of infants of various ages.

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