

Major Factors Influencing Breastfeeding Rates: Mother's Perception of Father's Attitude and Milk Supply

Samir Arora, MD*; Cheryl McJunkin, MD*; Julie Wehrer, MD*; and Phyllis Kuhn, PhD†

ABSTRACT. *Objective.* To determine factors influencing feeding decisions, breastfeeding and/or bottle initiation rates, as well as breastfeeding duration.

Setting. A family medicine practice of a 530-bed community-based hospital in northwestern Pennsylvania.

Participants. All mothers whose infants received well-child care from birth to 1 year of age.

Outcome Measure. A survey of 28 simple questions was developed and mailed to 245 mothers. The survey assessed: 1) demographics, 2) prenatal and postnatal care, 3) sources of breastfeeding information, 4) timing of decision, 5) preference, 6) type of feeding selected, 7) duration of breastfeeding, 8) factors influencing decisions to breastfeed and/or to bottle-feed, and 9) factors that would have encouraged bottle-feeding mothers to breastfeed.

Results. The breastfeeding initiation rate was 44.3%. By the time the infant was 6 months old, only 13% of these were still breastfeeding. The decision to breastfeed or to bottle-feed was most often made before pregnancy or during the first trimester. The most common reasons mothers chose breastfeeding included: 1) benefits the infant's health, 2) naturalness, and 3) emotional bonding with the infant. The most common reasons bottle-feeding was chosen included: 1) mother's perception of father's attitude, 2) uncertainty regarding the quantity of breast milk, and 3) return to work. By self-report, factors that would have encouraged bottle-feeding mothers to breastfeed included: 1) more information in prenatal class; 2) more information from TV, magazines, and books; and 3) family support.

Conclusions. To overcome obstacles, issues surrounding perceived barriers, such as father's attitude, quantity of milk, and time constraints, need to be discussed with each parent. To achieve the goal of 75% of breastfeeding mothers, extensive education regarding the benefits must be provided for both parents and optimally the grandmother by physicians, nurses, and the media before pregnancy or within the first trimester. *Pediatrics* 2000;106(5). URL: <http://www.pediatrics.org/cgi/content/full/106/5/e67>; breastfeeding rates.

Low breastfeeding rates of 59.7% in the United States continue to be evident, despite widespread information regarding the benefits. However, rates vary dependent upon the region.¹ Breast milk is the ideal species-specific food for infants. It is easily absorbed, has a low solute load, and an increased availability of minerals, vitamins, and

proteins. Studies indicate that breastfed infants have fewer ear and respiratory tract infections, diarrheal illnesses, and atopic skin disorders.^{2,3} Increased mother-infant bonding and an overall decrease in the infant morbidity and hospitalization rates have also been reported.⁴ Mothers benefit by faster return to prepregnancy weights.⁵

In the *Healthy People 2000* report, the US Secretary of Health and Human Services set new goals to "increase to at least 75% the proportion of mothers who breastfeed their babies into early postpartum period, and to at least 50% the proportion who continue breastfeeding until their babies are 5 to 6 months old."⁶ The report indicates that overcoming barriers to successful breastfeeding would require both public and professional education from health care providers. The American Academy of Pediatrics statement on "Breastfeeding and the Use of Human Milk" clearly outlines feeding practices, as well as the role of health care providers, in promoting breastfeeding.⁷

Some barriers include the negative attitudes of women, their partners, and family members, as well as health care professionals, toward breastfeeding.⁸⁻¹⁰ Piper and Parks¹¹ reported that mothers who were single, smoked, and did not participate in childbirth education classes were less likely to exclusively breastfeed. Also, early introduction of supplement was negatively associated with breastfeeding.^{12,13} They also found that women who breastfed fully were older, were more likely to have completed education beyond high school, and were more likely white. Early termination of breastfeeding in cigarette smokers was also shown by Hill and Aldag.¹⁴ They noted that mothers who smoked cited insufficient milk as a reason for a decline in breastfeeding. Finally, persistently sore and red nipples led to early termination.¹⁵ Of important concern are time constraints,¹⁶ early return to work of increasing numbers of women, and the ready availability of mass-produced formula.

This study identifies factors associated with the decision to breastfeed or bottle-feed and assesses initiation and duration of breastfeeding in patients in a family medicine center. It also identifies factors that would have influenced bottle-feeding mothers to breastfeed.

METHODS

For 1 year, all mothers of infants who received well-child care at our practice and had been delivered at our 530-bed community-based medical center in northwestern Pennsylvania were sur-

From the *Family Medicine Department and the †Research Center, Hamot Medical Center, Erie, Pennsylvania.

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Reprint requests to (S.A.) Community Health Net, 1202 State St, Erie, PA 16501. E-mail: samarora@pol.net

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veyed. Children were between 6 months and 3 years old and resided with the birth mother. A survey was developed and mailed to 245 mothers. The survey included 28 simple questions that required no more than 15 minutes for the patient to answer. Information regarding demographics, care, and issues surrounding feeding methods, including sources of information, reasons for initiating breastfeeding or bottle-feeding, and duration of breastfeeding was collected. Also, factors that would have encouraged bottle-feeding respondents to breastfeed were identified (Table 1). The researchers selected a multiple-choice format for ease in scoring and data management. To validate the survey and to enhance patient comprehension and to avoid ambiguity, each question was extensively evaluated by 3 family practitioners and 3 marketing personnel who were all women.

To achieve a high response rate, a personalized letter signed by the medical director was sent to mothers informing them of the upcoming survey. This was mailed with a business reply envelope and a cover letter cosigned by the researchers. Also, personal requests were made by all of the physicians when the patients were seen in the office. Nonresponders were sent 2 follow-up surveys at 3-week intervals. The response rate was 50.2% (123/245). Surveys were tabulated and reviewed.

RESULTS

Of the 123 survey respondents, 85.5% were white, 11.3% black, 2.6% other, and .6% Asian. Approximately 41.5% visited an obstetrician's office, whereas 30.1% visited a family doctor and 27.6% visited a clinic during their pregnancy. Only .8% did not receive care. Responses indicated information on breastfeeding was obtained from the family and media (Table 2).

The most important factors reported by bottle-feeding mothers that would have encouraged them to breastfeed included more information from prenatal classes, magazines, books, and television, as well as support from the infant's grandmother or other family members (Fig 1). Approximately 78.0% of all respondents (96/123; breastfeeding and/or bottle-feeding mothers) indicated they had made their decision before the pregnancy or during the first trimester.

Respondents indicated that, while in the hospital, 44.3% initiated breastfeeding exclusively, 46.3% initiated bottle-feeding, and 8.9% used both methods. Regarding duration of breastfeeding, more than one fourth of the initial 44.3% had switched to bottle-feeding by the time the infant was 1 month old and

TABLE 1. Survey Information Collected

Demographics
Age, white, black, Asian, other
Prenatal and postnatal care
Family practitioner, obstetrician/gynecologist, pediatrician, clinic
Sources of breastfeeding information
Family, magazine, other, etc
Timing of decision
Before pregnancy, first, second, third trimester
Preference
Breast, bottle, or breast and bottle
Type of feeding selected
Breast exclusively, breast and bottle, bottle exclusively, duration of breastfeeding
Factors influencing decisions to breastfeed
Better health, natural, bonding, etc
Factors influencing decisions to bottle-feed
Father's feelings, quantity of milk, work, etc
Factors that would have encouraged bottle-feeding respondents to breastfeed

TABLE 2. Main Source of Information About Feeding

Source	%
Family	33.9
Magazine, book, TV	17.4
Other	13.2
Friends	9.9
Physician	8.3
Prenatal class	8.3
Nurse in hospital	6.6
Nurse in doctor's office	2.5

only 13.0% were breastfeeding by the time the infant was 6 months old. For the periods between, whether the mother was exclusively breastfeeding or breast-feeding intermittently was not assessed.

The most significant factors contributing to the mother's decision to initiate breastfeeding included infant's health, naturalness, and emotional bonding (Fig 2). The primary reasons for initiating bottle-feeding over breastfeeding included the mother's perception of the father's preference and mother's uncertainty regarding the amount of milk the infant would receive (Fig 3). Factors that would have influenced bottle-feeding mothers to breastfeed included more information from the prenatal class; more information from magazines, books, and TV, and support from the infant's maternal grandmother (Fig 1).

DISCUSSION

How an infant is nourished is a complex and multifactorial decision. Various social, psychological, emotional, and environmental factors impact whether an infant is breastfed or bottle-fed. Our study helps define the relative significance of some of these factors. Ford and Labbok¹⁷ report that the more educated the woman, the more likely she will initiate breastfeeding. Blacks and Hispanics were less likely to breastfeed. Duration of lactation increased with parity, approximately 5 months per child. Congenital problems shortened the duration.

Approximately 44.3% of our survey respondents initiated breastfeeding, 46.3% bottle-feeding, and 8.9% both. The combined rates of those who breastfed and those who breastfed and bottle-fed (53.2%) is lower than the estimated national breastfeeding rate of approximately 59.7%.¹ In decreasing order, the most important reasons for initiating breastfeeding included benefits to the infant's health, naturalness, and relationship to strengthen bonding. These findings support the results of Bloom et al,¹⁸ as well as Ford and Labbok.¹⁷ We believe that the reasons given by our patients for initiating breastfeeding need to be reinforced through education.

The most significant factor for mothers to initiate bottle-feeding was the mother's perception of the father's attitude. Of interest, Freed et al⁸ investigated the accuracy of a woman's assumptions regarding the father's attitude toward breastfeeding. Generally, fathers had more positive attitudes than their partners expected. Kessler et al¹⁹ reported that in a group of 133 women, 71% were influenced by the infant's father and 29% by the maternal grandmother. These findings open a whole new dimension of patient care. Of note, the infant's father should be involved

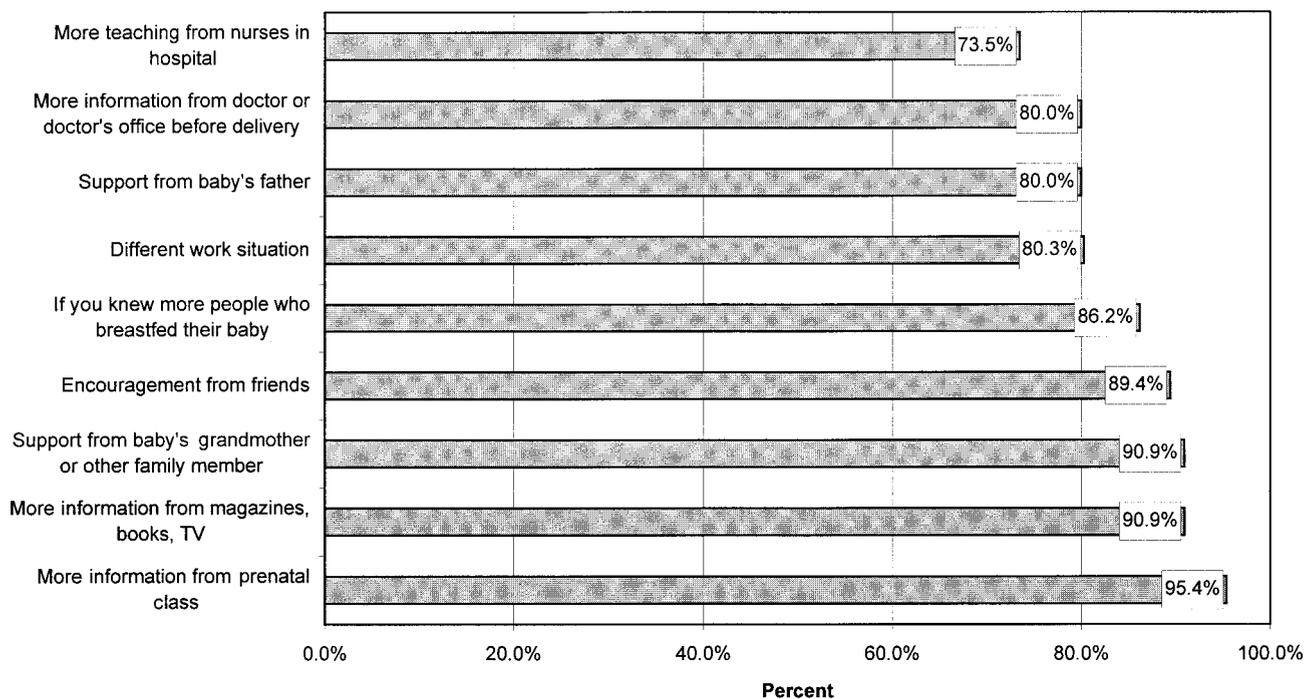


Fig 1. Factors based on self-report that would have encouraged breastfeeding.

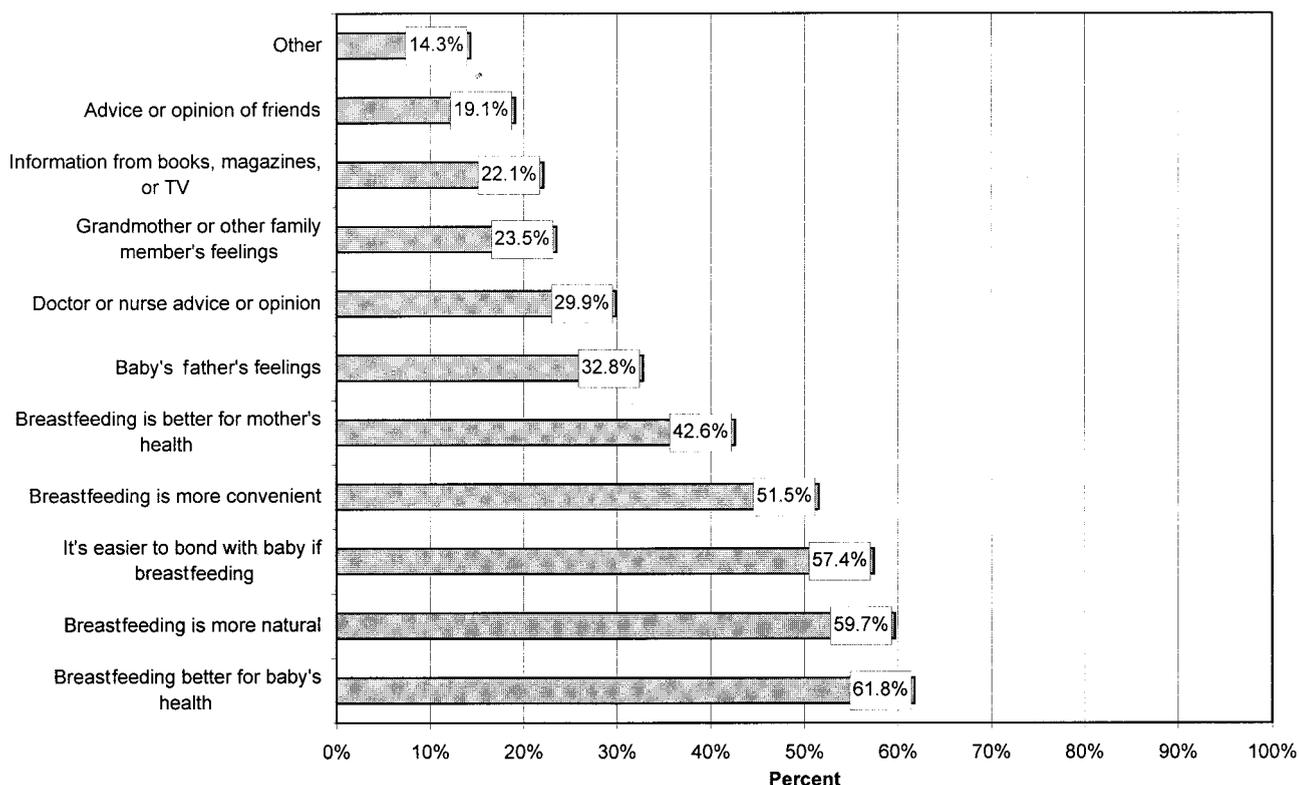


Fig 2. Survey results of breastfeeding mothers describing factors contributing to breastfeeding.

in all discussions regarding the type of feeding that the infant will receive, whether they are in the physician's office, prenatal classes, or in the delivery room.

A large role is played by the mother's return to work. Our results showed that mothers ranked "could not breastfeed because had to return to work" as one of the top 3 reasons that they did not breast-

feed. Education on using a breast pump and creating a breastfeeding friendly work environment would be beneficial. In our study inability to assess the adequacy of milk supply was also a factor. Piper and Parks¹¹ reported that "mothers were more likely to breast-feed for longer than six months if they delayed return to work." Mothers should be educated about assessing the adequacy of milk supply by lis-

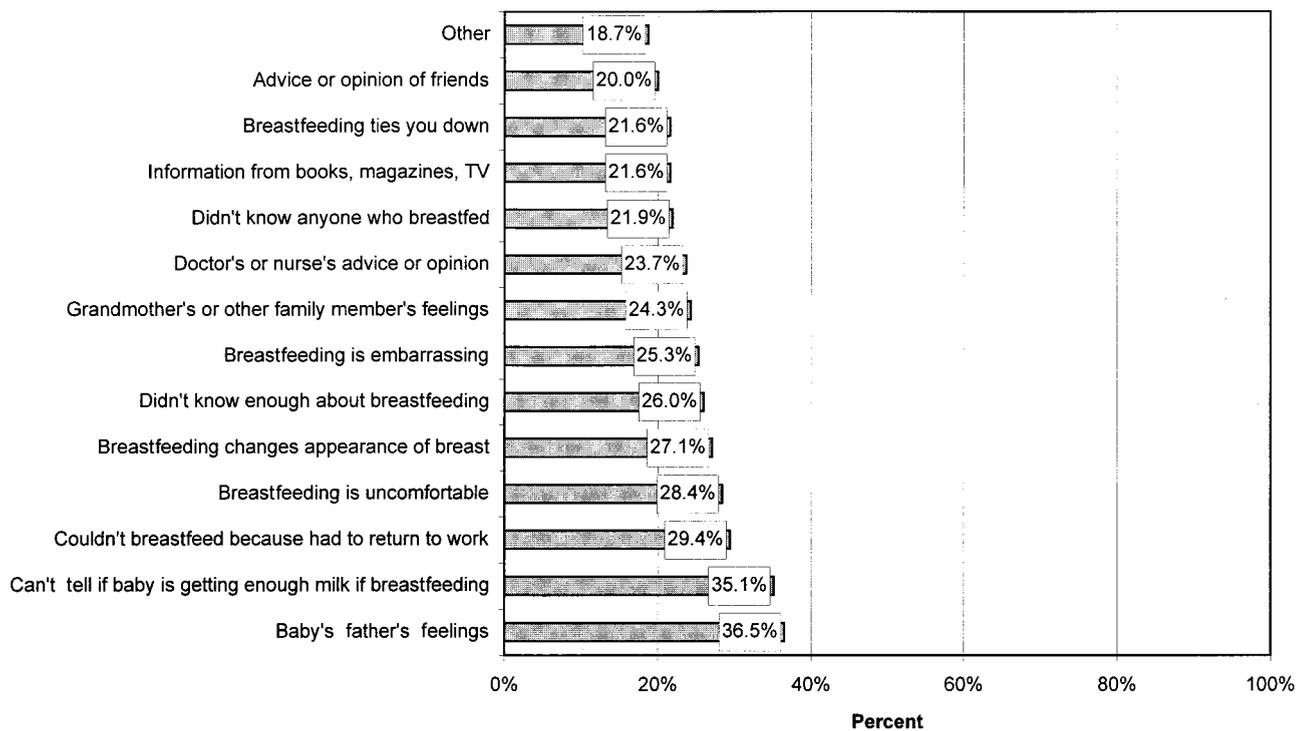


Fig 3. Survey results of bottle-feeding mothers describing factors contributing to bottle-feeding.

tening for an audible swallow, noting urine production by the number of diapers changed per day, and by recording weight gain at well-child visits. A distinction should be made between cloth and disposable diapers, because the latter may feel heavy, but never feel wet.

Our study clearly demonstrates that in 78.0% of cases, the type of feeding is decided before pregnancy and during the first trimester. This indicates that health care professionals have only a small window of opportunity to discuss and potentially impact breastfeeding decisions. Our study demonstrates that the majority of our respondents visited obstetrical offices (41.5%) versus family medicine practices (30.1%) and clinics (27.6%). Thus, health care professionals who provide prenatal care should be targeted as the group to discuss the positive effects of breastfeeding with their patients, partners, and optimally, maternal grandmothers. Although our study did not include the pediatric practices, the findings are applicable to them as well. Frequently, the pediatrician or nurse provides information on breastfeeding after the infant is born. Our study has demonstrated the mother's primary sources of information in descending order are family (33.9%), friends (9.9%), the physician and nurse (10.8%), and nurses in the hospital (6.6%). These groups should not only be well-informed about the advantages of breastfeeding, but also be cognizant of the barriers and ways to overcome them. Of note, Rosenberg et al²⁰ reported a steady increase in breastfeeding rates in New York City to 58% that was possibly associated with a New York state regulation requiring a lactation coordinator be designated at each hospital. Our survey also indicated a majority of mothers would have pre-

ferred more information from the prenatal class, the media, and, finally, family and friends (Fig 1).

One limitation of the study was sample size. The larger the population, the less variability and greater the accuracy. Also, surveys were sent to all parents whose children were between 6 months and 3 years old. Therefore, attitudes after 3 years of age may reflect current attitudes and not those at the time of infancy. A strength is that the study was performed in a large family practice teaching center, providing access to a wide spectrum of patients of various socioeconomic strata at one site.

CONCLUSION

Education of mothers, families, especially fathers, and health care professionals regarding the benefits of breastfeeding, as well as how to overcome barriers, would have a positive impact on the number of mothers choosing to breastfeed. Addressing these issues before pregnancy and during the first trimester would probably be most beneficial. Further study is required to assess the impact of a strong, focused, educational program on improving breastfeeding rates.

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