The Resurgence of Breastfeeding in the United States

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ABSTRACT. Objective. To update reported rates of breastfeeding through 1995 and to compare rates in 1995 with those from 1989.

Methods. The Ross Laboratories Mothers’ Survey, first conducted in 1955, is a large, national, mail survey designed to determine patterns of milk feeding to 6 months of age. Questionnaires are mailed to a representative sample of mothers when their infants are 6 months of age. In 1989, 196,000 questionnaires were mailed, and in 1995, 720,000 questionnaires were mailed. Mothers were asked to recall the type of milk fed to their infants immediately after birth, in the hospital, and during each of the first 6 months of age. The rates of breastfeeding in the hospital and at 6 months of age were evaluated.

Results. The Ross Laboratories Mothers’ Survey demonstrates recent increases in both the initiation of breastfeeding and continued breastfeeding at 6 months of age. Comparing rates in 1989 and 1995, the initiation of breastfeeding increased more than 14% (from 52.2% to 59.7%). There was a 19.3% increase in the rate of breastfeeding at 6 months of age (from 18.1% to 21.6%). The increases in breastfeeding were observed across all sociodemographic groups but were greater among groups that have historically been less likely to practice breastfeeding: women who were black, younger (<25 years of age), in the lowest income group (<$10,000), no more than grade school educated, primiparous, and living in the South Atlantic region of the United States; women who had infants of low birth weight; women who were employed full time outside the home; and women who participated in the Women, Infants, and Children supplemental food program. Nevertheless, breastfeeding was most common in the western states and among women who were older, college educated, and multiparous, did not enroll in the Women, Infants, and Children program, were not employed outside the home, had infants of normal birth weight, and had higher disposable incomes.

Conclusion. The sharp increase in rates of breastfeeding among groups that are less likely to breastfeed is encouraging. However, these groups are still the least likely to initiate breastfeeding. Educational efforts that extol positive attitudes about breastfeeding must be continued to support mothers who are young, poor, and less educated. Pediatrics 1997;99(4). URL: http://www.pediatrics.org/cgi/content/full/99/4/e12; breastfeeding, infant feeding, demography.

ABBREVIATIONS. WIC, Women, Infants, and Children; RLMS, Ross Laboratories Mothers’ Survey.

Information on breastfeeding has been collected by the Ross Products Division of Abbott Laboratories since 1955. These surveys were designed to determine patterns of infant feeding during the first 6 months of life. Ryan et al described declines both in the initiation of breastfeeding and continued breastfeeding at 6 months of age between 1984 and 1989. The declines in breastfeeding were seen across all groups but were greater in some groups than in others. The declines in the initiation of breastfeeding were greater among younger and poorer mothers than among older and more affluent mothers. For breastfeeding at 6 months of age, the declines were greater among younger and primiparous mothers than among older and multiparous mothers. Similarly, women enrolled in the Women, Infants, and Children (WIC) supplemental food program (compared with those not enrolled), those with less than a college education (compared with those with some college education), and those not living in the western region of the United States (compared with those residing in the West) were less likely to initiate breastfeeding or to practice breastfeeding when their infants were 6 months of age.

The present study updates reported rates of breastfeeding through 1995 and compares these rates with those in 1989. We describe rates of the initiation of breastfeeding and continued breastfeeding to a least 6 months of age according to several sociodemographic factors. We also relate region of residence to breastfeeding.

We found that there has been a resurgence in the prevalence of the initiation of breastfeeding and the persistence of breastfeeding to 6 months of age. Although increases in breastfeeding were observed across all socioeconomic groups, the increases were more marked among groups that have historically been less likely to breastfeed.

METHODS

The Ross Laboratories Mothers’ Survey (RLMS) is a large, national, mail survey designed to determine patterns of milk feeding to 6 months of life. The method of the survey has been described in detail elsewhere. The survey was developed in 1955 and has recently been expanded to include many more infants. Before 1991, the survey was conducted on a quarterly basis, and approximately 40,000 to 50,000 questionnaires were mailed each quarter. Beginning in 1991, the survey was conducted monthly; 35,000 questionnaires were mailed each month. From April 1992 to December 1995, approximately 60,000 questionnaires were mailed each month. Over time, the response rate has been consistently in the range of 50% ± 5%. The present study included data from 1989 and 1995, with some additional information on trends since 1965. In 1989, 196,000 questionnaires were mailed, and in 1995, 720,000 questionnaires were mailed. As in previous publications, the rates of breastfeeding in the hospital and at 6 months of age were...
evaluated. We chose 1989 as the starting point, because our previously published data described breastfeeding trends up to 1989. Following the approach taken previously, the present work considered breastfeeding rates while in the hospital and breastfeeding to at least 6 months of age according to selected sociodemographic characteristics.

Questionnaires were mailed to a representative sample of mothers when their infants were 6 months old. The sample was drawn from a list of births that represented 80% to 85% of all new mothers in the United States. The list included names from hospital sources, county records of birth registrations, photography and diaper services, entrepreneurial sources, and newspapers. Mothers were asked to recall the type of milk fed to their infants immediately after birth, in the hospital, and during each of the first 6 months of life. The list included all commercial infant formulas, human milk, cow milk, and milk from other sources (eg, goat and evaporated). Each mother was also asked to answer questions describing her sociodemographic status. To maintain consistency, the RLMS questionnaire has not changed markedly over time; the list of infant formulas is updated as new formulas are introduced into the marketplace.

The resulting responses were weighted by subclass means to account for varying coverage and response rates. The subclasses were defined by the variables that have historically been associated with breastfeeding: maternal region of residence, ethnic and racial background, age, and education. The weights were derived using continually updated information from the US Bureau of the Census, the National Center for Health Statistics, and the US Department of Agriculture.

The strengths and shortcomings of the RLMS have been considered by others. Families with the lowest incomes had lower response rates and were therefore underrepresented. To deal with this issue, regions of the country where the response rates were low have been oversampled. Recently, the RLMS breastfeeding rates were compared with those from the National Surveys of Family Growth. Results from this comparison demonstrated that despite differences in survey methods and design, both surveys documented similar trends in breastfeeding rates across several sociodemographic characteristics.

RESULTS


As shown in the Figure, initiation of breastfeeding increased steadily since 1971 to its highest level in 1982. The prevalence of the initiation of breastfeeding declined approximately 13% from 1984 to 1989 (59.7% in 1984 and 52.2% in 1989). Since 1989, the prevalence of the initiation of breastfeeding dramatically increased more than 14%, matching the level attained in 1984 (59.7%) (Table 1). Only in 1982 was the prevalence of the initiation of breastfeeding greater (61.9%) than it was in 1995.

The smallest increases occurred among women who have been traditionally more likely to practice breastfeeding: women who were white or Hispanic, older (>25 years), in the highest income group (>=$25 000), college educated, employed part time, multiparous, not in the WIC program, and living in the Mountain and Pacific regions of the United States, and women who had infants of normal birth weight. In 1995, more than three of every four infants living in the Mountain and Pacific regions of the United States were initially breastfed.

In 1995, as in 1989, the initiation of breastfeeding was highest among women who were older (>35 years), in the highest income group (>=$25 000), and college educated; women who did not participate in the WIC program; and women who were living in the Mountain and Pacific regions.

The increases in rates of breastfeeding at 6 months of age were larger than those for the initiation of breastfeeding (Table 1). Nationally, there was nearly a twofold increase in the prevalence of breastfeeding at 6 months of age among women who were black, younger (<20 years), and employed full time outside the home. The only exception to the trend was a small decrease (approximately 1%) in the prevalence of breastfeeding at 6 months of age among mothers older than 30 years.

In 1995, as in 1989, breastfeeding at 6 months of age was most common in the western states and among women who were older and multiparous, did not participate in the WIC program, were not employed outside the home, and had higher disposable incomes.
Table 2 illustrates the extent to which region of residence influences the initiation of breastfeeding and continued breastfeeding to at least 6 months of age. Mothers who resided in the western states (Mountain and Pacific regions) were more likely to breastfeed than those who resided elsewhere, regardless of their ethnic and racial background or WIC participation status. Notably, a higher percentage of black mothers living in the Pacific region of the United States than white mothers living in the Middle Atlantic, East North Central, or East South Central regions nursed their infants in the hospital. Similarly, relatively more black women living in the Pacific region breastfed their infants at 6 months of age than did white women living in other regions of the United States.

In the western states, rates of breastfeeding initiation and breastfeeding at 6 months of age were higher among women enrolled in the WIC program than those at the national level. However, in each census region, breastfeeding in the hospital and at 6 months of age was more common among mothers who were not enrolled in the WIC program than among those who participated.

Although the data are not shown, other sociodemographic factors such as maternal age and total family income influenced breastfeeding in a similar manner; ie, regardless of ethnic and racial background, breastfeeding was most common among women who were older and more affluent than among those who were younger and poorer.

### DISCUSSION

The RLMS indicates that breastfeeding in the 1990s has undergone a dramatic increase in popularity. In 1995, the rate for the initiation of breastfeeding reached its highest level since 1982, when it was 61.9%. The steady decline in breastfeeding rates observed between 1984 and 1989 has been completely reversed. Between 1989 and 1995, the greatest increases in the initiation of breastfeeding and contin-
ued breastfeeding to at least 6 months of age occurred among groups of women who have been identified as the most vulnerable (as far as breastfeeding is concerned): women who are black, receiving WIC benefits, less educated, primiparous, employed full time, and living in regions of the country where mothers are less inclined to practice breastfeeding. However, breastfeeding was still most common among more privileged mothers; increases in the rates of breastfeeding were less dramatic, because they were relatively high in the first place.

Presently, more mothers in the WIC program initiated breastfeeding in the hospital than ever before. In 1989, 1.255.738 infants were enrolled in the WIC program (31% of the total US infant population); approximately 70% of these infants were 3 months or younger. In 1995, almost half of all infants in the United States participated in the WIC program (1.819.091, 47%); approximately 85% were 3 months or younger. The recent trend in breastfeeding is important, because it not only bears witness to the effectiveness of breastfeeding promotion programs developed for WIC participants, but also because many more infants presently receive WIC benefits.

Various communication strategies have been designed to help educate economically disadvantaged women about breastfeeding. Many WIC programs have provided financial and technical support for community-based breastfeeding promotion programs. Results from the 1988 National Maternal and Infant Health Survey suggest that “WIC participation during pregnancy enhanced the adoption of breastfeeding when participants were given advice to breastfeed, but inhibited it where no breastfeeding advice was given.”

The decision to breastfeed derives from a multitude of sources, many of which are still being elucidated. Lossch et al present an excellent review of the impact that attitudes and behaviors have on maternal decisions to breastfeed. As discussed by McLorg and Bryant, the decision to breastfeed is part of a broader cultural context of community norms and values involving the attitudes of social and family support and personal networks. Sociodemographic factors (as discussed in the present study) represent indirect predictors of breastfeeding behavior that may help identify both the groups that are more favorably inclined to breastfeed and those that are more vulnerable. It is clear that attitudes about breastfeeding vary considerably in different populations and regions of the United States. Regardless of sociodemographic status, mothers living in the western states are more likely to breastfeed than those who reside elsewhere. Therefore, the western states provide a cultural setting that promotes the breastfeeding experience. In these regions of the country new mothers are encouraged to breastfeed and feel comfortable doing so.

Sources of social support for breastfeeding also vary considerably. For example, Baranowski et al have reported that among black women, the decision to practice breastfeeding was associated with the positive support of close friends. For Mexican-American and non-Hispanic white women, support from male partners and maternal mothers was most important. Prenatal class participation, peer counseling, and support from non–health care professionals also play an important role in the maternal decision to breastfeed. Similarly, support of the father or significant other influenced not only the initiation of breastfeeding but also the duration of breastfeeding. These studies highlight the importance of increasing the knowledge of the father or significant other when breastfeeding educational programs on infant feeding are developed.

Bryant has shown that much of the infant-feeding information provided by physicians and other health professionals is filtered through friends and relatives; health professionals may have less influence on mothers’ decisions than do other persons in a social network. When health professionals are considered, they are often seen as giving conflicting information. However, recent concerns about the low rates of breastfeeding have prompted some physicians to encourage their colleagues to take a more active role in promoting breastfeeding to their patients. Mothers who have received specific, pos-
itive advice from their physicians are more likely to breastfeed.39,40

Although the increase in rates of breastfeeding among the most vulnerable and less privileged groups (as far as breastfeeding is concerned) is encouraging, these groups are still least likely to breastfeed. The trend suggests that diligent efforts must be continued to support mothers who are young, poor, and less educated. Positive attitudes about breastfeeding and its initiation and provision of active support throughout pregnancy, including the perinatal and postnatal periods, may help establish breastfeeding as a socially acceptable and valued pattern of infant feeding.

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REFERENCES

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